

62719-131

01/06/2006

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

JAN - 6 2006

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mike Culy, Ph.D.  
Dow AgroSciences LLC  
9330 Zionsville Rd  
Indianapolis, IN 46268-1054

Dear Dr. Culy:

Subject: Main Labeling Amendment  
**TREFLAN TR-10**  
EPA Registration No. 62719-131  
Application Date: December 02, 2005

The amendment referred to above, submitted in accordance with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable provided that you make a minor correction. Change "pound" or "pounds" to "lb" or "lbs" respectively, throughout. A stamped copy of labeling is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment. **This amended labeling supersedes all previously accepted ones.**

Sincerely yours,

*Joanne I. Miller*

Joanne I. Miller  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505C)

Enclosure

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(Base label)

(logo) Dow AgroSciences LLC

# Treflan<sup>®</sup> TR-10<sup>®</sup>

## Granular Herbicide

**A selective herbicide for the preemergence control of annual grasses and broadleaf weeds.**

Active Ingredient:

trifluralin: $\alpha,\alpha,\alpha$ -trifluoro-2,6-dinitro- <i>N,N</i> -dipropyl- <i>p</i> -toluidine.....	10%
Inert Ingredients .....	90%
Total .....	100%

Contains 5 lb active ingredient per 50 lb bag.

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:**

**JAN - 6 2006**

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

**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.)

62719-131

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#### Precautionary Statements

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##### Hazards to Humans and Domestic Animals

**Causes Eye Irritation • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals**

**Avoid contact with eyes or clothing.**

##### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as butyl rubber  $\geq 11$  mils; or natural rubber  $\geq 14$  mils; or neoprene rubber  $\geq 14$  mils; or nitrile rubber  $\geq 14$  mils
- 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:

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

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

### First Aid

**If 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

### Environmental Hazards

This pesticide is extremely toxic to freshwater marine, and estuarine fish and aquatic invertebrates including shrimp and oyster. 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 apply in a manner which will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment washwaters.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Refer to label booklet for additional precautionary information including Personal Protective Equipment (PPE), User Safety Recommendations and Directions for Use including Storage and Disposal.

**Notice:** Read the entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at [www.dowagro.com](http://www.dowagro.com).

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

EPA Reg. No. 62719-131

EPA Est. \_\_\_\_\_

®Trademark of Dow AgroSciences LLC  
Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

Net Weight \_\_ lb

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(Label booklet cover):

(logo) Dow AgroSciences LLC

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### Directions for Use

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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.

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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. **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.

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, such as butyl rubber  $\geq 11$  mils; or natural rubber  $\geq 14$  mils; or neoprene rubber  $\geq 14$  mils; or nitrile rubber  $\geq 14$  mils
- Shoes plus socks

### Storage and Disposal

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

**Pesticide Storage:** Store in original container only. Treflan TR-10 may be stored in unheated warehouses. In case of spill, contain material 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:** Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of bags in a sanitary landfill or by incineration, in accordance with applicable regulations, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### General Information

Treflan<sup>®</sup> TR-10<sup>®</sup> granular herbicide is a selective preemergence herbicide for control of many annual grasses and broadleaf weeds. Treflan TR-10 should be incorporated into the soil within 24 hours after application to effectively control weeds. Treflan TR-10 controls susceptible weeds as they germinate. Treflan TR-10 does not control established weeds.

### General Use Precautions

Applied according to directions and under normal growing conditions, Treflan TR-10 will not harm the treated crop. Over-application may result in crop injury or rotational crop damage from soil residue. Uneven application or improper incorporation of Treflan TR-10 can result in erratic weed control or crop injury. Seedling disease, cold weather, deep planting, excessive moisture, high salt concentration or drought may weaken crop seedlings and increase the possibility of damage from Treflan TR-10. Under these conditions, delayed crop development or reduced yields may result.

Do not apply Treflan TR-10 to soils that are wet or are subject to prolonged periods of flooding as poor weed control may result.



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Do not use Treflan TR-10 on any crop grown in Pecos county or Reeves county, Texas.

In Montana, uses of Treflan TR-10 are limited to those described in supplemental labeling. Refer to supplemental labeling for crops and specific use directions.

### **Rotation Crop Restrictions**

#### **Sugar Beets, Red Beets and Spinach**

**In Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming:** Sugar beets, red beets or spinach should not be planted for 12 months after a spring application or 14 months after a fall application of Treflan TR-10. If land has not been irrigated, these crops should not be planted for 18 months after a spring application or 20 months after a fall application of Treflan TR-10. Moldboard plowing to a depth of 12 inches prior to planting these crops will reduce the possibility of crop injury.

**In all other areas:** Sugar beets, red beets, and spinach should not be planted for 12 months after a spring application or 14 months after a fall application. Before planting sugar beets, moldboard plow to a depth of 12 inches to reduce the possibility of crop injury.

#### **Proso Millet, Corn, Sorghum (Milo), Oats and Annual or Perennial Grass Crops or Grass Mixtures**

**In Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming:** Unless crop injury is acceptable, proso millet, corn, sorghum (milo), oats and annual or perennial grass crops or grass mixtures should not be planted for 12 months after a spring application or 14 months after a fall application of Treflan TR-10 to avoid the possibility of crop injury. If land has not been irrigated, these crops should not be planted for 18 months after a spring application or 20 months after a fall application. Moldboard plowing to a depth of 12 inches before planting these crops will reduce the possibility of crop injury.

**In Minnesota, North Dakota and South Dakota:** Unless crop injury is acceptable, proso millet, sorghum (milo), oats and annual or perennial grass crops or grass mixtures should not be planted for 18 months after a spring application or 21 months after a fall application of Treflan TR-10.

**In those portions of Kansas, Nebraska, Oklahoma and Texas that receive less than 20 inches of rainfall and irrigation to produce a crop:** Unless crop injury is acceptable, do not plant proso millet, sorghum (milo), oats and annual or perennial grass crops or grass mixtures for 18 months after an application of Treflan TR-10. In sorghum, cool wet weather conditions during early growth stages may increase the possibility of crop injury.

**All other areas receiving more than 20 inches of rainfall and irrigation:** Unless crop injury is acceptable, do not plant proso millet, sorghum (milo), oats and annual or perennial grass crops or grass mixtures for 12 months after a spring application or 14 months after a fall application of Treflan TR-10.

#### **Rotation Crops Other Than Those Specifically Addressed Above**

Crops, other than those to which Treflan TR-10 may be applied as a preplant soil incorporated treatment, should not be planted within 5 months after an application of Treflan TR-10.

### **Application Directions**

#### **Soil Preparation**

Treflan TR-10 may be applied to standing stubble or soil that has been pre-tilled. Existing weeds and crop residues should be reduced to a manageable level using tillage so that Treflan TR-10 can be uniformly incorporated into the top 2 to 3 inches of the final seedbed. Soil surface conditions should allow Treflan TR-10 to be thoroughly and uniformly mixed into the top 2 to 3 inches of soil. If this is not possible the soil should be tilled prior to application.

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**General Soil Conditions**

The soil surface should be smooth enough to allow for uniform application and efficient incorporation of Treflan TR-10. Apply when soil moisture is sufficient to allow breakup of large clods and uniform mixing during the incorporation process. Soil compaction and/or nonuniform incorporation may occur when soil is excessively moist.

**Application**

Treflan TR-10 may be applied with ground or aerial broadcast application equipment. Apply only with equipment capable of accurate calibration and uniform application of herbicide granules. Apply at the recommended rate for soil texture class to be treated. Follow calibration directions provided by the equipment manufacturer. Avoid releasing granules in narrow bands on the soil surface as this may cause crop injury.

