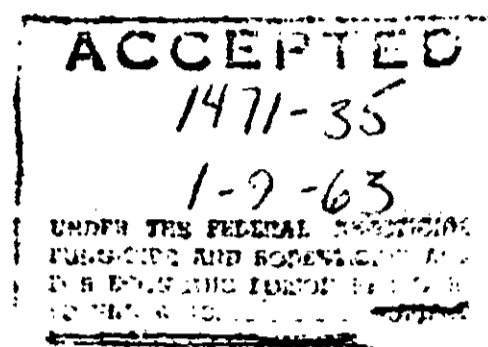


ELANCO PRODUCTS COMPANY  
A Division of Eli Lilly and Company

TREFLAN® E.C.



For proposed labeling see following pages

Product will be distributed in quarts, half-gallon, and one gallon containers.  
Product consists of 44.5% trifluralin dissolved in Xylene and Panasol AN2K with toxinul and Attalox G3300 added as emulsifiers.

12-5-62,hd

TREFLAN®  
E.C.

A new, selective herbicide for the preemergence control of grasses and broadleaf weeds in cotton and soybeans grown for seed.

Active Ingredients:

Trifluralin 2,4,6-trifluoro-2,4-dinitro-N,N-di-propyl-  
aniline 44.5%

Inert Ingredients 55.5%

Contains 4 lbs. active ingredient per gallon.

\* TREFLAN® is the registered trademark for Elanco Products trifluralin.

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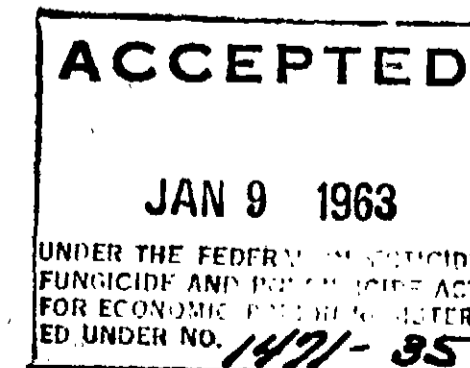
#### Weed and Grass Control

TREFLAN is a preemergence soil-incorporated herbicide effective against a wide range of grass and broadleaf weeds in cotton and soybeans. The effectiveness of TREFLAN is long-lasting...giving up to fall season control of weeds. Shallow cultivation, rotary-hoeing or hand-hoeing will not reduce the herbicidal activity of TREFLAN.

TREFLAN works only when applied prior to germination of weed seeds. It will not control established weeds. Fall seeded crops may be safely planted following a crop treated with TREFLAN.

#### Weeds Controlled

Annual Weeds Grasses	Annual Broadleaf Weeds
Crabgrass	Pigweed
Portulaca	Lambsquarters
Lambsquarters	Carpetweed
Goosegrass	Purslane
Johnson grass (from seed)	Smartweed
Stinkgrass	Vernon Mallow
Fall Panicum	
Cheat	



# Directions For Use

**SOIL INCORPORATION:** TREFLAN should be incorporated immediately after spraying. Spray equipment can be mounted on the tractor or on the incorporation equipment and both spraying and incorporation done in one operation. If separate pieces of equipment are used for spray application and soil incorporation TREFLAN should be incorporated within 15 minutes after application. The incorporation method used should break up large clods and mix soil thoroughly.

*Treplan can be applied just before or after planting.*  
**BROADCAST APPLICATION:** TREFLAN must be thoroughly mixed into the soil for best weed control. A power-driven rotary hoe set at a depth of 1-3 inches gives optimum results. Double disking or spike-tooth harrowing is somewhat less effective. If double disking, set at a depth of 2-4 inches and cross-disk the field twice at right angles. Tractor speed should be adequate (3-5 mph) to provide thorough mixing. If a spike-tooth harrow is used, the spikes should be set for maximum soil penetration and the same procedures followed as for disking.

**BAND APPLICATION:** TREFLAN for band treatment can be applied before planting or after planting. A power-driven rotary hoe gives good results. For pre-plant incorporation, the rotary hoe should be set to a depth of 1-3 inches. Set rotary hoe 1/2 - 1 inch for postplant incorporation. The spray band should be 1-2 inches wider than the incorporation band to make sure that all soil to be mixed has been treated with TREFLAN.