**Aerial Application:** Avoiding product drift from the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for product drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Freezing will not adversely affect this product. If product is frozen at the time of application, manipulate bags or thaw to restore product to free-flowing state.

**Soil Texture Guide for Application Rates**

Rate recommendations for Treflan TR-10 for incorporated treatments are based on soil texture class (coarse, medium or fine) and soil organic matter content. A fine textured soil (e.g., clay loam) will require a higher application rate than a coarse textured soil (e.g., loamy sand). In the table below, find the soil texture class (coarse, medium or fine) corresponding to the soil texture to be treated. Choose the proper rate for each application based on the soil texture class and specific crop recommendations. Do not exceed recommended rates.

Soil Texture Class	Soil Texture to be Treated
coarse (light) soils	Sand, loamy sand, sandy loam
medium soils	Loam, silty clay loam <sup>†</sup> , silt loam, silt, sandy clay loam <sup>†</sup>
fine (heavy) soils	Clay, clay loam, silty clay loam <sup>†</sup> , silty clay, sandy clay, sandy clay loam <sup>†</sup>

<sup>†</sup>Silty clay loam and sandy clay loam soils are transitional soils and may be classified as either medium or fine textured soils. If silty clay loam or sandy clay loam soils are predominantly sand or silt, they are usually classified as medium textured soils. If they are predominantly clay, they are usually classified as fine textured soils.

**Application Rate Ranges**

Where a rate range is shown, use the lower rate for coarser textured soils or soils with low organic matter content. Use the higher rate in the rate range for finer textured soils and on soils containing more than 5% organic matter. Where soil texture is variable within the same field, use the lower recommended rate of Treflan TR-10.

**Application Timing****Spring Application**

Apply Treflan TR-10 any time after January 1 when soil can be worked and is in condition suitable for good incorporation. See Labeled Crops section for recommendations on specific crops.

**Fall Application**

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**Application Timing:** In California, Minnesota, North Dakota and South Dakota, apply Treflan TR-10 any time between September 1 and December 31. In all other states, fall apply Treflan TR-10 any time between October 15 and December 31.

**Application Rates for Fall Application:** Refer to the Labeled Crops section of this label for specific rate recommendations. Increased rates for fall application are recommended for certain crops grown in certain geographic areas. For crops for which there are no specific fall application instructions, and for which Treflan TR-10 is recommended as a preplant incorporated treatment, use the rates listed for spring applications. In areas receiving greater than 20 inches total average annual rainfall and irrigation, use the higher rate in the recommended rate range. Do not fall apply Treflan TR-10 prior to planting sugar beets, potatoes and direct seeded tomatoes the following spring.

Ground may be left flat or bedded-up over winter. On bedded ground, knock beds down to desired height before planting, moving some treated soil from beds into furrows. Where soil is left flat over winter, be careful not to turn up untreated soil during spring bedding operations. Destroy established weeds during seedbed preparation.

Prior to planting, destroy any weeds which have become established in furrows due to uncovering of untreated soil. Do not apply Treflan TR-10 in the fall to soils that are wet or subject to prolonged periods of flooding, or where rice was grown the previous year.

### **Incorporation Directions**

Treflan<sup>®</sup> TR-10<sup>®</sup> granular herbicide requires two incorporation passes unless otherwise specified in use directions for a specific crop. The first should occur within 24 hours after application. For best weed control results, the second incorporation should be delayed a minimum of 5 days after the first and be completed prior to planting. The second incorporation pass should occur in a different direction than the first. Use incorporation equipment capable of thoroughly and uniformly mixing Treflan TR-10 into the top 2 to 3 inches of the final seedbed. Erratic weed control may result if untreated soil is moved to the surface during the second incorporation pass. To avoid this problem, set equipment so that the second incorporation pass is not deeper than the first.

### **Incorporation in Established Crops**

Treflan TR-10 may be applied and incorporated in certain established crops. Refer to the Labeled Crops section of this label for specific incorporation directions.

### **Incorporation in Bedded Culture**

For optimum weed control, Treflan TR-10 should be incorporated into the top 2 to 3 inches of the final seedbed.

### **Application Prior to Bedding**

Apply and make first incorporation with recommended equipment. The bedding operation serves as the second incorporation. Do not expose untreated soil during post-bedding operations<sup>†</sup>

### **Application After Bedding**

Knock off beds to planting height before applying. Apply Treflan TR-10 and incorporate with recommended equipment that will conform to the bed shape. Do not leave untreated soil exposed<sup>†</sup>.

<sup>†</sup>Avoid removal of treated soil from the seedbed before or during the planting operation. Exposure of untreated soil will allow weeds to germinate in the drill row.

### **Cultivation After Planting**

Treated crops may be shallowly cultivated without loss of weed control activity. Avoid deep cultivation that could bring untreated soil to the soil surface and result in loss of weed control.

## **Recommended Incorporation Equipment**

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Any recommended incorporation implement may be used alone or in combination with any other recommended implement. Two incorporation passes are necessary unless otherwise specified in use directions for a specific crop. The second incorporation should not be deeper than the first.

**Tandem Disc:** Set to cut 4 to 6 inches deep and operate at 4 to 6 mph.

**Field Cultivator:** Set equipment to cut 3 to 4 inches deep and operate at a minimum of 5 mph. A field cultivator is defined as an implement with 3 to 4 rows of sweeps, spaced at intervals of 7 inches or less, with sweeps on successive rows staggered so that no soil is left unturned. Chisel points should not be used. Best results are obtained when the field cultivator is equipped with harrow, reel or basket attachments. The second incorporation may be accomplished with an air seeder (field cultivator setup).

**Chisel Plow (for Use in Northern Great Plains):** The chisel plow may be used for the first incorporation pass only. Any other recommended incorporation implement may be used for the second pass for row crops. The chisel plow may be used for any tillage or incorporation pass in the summer fallow program. Operate chisel plow 4 to 5 inches deep at 4 to 6 mph. A chisel plow is defined as having 3 rows of 14- to 18-inch sweeps spaced no more than 12 inches apart. Sweeps should be staggered so that no soil is left unturned. Chisel points should not be used.

**Combination Implements:** These implements are defined as two or more tillage devices combined to operate as a single tillage unit. For example, 2 to 3 rows of field cultivator C- or S-shaped shanks with successive rows of sweeps staggered so that no soil is left unturned, followed by a spike-tooth or flexline harrow, followed by ground driven reel, basket or incorporation wheels. Combination implements should be set to cut 3 to 4 inches deep and operated at a minimum of 6 mph. Combination tools can also be composed of 2 rows of wide crown sweeps that overlap so that the roots of all weeds and plants are severed. This should be followed by 2 gangs of rotating spoked wheels that thoroughly mix Treflan TR-10 into the top 2 to 3 inches of the final seedbed.

**Rolling Cultivator:** Set to cut 2 to 4 inches deep and operate at 6 to 8 mph.

**Mulch Treader (Other Similar Disc-Type Implements):** Set to cut 3 to 4 inches deep and operate at 5 to 8 mph.

**P.T.O. Driven Equipment (Tillers, Cultivators, Hoes):** Adjust to incorporate Treflan TR-10 into the top 2 to 3 inches of the seedbed with rotors spaced to provide a clean sweep of the soil. Only one incorporation is necessary. P.T.O. driven equipment should not be operated at a speed greater than 4 mph.

**Other Equipment:** Other implements including a flexible tine-tooth harrow (Flexline or Melroe), Gates harrow, sweep-type cultivator, V-blade undercutter, or rolling cultivator are recommended, but only for certain uses defined in the Labeled Crops section of this label.

**Conservation Tillage Practices:** In reduced or minimum tillage situations, fall or spring application and incorporation of Treflan TR-10 may be combined with tillage operations. The first incorporation may utilize equipment such as a tandem disc, combination implement or bedding equipment that provides good soil mixing, but leaves a maximum amount of crop residue on the soil surface. The second incorporation may be accomplished with tillage equipment that provides uniform soil mixing used in conjunction with no-till planters (see specific recommendations for reduced or conservation tillage situations for cotton and soybeans in the Labeled Crops section).

### **Weeds Controlled by Treflan TR-10**

The following weeds are controlled by preplant incorporated treatments of Treflan TR-10.

#### **Grasses**

Common Name	Scientific Name
annual bluegrass <i>P</i>	<i>oa annua</i>
barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
bromegrass (cheatgrass) (downy brome)	<i>Bromus tectorum</i>
crabgrass (large crabgrass) (smooth crabgrass)	<i>Digitaria</i> spp.
foxtail (bottlegrass) (bristlegrass) (foxtail millet) (giant foxtail) (green foxtail) <sup>†</sup> (pigeongrass) (robust foxtail) (yellow foxtail)	<i>Setaria</i> spp.
johnsongrass (from seed)	<i>Sorghum halepense</i>
jungerice	<i>Echinochloa colonum</i>
ryegrass, annual	<i>Lolium multiflorum</i>
sandbur (burrgrass)	<i>Cenchrus incertus</i>
signalgrass, broadleaf (brachiaria)	<i>Brachiaria platyphylla</i>
sprangletop	<i>Leptochloa filiformis</i>
stinkgrass (lovegrass)	<i>Eragrostis cilianensis</i>
shattercane (wild cane)	<i>Sorghum bicolor</i>
wooly cupgrass	<i>Eriochloa villosa</i>

### Broadleaf Weeds

Common Name	Scientific Name
carpetweed	<i>Mollugo verticillata</i>
chickweed, common	<i>Stellaria media</i>
goosefoot	<i>Chenopodium hybridum</i>
henbit	<i>Lamium amplexicaule</i>
knotweed	<i>Polygonum aviculare</i>
lambsquarters, common	<i>Chenopodium album</i>
pigweed (carelessweed) (palmer amaranth) <sup>††</sup> (prostrate pigweed) (redroot pigweed) (rough pigweed) (spiny pigweed)	<i>Amaranthus</i> spp.
puncturevine (western U.S. only) (caltrop) (goathead)	<i>Tribulus terrestris</i>
purslane, common	<i>Portulaca oleracea</i>
pusley, Florida (Florida purslane) (Mexican clover) (pusley)	<i>Richardia scabra</i>
stinging nettle (nettle)	<i>Urtica dioica</i>

<sup>†</sup>Treflan TR-10 will not control DNA resistant biotypes of green foxtail (*Setaria viridis*).

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<sup>††</sup>Suppression only in areas of the southwest U.S. where tolerance to Treflan (trifluralin) has been observed.

### Labeled Crops

#### **ALFALFA - ESTABLISHED**

Apply Treflan<sup>®</sup> TR-10<sup>®</sup> granular herbicide to established alfalfa prior to weed emergence with ground or aerial equipment. A single rainfall or overhead sprinkler irrigation of 0.5 inches or more, flood irrigation or furrow irrigation after application is required to activate Treflan TR-10. If activated using furrow irrigation, the surface of beds between furrows should be thoroughly wetted. If activation does not occur within 3 days after application, Treflan TR-10 should be activated using incorporation equipment that will insure thorough soil mixing with minimum damage to the established alfalfa.

#### **Weeds Controlled**

Barnyardgrass, bromegrass (cheatgrass, downy brome), canarygrass, cheat (chess), crabgrass, woolly cupgrass, foxtail, junglerice, sandbur, and wild barley.

#### **Application Rate per Acre**

Apply Treflan TR-10 at a rate of 20 lb (2 lb active ingredient) per acre for all soil textures.

#### **Application Timing**

Treflan TR-10 may be applied during dormancy or throughout the growing season immediately after a cutting. Because Treflan TR-10 does not control established weeds, application must be made prior to the expected time of weed germination.

**Fall Application:** Apply immediately after a cutting between August 1 and October 1. When fall applied, Treflan TR-10 controls bromegrass and cheat in addition to other weeds listed on this label that germinate after application. Bromegrass and cheat begin to germinate in the fall with the onset of cooler weather.

#### **Precautions and Restrictions:**

- In the season following a 20 lb per acre treatment of Treflan TR-10 where established alfalfa is to be rotated to another crop, plant only those crops for which Treflan TR-10 can be applied as a preplant incorporated treatment or crop injury may result.
- Do not exceed 20 lb of Treflan TR-10 (2 lb active ingredient) per acre per application.
- Do not apply more than 40 lb of Treflan TR-10 (4 lb active ingredient) per year.
- Do not harvest alfalfa hay or forage within 21 days after an application.

#### **ASPARAGUS - ESTABLISHED**

Apply Treflan TR-10 to established asparagus as a single or split application. Treflan TR-10 will suppress volunteer seedling asparagus and field bindweed when recommendations for rates, application and timing are followed. Follow recommended soil preparation, application and incorporation procedures for Treflan TR-10 under General Information section of this label.

#### **Application Timing**

Apply in winter or early spring after mature ferns have been removed, but before new spears begin to emerge. Apply post-harvest applications immediately after harvest in late spring or early summer just before ferns are allowed to develop.

#### **Broadcast Application Rates/Acre:**

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Soil Texture	Split Application Before and After Harvest (lb)	Single Application Before or After Harvest (lb)
coarse	5.0 + 5.0	10
medium	7.5 + 7.5	15
fine	10 + 10	20

- **Restriction:** Do not apply more than 10 lb per acre on coarse soils, 15 lb per acre on medium soils or 20 lb per acre on fine soils during the calendar year.

### BEANS - DRY AND FRESH BEANS/PEAS (EXCEPT FOR BEANS/PEAS LISTED ELSEWHERE ON THIS LABEL)

Apply and incorporate Treflan TR-10 in the spring before planting or in the fall prior to spring planting. See instructions for fall application of Treflan TR-10 under the heading Application Timing in the General Information section of this label.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	5.0 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### BEANS - GUAR AND MUNGBEAN

Apply and incorporate Treflan TR-10 before planting.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	7.5
fine	7.5

- All soils with 2 to 5% organic matter - 7.5 lb per acre

### BEANS - LIMA BEAN AND SNAP BEAN

Apply and incorporate Treflan TR-10 before planting.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	5
fine	7.5

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- All soils with 2 to 5% organic matter - 7.5 lb per acre

### CARROT

Apply and soil incorporate Treflan TR-10 before planting.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### CASTOR BEAN

Apply and soil incorporate Treflan TR-10 before planting.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### CELERY

Apply as a soil incorporated treatment. Treflan TR-10 may be applied to direct seeded or transplant celery before planting, at planting or immediately after planting.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### CHICORY (*Cichorium intybus* or *Cichorium endiva*)



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Treflan TR-10 may be applied as a preplant incorporated treatment to chicory grown either as a root crop or leafy vegetable as indicated below:

*Cichorium intybus*, considered to be a root crop, may be harvested as:

- Chicory - the dried and processed root used as a coffee substitute.
- Radicchio - green leaves harvested from field grown plantings.
- Belgian Endive - white leaves grown in the dark from field grown rootstalks.

*Cichorium endiva*, considered to be a leafy vegetable, may be harvested as:

- Escarole - curly green leaves from field grown plantings.
- Endive - very curly green leaves from field grown plantings.

Apply Treflan TR-10 as a soil incorporated treatment in spring or early summer prior to planting.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5.0
medium	7.5
fine	10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- Soils with 5 to 10% organic matter - 10 lb per acre

**COLE CROPS - BROCCOLI, BRUSSELS SPROUTS, CABBAGE AND CAULIFLOWER**

**Direct Seeded Cole Crops**

Apply and incorporate Treflan® TR-10® granular herbicide before planting.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	5
fine	7.5

- All soils with 2 to 5% organic matter - 7.5 lb per acre

**Precaution:** Direct seeded cole crops exhibit marginal tolerance to higher than recommended rates of Treflan TR-10. Stunting or reduced stands may occur.

**Transplanted Cole Crops**

Apply and incorporate Treflan TR-10 before transplanting.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

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- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### CORN (FIELD CORN ONLY)

Treflan TR-10 may be applied as a postemergence treatment following cultivation or the use of a preemergence herbicide. Uniformly apply to the soil surface when crop is well established (2 true leaf stage or taller). Treflan TR-10 does not control established weeds.

#### Incorporation Directions

Treflan TR-10 should be incorporated within 24 hours after application. Incorporation may be accomplished with one pass of a sweep-type cultivator or properly adjusted rolling cultivator. The sweep-type cultivator should have 3 to 5 sweeps per row middle and be operated at a speed that will provide maximum soil movement. Adjust middle sweeps so as to avoid exposing untreated soil. Adjust incorporation equipment so as to avoid mechanical injury to the crop.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	3.75 - 5 <sup>†</sup>
medium	5 - 7.5
fine	7.5 - 10

<sup>†</sup>Apply 5 to 7.5 lb per acre on coarse soils in Alabama, Florida, Georgia, North Carolina, South Carolina and Virginia to control fall panicum and Texas panicum.

- Apply lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

#### Precautions and Restrictions:

- Do not apply Treflan TR-10 to sweet corn, popcorn or corn grown for seed.
- Do not apply Treflan TR-10 as a preplant or preemergence treatment or crop injury may occur.
- Do not apply Treflan TR-10 within 6 weeks prior to harvesting forage, fodder or silage or after corn is 30 inches tall.

### COTTON

#### Application Timing

Treflan TR-10 may be applied for weed control in cotton in the fall, in the spring before or at planting, after planting but prior to crop emergence, and to established cotton up to and including lay-by, but no later than 90-days before harvest.

#### How to Apply

Treflan TR-10 may be applied and soil incorporated or it may be applied to the surface of soil and watered-in (follow directions for incorporation with overhead sprinkler irrigation in Minimum Tillage Cotton section below).

Follow recommended soil preparation, application, and incorporation procedures in the General Information section of this label. For fall application, in addition to the directions below, refer to instructions in the Application Timing section under General Information. For lay-by application, refer to instructions in the Lay-by Application section below.

If incorporating after planting, incorporate Treflan TR-10 soon after planting and set equipment so as to avoid disturbing planted cottonseed.

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For band applications, reduce the application rate in proportion to the row spacing and bandwidth treated. For example, treating a 12-inch band where the row spacing is 36 inches would require 1/3 of the recommended broadcast rate per acre (12 inches divided by 36 inches = 1/3).

### Conventional Tillage Cotton

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10		
	Spring Application <sup>†</sup> (lb)	Fall Application (lb)	
		Eastern U.S. <sup>††</sup>	Western U.S. <sup>†††</sup>
coarse	5	10	7.5
medium	6.25 - 7.5	10	10
fine	7.5 - 10	12.5	12.5

#### † Spring Application:

- On coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre.
- On fine soils with 2 to 5% organic matter - 10 lb per acre.
- On all soils with 5 to 10% organic matter - 10 lb per acre.
- Use the lower rates in rate ranges in areas receiving less than 20 inches total annual rainfall and irrigation.

†† Fall Application: For eastern U.S. including Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (bootheel), North Carolina, New Mexico, Oklahoma, South Carolina, Tennessee, and Texas.

††† Fall Application: For western U.S. including Arizona and California.

For fall application in all other states and areas not listed in the above footnotes: Apply Treflan TR-10 at the spring application rate, using the high rate where a range is given.

### Minimum Tillage Cotton (Conservation Tillage Cotton)

#### Fall Application Prior to Establishing a Small Grain Cover Crop

Apply Treflan TR-10 at a broadcast rate of 10 to 15 lb per acre. Use the 15-lb per acre rate where crop residues are present or where dense weed populations are anticipated. Make applications to flat ground and incorporate once within 24 hours using incorporation implements such as a springtooth harrow that can be set to cut no more than 2 to 3 inches deep. **Do not incorporate with a tandem disc.** Form beds with disc bedders or other bedding implements that will mix and move most of the treated soil from the furrow area to the beds. Fertilizer may be applied as appropriate during incorporation operations. Plant 2 to 4 rows of a small grain cover crop, such as barley, rye or wheat, 2 inches deep in the furrow area between the beds. To avoid injury to small grain seedlings, place seed below the treated layer of soil. Barley is more tolerant to injury than wheat or rye. Existing soil moisture must be present to establish and maintain the cover crop. In late winter (February), apply 2,4-D if necessary for broadleaf weed control.

#### Spring Application Before or After Planting

Apply Treflan TR-10 as a broadcast treatment or as a band to bare ground or standing dead cover following burndown with a postemergence herbicide. Treflan TR-10 may be applied and incorporated either before planting or after planting. If applied after planting, incorporate immediately and set incorporation equipment at a depth that will not disturb the planted seed. If Treflan TR-10 is applied as a band, adapt incorporation equipment to the width of the treated band and use equipment that will uniformly mix Treflan TR-10 into the top 1 inch of soil. Compared to double pass incorporation, weed control may be reduced when using single pass incorporation or if using equipment that does not thoroughly mix Treflan TR-10 into the treated soil.

#### Broadcast Application Rates/Acre for Minimum Tillage:

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Soil Texture	Treflan TR-10 (lb)
coarse	5.0 – 10.0
medium	7.5 – 10.0
fine	10.0 – 20.0

Use the lower rate in the rate range when additional sequential applications of Treflan TR-10 are anticipated. Use the higher rate in the rate range where crop residues are present, or where dense weed populations are anticipated.

#### Incorporation with Overhead Sprinkler Irrigation

Treflan TR-10 may be surface applied in minimum tillage cotton as either a band or broadcast treatment before or after planting. Because Treflan TR-10 does not control established weeds, planting and application should occur as soon as possible after the last tillage operation or cultivation, before weeds have germinated. Surface applied Treflan TR-10 must be activated as soon as possible after application with 0.75 acre inch or more of uniformly applied overhead sprinkler irrigation. Do not delay irrigation past 3 days.

#### Broadcast Application Rates/Acre (When Incorporated with Sprinkler Irrigation):

Soil Texture	Treflan TR-10 (lb)
coarse	5.0 – 15.0
medium	7.5 – 20.0
fine	10.0 – 20.0

Use the higher rate in the rate range where crop residues are present or where dense weed populations are anticipated.

#### Lay-by Application

Lay-by application may be made in established cotton after the 4 true leaf growth stage, but no later than 90 days before harvest. Apply Treflan TR-10 uniformly to the soil surface using properly calibrated granular application equipment. Incorporate using one pass of a sweep-type cultivator or properly adjusted rolling cultivator. Operate cultivation equipment at speeds sufficient to provide vigorous soil mixing and exercise care to avoid mechanical injury to the crop. Compared to conventional double pass incorporation, weed control may be reduced when using single pass incorporation or if using equipment that does not provide thorough soil mixing. The lay-by application rate must not exceed the rate given in the lay-by table below for each soil texture.

#### Lay-by Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5.0
medium	7.5
fine	10.0

#### Precautions and Restrictions:

**Precautions:** To avoid crop injury, cotton should be planted after early season adverse weather conditions have passed, especially when using high rates. Cool, wet weather early in the growth cycle causes stress to the cotton plant. The added stress may result in reduced stand, delayed maturity, and reduced yields.

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**Maximum Crop Year Use Rate:** For full season weed control, Treflan TR-10 may be applied one or more times sequentially during the cotton crop year observing the rates, methods of application, and a 90-day preharvest interval. The maximum dosage must not exceed the rates given and the maximum cumulative amount of Treflan TR-10 that may be applied *within the same crop year* (includes fall application or spring application, and lay-by application) must not exceed 20 lb per acre (2 lb active ingredient per acre). Do not apply more than 2 lb active ingredient per acre per application.

**Rotation Crop Restrictions:** Refer to the Rotation Crop Restrictions section under General Information for specific rotational crop restrictions. When the cumulative amount of Treflan TR-10 in one crop year (fall or spring plus lay-by) exceeds the rates in the table below, plant only those crops for which Treflan TR-10 is labeled as a preplant incorporated treatment in the season following the application of Treflan TR-10 or crop injury may result.

Soil Texture	Cumulative Amount of Treflan TR-10/Acre in One Crop Year (lb)
coarse	7.5
medium	7.5
fine	10.0

A small grain cover crop, such as barley, rye, or wheat, intended for prevention of wind erosion in minimum tillage cotton, may be planted in the fall following a maximum crop year use rate of 20 lb per acre of Treflan TR-10; however, reduced stand and delayed emergence and development of the cover crop may result. The cover crop must not be grazed or harvested.

## CUCURBITS

### Postemergence Application Only

Apply and incorporate Treflan® TR-10® granular herbicide when plants have reached the 3 to 4 true leaf stage of growth. Set incorporation equipment to move treated soil around the base of plants during incorporation.

### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**Restriction:** Do not apply within 30 days of harvest, except for watermelon which has a 60-day preharvest interval.

## FLAX (FALL APPLICATION ONLY)

Apply and incorporate Treflan TR-10 in the fall between September 1 to December 31 in California, Minnesota, North Dakota and South Dakota, and between October 15 and December 31 in other states. Refer to instructions for fall application under Application Timing in the General Information section of this label.

### Broadcast Application Rates/Acre:

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Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	7.5
fine	10

**Special Instructions for Flax**

1. Incorporation operations or other tillage performed in the spring prior to seeding should be relatively shallow so as to maintain a firm seedbed. The seedbed should be packed just prior to seeding.
2. Seeding should be done with a press drill or hoe drill. Seed into moist seedbed no more than 1.5 inches deep.
3. Flax should not be seeded until the seedbed has warmed up.

**GRAIN SORGHUM (MILO)**

Treflan TR-10 may be applied as a postemergence treatment following the use of a preemergence herbicide. Uniformly apply to the soil surface when grain sorghum is 8 to 24 inches tall. Treflan TR-10 does not control established weeds.

**Soil Preparation**

Cultivate soil before application to remove established weeds and cover the base of plants with soil. Set cultivation equipment to add approximately one inch of soil to the base of sorghum plants.

**Activation and Incorporation Directions**

Treflan TR-10 should be incorporated within 24 hours after application. Incorporation may be accomplished with one pass of a sweep-type cultivator or properly adjusted rolling cultivator. The sweep-type cultivator should have 3 to 5 sweeps per row middle and be operated at a speed sufficient to provide vigorous soil mixing. Set middle sweeps so as to avoid exposing untreated soil. Adjust incorporation equipment so as to avoid mechanical injury to the crop.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	4 - 5
medium	5 - 7.5
fine	7.5 - 10

Apply lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**Restriction:** Do not apply after grain sorghum is 24 inches tall.

**GREENS: COLLARD, KALE, MUSTARD AND TURNIP (FRESH, FOR PROCESSING, OR GROWN FOR SEED)**

Apply to greens as a preplant incorporated treatment.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	7.5
fine	7.5

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**HOPS**

Apply and incorporate Treflan TR-10 to established hops during dormancy. Incorporate once using incorporation equipment that will insure thorough soil mixing with minimal damage to crop stand.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	6.25 - 7.5

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre

**KENAF**

Apply as a preplant soil incorporated treatment.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5.0
medium	5.0 - 7.5
fine	7.5

- Coarse soils with 2 to 5% organic matter - 7.5 lb per acre
- Use higher rate in rate range where high weed populations are anticipated.

**Restriction:** Do not graze or harvest treated crop for livestock forage.

**MUSTARD - GROWN FOR SEED OR PROCESSING FOR FOOD (REFER TO GREENS SECTION)****OKRA**

Apply and incorporate Treflan TR-10 before planting.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**ONION (DRY BULBS ONLY)****Postemergence Lay-by Application**

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Apply at lay-by to the soil between onion rows. Avoid applying directly to the tops or exposed bulbs of onion plants. Emerged weeds should be removed prior to application of Treflan TR-10. Treflan TR-10 will not control established weeds.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	3.75 - 5.0
medium	5.0 - 6.26

- Apply only to soils containing 3.5% or less organic matter
- **Note:** Use the lower rate in rate range where light weed pressure is anticipated.

#### Incorporation Directions

Treflan TR-10 should be uniformly incorporated into the soil between the onion rows. Incorporation may be accomplished by operating a sweep-type or rolling cultivator 2 to 4 inches deep at 6 to 8 mph. Two incorporation passes are required with the first occurring within 24 hours after application or erratic weed control may result. The second incorporation should be a minimum of 5 days after the first. Avoid covering onions with treated soil during incorporation as injury to the crop may occur. Care should be taken to avoid mechanical injury to onion roots during incorporation.

#### Precautions and Restrictions:

- Do not apply as a preplant or preemergence treatment.
- Do not apply to muck soils.
- **Note:** Reduced yields may result from use of Treflan TR-10 on onion crops weakened by diseases, improper incorporation depth, excessive moisture, high salt concentration or drought may weaken the crop and increase the possibility of damage from Treflan TR-10. Under these conditions reduced yields may result.
- **Preharvest Interval:** Do not apply within 60 days of harvest.

### PEAS - DRY PEA AND ENGLISH PEAS

Apply and incorporate Treflan® TR-10® granular herbicide in the spring before planting or in the fall. Refer to instructions for fall application under Application Timing in the General Information section of this label.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10	
	Spring Application (lb)	Fall <sup>†</sup> Application (lb)
coarse	5	5
medium	5 - 7.5 <sup>††</sup>	6.25 - 7.5
fine	7.5	7.5

<sup>†</sup>Treflan TR-10 may be fall applied to dry and English peas in the states of Idaho, Oregon and Washington.

<sup>††</sup>Medium soils with 3% or greater organic matter - 7.5 lb per acre.

- Use the lower rate in areas receiving less than 20 inches total annual rainfall and irrigation.

### PEAS - SOUTHERN PEAS

Apply and incorporate Treflan TR-10 before planting.

#### Broadcast Application Rates/Acre:



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Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### PEANUTS (FOR USE IN TEXAS, OKLAHOMA AND NEW MEXICO ONLY)

Apply and incorporate Treflan TR-10 before planting, at planting or immediately after planting. When incorporating after planting, take care not to disturb the seed.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	7.5

### PEPPER (TRANSPLANT ONLY)

Apply and incorporate Treflan TR-10 prior to transplanting. Do not apply after transplanting.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### POTATOES (NOT FOR USE IN THE STATE OF MAINE)

Apply and incorporate Treflan TR-10 after planting prior to crop emergence, immediately following dragoff, or after potato plants have fully emerged.

#### Incorporation Directions

Set incorporation equipment so that the bed and furrow are uniformly covered with a layer of treated soil. If the layer of treated soil is not uniform and the herbicide is concentrated over the bed, potato emergence may be retarded and stem brittleness can occur. When applying and incorporating Treflan TR-10 after potato plants have fully emerged, do not completely cover the plants with treated soil. Likewise, do not completely cover plants during subsequent cultivation. Be careful that incorporation equipment does not damage potato seed pieces or elongating sprouts.

#### Broadcast Application Rates/Acre:

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Soil Texture	Treflan TR-10 (lb)
coarse	5.0
medium	6.25 - 7.5
fine	7.5 - 10.0

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Soils with 5 to 10% organic matter - 10.0 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### **RAPSEED (CANOLA) AND CRAMBE**

Apply as a soil incorporated treatment in the spring before planting or in late summer or early fall before a fall planting. Follow soil preparation, application and incorporation directions for Treflan TR-10.

#### **Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5.0
medium	7.5
fine	10.0

#### **Precautions and Restrictions:**

- Do not apply to rapeseed (canola) grown in the state of Alaska.
- Where applications are made in late summer or fall, plant as rotation crops in the season following application only those crops to which Treflan TR-10 may be applied as a preplant incorporated treatment or crop injury may occur.
- Do not graze or harvest crambe for livestock forage.

### **SAFFLOWER**

Apply and incorporate Treflan TR-10 in the spring before planting, or in the fall. See instructions for fall application under Application Timing in the General Information section of this label.

#### **Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10	
	Spring <sup>†</sup> Application (lb)	Fall Application (lb)
coarse	5	7.5
medium	6.25 - 7.5	10
fine	7.5 - 10	12.5

#### **<sup>†</sup>Spring Application:**

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 to 12.5 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### **SMALL GRAINS - BARLEY, DURUM AND WHEAT**

#### **Special Precautions for Use of Treflan TR-10 on Small Grains**

Carefully follow directions for use of Treflan<sup>®</sup> TR-10<sup>®</sup> granular herbicide on small grains to minimize potential crop stress. Under certain conditions, delayed crop emergence and/or stand reduction may occur when Treflan TR-10 is applied to barley, durum or wheat. The combined effect of certain cultural

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practices and unfavorable soil or environmental conditions may cause excessive crop seedling stress resulting in retarded crop growth, stand reduction and possibly reduced yield. **For best results, observe the following cultural practices or precautions:**

Use tillage methods that provide a uniformly firm seedbed and time tillage operations to conserve moisture.

Irrigate prior to planting or after germination and emergence. Moisture received between planting and emergence may cause crusting, especially on loose seedbeds.

Do not exceed recommended application rates for Treflan TR-10. This is particularly important on coarse textured or low organic matter soils.

Carefully follow incorporation directions. When applying preplant incorporated treatments, operate equipment at recommended depth and speed to place Treflan TR-10 into the upper 1 to 1.5 inches of soil. If applied after planting, set equipment so as to avoid disturbance of planted seed.

Set drills to place seed at the depth specified in use directions. A planting depth greater than 2.5 inches for **spring wheat or durum** will result in increased seedling stress and decreased emergence.

Use only high quality seed where Treflan TR-10 is to be applied (avoid use of small seed with low starch reserves).

If seed treatments are used, apply at the correct rate and uniformly across all seeds. Misapplication may result in reduced germination and/or seedling vigor.

Avoid use of seed varieties known to have poor seedling (emergence) vigor.

**Soil characteristics and environmental conditions which may contribute to crop seedling stress that may be accentuated by use of Treflan TR-10 include:**

Soil related: High salinity, eroded knolls/hilltops, loose dry soils and compaction.

Weather related: Cold and/or wet soils, excessively hot soils, excessive moisture, drought, and soil crusting from heavy rainfall.

**Note: Do not apply Treflan TR-10 on small grains where a dinitroaniline herbicide such as Treflan (trifluralin) or Sonalan® herbicide (ethalfluralin) was applied at a rate greater than 0.5 lb active ingredient per acre the previous growing season.**

#### **Incorporation Directions and Equipment for Small Grains**

Use incorporation equipment in the manner described below unless otherwise specified in use directions. Any of the following implements listed below may be used for the first incorporation of Treflan TR-10. Use only the disc or field cultivator for the second incorporation pass and incorporate in a different direction. Poor weed control may result if untreated soil is moved to the surface during the second incorporation pass. To avoid this problem, the second incorporation should not be deeper than the first.

**Chisel Plow: May be used for the first incorporation pass only.** Operate at 4 to 5 inches deep and at 4 to 6 mph. A chisel plow is defined as having 3 rows of 14- to 18- inch sweeps on no greater than 12- inch centers. Stagger sweeps so that no soil is left unturned. Use of chisel points may result in inadequate soil mixing.

**Tandem Disc:** Operate at 3 to 4 inches deep and at 4 to 6 mph.

**Field Cultivator:** Operate at 3 to 4 inches deep and at 5 mph or more. A field cultivator is defined as having 3 to 4 rows of sweeps with "C" or "S" shaped shanks on no greater than 7-inch centers. Stagger sweeps so that no soil is left unturned.

#### **Application Directions for Small Grains**

**Barley, Spring Seeded – Fall Application for General Weed Control During the Following Season (for Use in Minnesota, North Dakota and South Dakota)**

For general weed control (except for special rate or use programs) in Minnesota, North Dakota and South Dakota.

Apply in the fall for general weed control during the following growing season. Incorporate one time within 24 hours. Incorporate a second time before planting to destroy existing weeds and insure uniform distribution of Treflan TR-10 in treated soil. The second incorporation should occur a minimum of 5 days after the first.

**Note:** See recommendations on incorporation and incorporation equipment at the beginning of the Small Grains section.

**Planting Directions:** Set planting equipment to place seed approximately 1.5 inches deep.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	7.5
fine	7.5

Treflan TR-10 applied at 7.5 lb per acre will provide partial control or suppression of kochia and Russian thistle.

**Precaution:** While use of this practice may result in a stand reduction, slight stand reductions do not normally affect yield.

**Barley, Spring Seeded – Spring Application for Foxtail (Pigeongrass) Control (for Use in Minnesota, North Dakota and South Dakota)**

Apply in the spring as a preplant incorporated treatment for foxtail (pigeongrass) control in spring seeded barley.

Incorporate one time within 24 hours. Incorporate a second time before planting to destroy existing weeds and insure uniform distribution of Treflan TR-10 in treated soil. The second incorporation should occur a minimum of 5 days after the first.

**Note:** See recommendations on incorporation and incorporation equipment at the beginning of the Small Grains section.

**Planting Directions:** Set planting equipment to place seed approximately 1.5 inches deep.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	5
fine	5

**Precaution:** While use of this practice may result in a stand reduction, slight stand reductions do not normally affect yield.

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**Barley, Spring Seeded -- Spring Application for Foxtail (Pigeongrass) Control in Barley Used as a Cover Crop or in the Acreage Conservation Reserve Program (for Use in Minnesota, North Dakota and South Dakota)**

Apply in the spring as a preplant incorporated treatment for foxtail (pigeongrass) control in spring seeded barley used as a cover crop or to acreage in the conservation reserve programs.

Incorporate one time within 24 hours. Incorporate a second time before planting to destroy existing weeds and insure uniform distribution of Treflan TR-10 in treated soil. The second incorporation should occur a minimum of 5 days after the first.

**Note:** See recommendations on incorporation and incorporation equipment at the beginning of the Small Grains section.

**Planting Directions:** Set planting equipment to place seed approximately 1.5 inches deep.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	7.5
fine	7.5

**Precautions and Restrictions:** Use of this practice may result in a slight stand reduction. Follow the most severe grazing restrictions imposed by either the label for Treflan TR-10 or the USDA Acreage Conservation Reserve Program, whichever is longest. Consult the local ASCS office or other state agency to determine the period of the USDA grazing restriction.

**Spring Seeded Wheat or Durum - Spring Application Preplant Incorporated for Suppression of Foxtail (Pigeongrass) (for Use in North Dakota West of ND Highway Number 3 and in South Dakota)**

Apply Treflan TR-10 in the spring as a preplant incorporated treatment for suppression of green and yellow foxtail (pigeongrass) in spring seeded Wheat or durum.

**Broadcast Application Rate:**

Apply at a broadcast application rate of 3.5 to 4 lb per acre for all soil types.

**Incorporation Directions**

The first incorporation should occur within 24 hours after application. Incorporate a second time before planting to destroy existing weeds and insure uniform distribution of Treflan TR-10 in treated soil. The second incorporation should be delayed a minimum of 5 days after the first. To avoid bringing untreated soil to the surface, the second incorporation should not be deeper than the first. A chisel plow with sweeps may be used for the first incorporation pass only.

**Note:** See recommendations on incorporation and incorporation equipment at the beginning of the Small Grains section.

**Planting Directions:** Set equipment to place seed approximately 1.5 inches deep.

**Spring Seeded Wheat or Durum -- Fall Application for Foxtail (Pigeongrass) Control During the Following Growing Season**

Apply in the fall for foxtail (pigeongrass) control during the following growing season. Incorporate one time within 24 hours. Incorporate a second time before planting to destroy existing weeds and insure a

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uniform distribution of Treflan TR-10 in treated soil. The second incorporation should be delayed a minimum of 5 days after the first.

**Note:** See recommendations on incorporation and incorporation equipment at the beginning of the Small Grains section.

**Planting Directions:** Set planting equipment to place seed approximately 1.5 inches deep.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	5
fine	7.5

**Precaution:** While use of this practice may result in a stand reduction, slight stand reductions do not normally affect yield.

**Spring Seeded Durum or Spring Wheat - Fall Applied Preplant Incorporated for Suppression of Foxtail (Pigeongrass) (for Use in North Dakota West of the Red River Valley and in South Dakota)**

Apply Treflan TR-10 in the fall as a preplant incorporated treatment for suppression of green and yellow foxtail (pigeongrass) in spring seeded wheat.

**Broadcast Application Rates:**

Soil Texture	Treflan TR-10 (lb)
coarse	3.5 - 4.0
medium	3.5 - 4.0
fine	5.0

Use the lower rate in the rate range where light weed pressure is anticipated.

**Incorporation Directions**

The first incorporation should occur within 24 hours after application. Incorporate a second time before planting to destroy existing weeds and insure uniform distribution of Treflan TR-10 in treated soil. The second incorporation should be delayed a minimum of 5 days after the first. To avoid bringing untreated soil to the surface, the second incorporation should not be deeper than the first. A chisel plow with sweeps may be used for the first incorporation pass only.

**Note:** See recommendations on incorporation and incorporation equipment at the beginning of the Small Grains section.

**Planting Directions:** Set equipment to place seed approximately 1.5 inches deep.

**Note:** Do not apply Treflan TR-10 in the fall as a preplant incorporated treatment to be followed by spring wheat where a dinitroaniline herbicide such as Treflan (trifluralin) was applied at rates greater than 0.5 lb active ingredient per acre during the previous growing season.

**Winter Wheat – Preplant Incorporated for Control of Cheatgrass and Other Annual Grasses (for Use in Idaho, Oregon and Washington)**

Apply Treflan TR-10 as a preplant incorporated treatment up to 3 weeks before planting.

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**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	7.5
medium	7.5
fine	10

**Incorporation Directions**

Incorporate Treflan TR-10 with a flexible tine-tooth harrow (Flextine or Melroe) set to cut 1 to 2 inches deep and operated at 3 to 6 mph. Thorough incorporation requires two incorporation passes over the field in different directions. Incorporate one time within 24 hours after application. A second incorporation pass prior to planting should occur a minimum of 5 days after the first. Do not till the soil with a disc after Treflan TR-10 has been incorporated with a flexible tine harrow.

**Planting Directions:** Use only a deep furrow or semi-deep furrow drill that will place the seed below the zone into which Treflan TR-10 has been incorporated.

**Precaution:** Do not plant wheat directly into the zone of soil treated with Treflan TR-10 as crop injury (delayed emergence or stand reduction) may occur. Delayed emergence or slight stand reduction does not normally affect yield.

**Winter Wheat – Fallow Soil Application for Annual Grass Control Prior to Planting (for Use in Idaho, Oregon and Washington)**

Apply and shallowly incorporate Treflan TR-10 up to 4 months before planting to control cheatgrass and certain other annual grasses and broadleaf weeds during the fallow period and during the following growing season. Apply any time from May to September prior to fall planting of winter wheat.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
coarse	7.5
medium	7.5
fine	10

**Incorporation Directions**

Incorporate Treflan TR-10 with a flexible tine-tooth harrow (Flextine or Melroe) set to cut 1 to 2 inches deep and operated at 3 to 6 mph. Thorough incorporation requires two incorporation passes over the field in different directions. Incorporate one time within 24 hours after application. A second incorporation pass prior to planting should occur a minimum of 5 days after the first. Do not till the soil with a disc after Treflan TR-10 has been incorporated with a flexible tine harrow.

**Planting Directions:** Use only a deep furrow or semi-deep furrow drill that will place the seed below the zone into which Treflan TR-10 has been incorporated.

**Precaution:** Do not plant wheat directly into the zone of soil treated with Treflan TR-10 as crop injury (delayed emergence or stand reduction) may occur. Delayed emergence or slight stand reduction does not normally affect yield.

**Summer Fallow Weed Control Followed by Spring Seeded Wheat, Durum or Barley**

Treflan TR-10 may be applied to coarse, medium and fine textured soils for control of labeled weeds in the summer fallow period and for pigeongrass (foxtail) control in wheat, durum and barley seeded the following spring.

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Treflan TR-10 may be applied to standing stubble or land which has been fallowed or pre-tilled. Existing weeds, surface trash or crop litter should be reduced by tillage if present in quantities that will prevent uniform soil incorporation. The first incorporation is required within 24 hours after application. The second incorporation, a minimum of 5 days after the first, may occur in conjunction with tillage to destroy other weed growth during the remainder of the fallow year. During the fallow year, susceptible weeds may not be controlled until after the second incorporation.

#### Broadcast Application Rates/Acre:

Application Date	Treflan TR-10	
	Areas with Less Than 10 inches Annual Rainfall (lb)	All Other Areas (lb)
Apr. 15 - Apr. 30	8.75	10
May 1 - May 31	8.75 - 7.5	10 - 8.75
June 1 - June 30	7.5 - 6.25	8.75 - 7.5
July 1 - July 31	6.25 - 5	7.5 - 6.25
Aug. 1 - Aug. 31	5	6.25 - 5

Where a rate range is shown, use the higher rate per acre during the early part of an application period and the lower rate per acre during the latter part of an application period.

#### Incorporation Directions

See recommendations on incorporation and incorporation equipment at the beginning of the Small Grains section.

**Seeding Directions:** Wheat, durum or barley should be seeded approximately 1.5 inches deep.

**Precaution:** While use of this practice may result in a stand reduction, slight stand reductions do not normally affect yield.

### SOYBEANS

Apply and incorporate Treflan® TR-10® granular herbicide in the spring prior to planting or in the fall in advance of spring planting. See instructions for fall application under Application Timing in the General Information section of this label.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10	
	Spring <sup>†</sup> Application (lb)	Fall <sup>††</sup> Application (lb)
coarse	5	10
medium	7.5	10
fine	10	12.5

#### <sup>†</sup>Spring Application:

- Coarse and medium soils with 2-5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 to 12.50 lb per acre

<sup>††</sup>Fall application use rates for soybeans grown in Alabama, Arkansas, Northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (bootheel), North Carolina, Oklahoma, South Carolina,



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Tennessee and Texas. For soybeans grown in areas other than those listed above, fall apply Treflan TR-10 at broadcast rates recommended for spring preplant incorporated treatment.

**Precaution:** Do not fall apply Treflan TR-10 in the fall to soils which are wet or subject to prolonged periods of flooding, or where rice was grown the previous year.

#### Overlay or Postemergence Applications Following Treflan TR-10

For broader spectrum weed control, other products registered for use in soybeans may be applied as overlay or postemergence treatments following application of Treflan TR-10. For products used following application of Treflan TR-10, follow the manufacturer's label for additional weeds controlled, directions for use, precautions and use restrictions.

#### Special Use Program - Soybeans Grown Under Reduced or Conservation Tillage Conditions

Treflan TR-10 can be applied either in the fall or in the spring as a preplant incorporated treatment for weed control in soybeans grown under reduced or conservation tillage practices. Make only one application per crop cycle.

Make applications to tilled land or standing or chopped stubble from the previous season's crop. Use incorporation equipment that thoroughly and uniformly mixes Treflan TR-10 into the top 2 to 3 inches of the final seedbed and leaves a maximum amount of crop residue on the soil surface. Two incorporation passes are required. The first incorporation must occur within 24 hours after application. For fall application, incorporate once in the fall and a second time in the spring before planting. For best results with spring application, incorporate once within 24 hours after application and a second time at least 5 days later.

#### Broadcast Application Rates/Acre:

Soil Texture	Fall Application (lb)	Spring Application (lb)
coarse	7.5 - 10.0	5.0 - 7.5
medium	10.0 - 12.5	7.5 - 10.0
fine	12.5 - 15.0	10.0 - 12.5

Use the higher rate in the rate range where higher crop residues are present or where dense weed populations are anticipated.

**Precautions:** To be effective, Treflan TR-10 must be mixed thoroughly in the top 2 to 3 inches of soil in the final seedbed. Weed control may be poor or erratic where soil conditions or heavy crop residues do not permit thorough soil mixing.

### SUGAR BEETS

Apply and incorporate Treflan TR-10 when sugar beets are 2 to 6 inches tall.

#### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	6.25 - 7.5

Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

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**Precautions:** Exposed sugar beet roots should be covered with soil before applying Treflan TR-10 to reduce the possibility of girdling. When incorporating, set equipment to move treated soil into the row. Set incorporation equipment carefully so as to prevent damage to sugar beet tap root.

**SUGARCANE**

Apply and incorporate Treflan TR-10 twice a year. Make the first application in the fall on firmly packed beds immediately after the seed pieces are planted. Make a second application in the spring before or shortly after the cane emerges. Loosen rain-packed beds 2 to 3 inches deep before spring application. Take care that incorporation equipment does not damage the seed pieces or emerging shoots.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
all soil textures	10 - 20

Application rate range may be adjusted according to weed pressure.

**Applications Up to Lay-By for Plant Cane or Ratoon Cane (for Use in Louisiana and Texas)**

Apply and incorporate Treflan TR-10 in the spring from shortly before or after cane emergence until lay-by. Apply after beds have been shaved or false shaved. Loosen rain-packed beds 2 to 3 inches deep before application. Avoid incorporation equipment damage to seed pieces or emerging shoots. Incorporate with a rolling cultivator or bed chopper for all soil textures. Set rolling cultivator to cut 2 to 4 inches deep and operate at 6 to 8 mph. Set bed chopper to cut 3 to 4 inches deep and operate at 4 to 6 mph. Two incorporation passes are necessary.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
all soil textures	10 - 20

Application rate range may be adjusted according to weed pressure.

**Itchgrass (Raoulgrass) Control (for Use in Louisiana)**

Apply and incorporate Treflan TR-10 on plant or ratoon cane. Follow use directions in preceding section for lay-by application.

**Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
all soil textures	10 - 20

Application rate range may be adjusted according to weed pressure.

**SUNFLOWER**

Apply and incorporate Treflan TR-10 in the spring or in the fall between September 15 and December 31 in California, Minnesota, North Dakota and South Dakota, and between October 15 and December 31 in other states.

**Broadcast Application Rates/Acre:**

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Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 to 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

## TOMATO

For direct seeded tomatoes, apply Treflan TR-10 at blocking or thinning to the soil between rows and beneath plants and incorporate. For transplant tomatoes, apply and incorporate prior to transplanting or broadcast apply post-transplant and incorporate.

### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5 - 10

- Coarse and medium soils with 2 to 5% organic matter - 7.5 lb per acre
- Fine soils with 2 to 5% organic matter - 10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

## TREE AND VINE CROPS - CITRUS, FRUIT AND NUT TREES AND VINEYARDS

### New Plantings of Citrus, Fruit and Nut Trees

For new plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine and walnut trees, apply and incorporate Treflan® TR-10® granular herbicide before transplanting.

### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)
coarse	5
medium	6.25 - 7.5
fine	7.5

- All soils with 2 to 5% organic matter - 7.5-10 lb per acre
- All soils with 5 to 10% organic matter - 10 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

### New Plantings of Vineyards

Apply and incorporate Treflan TR-10 before planting.

### Broadcast Application Rates/Acre:

Soil Texture	Treflan TR-10 (lb)

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coarse	5 - 7.5
medium	7.5 - 15
fine	15 - 20

- All soils with 2 to 10% organic matter – 15 to 20 lb per acre
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**Note:** Do not use more than 10 lb per acre on mist propagated grape rootings.

#### **Established Non-Bearing and Bearing Citrus, Fruit and Nut Trees and Vineyards**

Treflan TR-10 may be applied in established non-bearing and bearing vineyards and plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine and walnut trees. In established plantings, apply Treflan TR-10 to the soil surface and incorporate using methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

#### **Broadcast Application Rates/Acre:**

Soil Texture	Treflan TR-10 (lb)
all soils	10 - 20

Use the higher rate in the rate range for longer term weed control.

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- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

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