*As a lay-down treatment, TREFLAN may be soil incorporated with a power-driven rotary hoe set to a depth of 1 inch or with cultivator equipment with sweep attachments.*

**MIXING DIRECTIONS:** TREFLAN is formulated as an emulsifiable concentrate to be mixed with water and applied as a spray. Low pressure sprays at 20-40 p.s.i. at a volume of 25-40 gallons of water per acre are sufficient for broadcast coverage. Correspondingly less water is required for band treatment.

## **APPLICATION RATE:**

**Broadcast** - Apply TREFLAN E.C. at a rate of 1-2 pints/acre on sandy and sandy loam (light) soils, 2-3 pints/acre on loam (medium) soil and 3-4 pints/acre on silt and clay (heavy) soils.

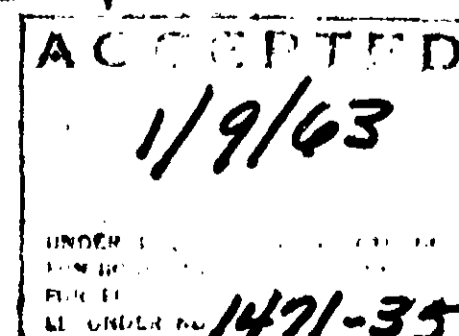
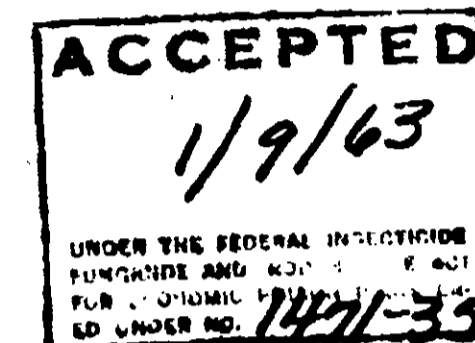
**Band** - For band treatments in 30-40 inch row widths, use the amounts of TREFLAN E.C. per acre as indicated in the table.

Row Width	BAND WIDTH	LIGHT SOIL	MEDIUM SOIL	HEAVY SOIL
36	12 inches	1/3-2/3 pints	2/3-1 pint	1-1 1/2 pints
42	14 "	1/3-2/3 "	2/3-1 "	1-1 1/2 pints

Do not use seed from treated fields for food, feed or oil purposes. *RMA 1-8-63*

**CAUTION:** Harmful if swallowed. Avoid contact with skin, eyes or clothing. In case of contact, flush with water. Keep out of reach of children. Do not store near heat or flame. Avoid contamination of foodstuffs, feedstuffs and fish ponds. *Treated fields should not be grazed. Do not feed treated forage to livestock.* *RMA 1-8-63*  
 The manufacturer makes no warranty of any kind, expressed or implied concerning the use of this product. User assumes all risk of use or handling whether in accordance with directions or not.

11/20/62/jao



#### Container Disposal Directions

Empty container into spray tank; drain in vertical position for 30 seconds. Refill container with water 1/5 to 1/4 full; rinse thoroughly, pour into tank, drain. Repeat rinsing and draining 3 times. Add fluid to bring spray tank up to desired level. Do not reuse. Crush container for recycling or burying.

#### Special Precautions

Applied according to directions and under normal growing conditions, TREFLAN® will not harm the treated crop. Over application may result in crop injury or a soil residue. Uneven application or improper soil incorporation of TREFLAN 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. Under these conditions, delayed crop development or reduced yields may result.

**In the Western United States—Arizona, Colorado, California, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming:**

To avoid crop injury in arid areas, do not plant sugar beets, red beets or spinach for 12 months after a TREFLAN spring application or for 14 months after a TREFLAN fall application. Plow the land to a depth of 12 inches prior to planting sugar beets to prevent the possibility of crop injury. To avoid crop injury do not plant sorghum (milo), corn or oats for 14 months after a TREFLAN spring application or for 16 months after a TREFLAN fall application. If land has not been irrigated, do not plant any of these crops for 18 months after a TREFLAN spring application or 20 months after a fall application.

**In the Western United States—Those portions of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota and Texas where at least 25 inches of irrigation and/or rainfall (total) was used to produce the crop:**

Do not plant sorghum or oats for 12 months after a TREFLAN application. If less than 25 inches of total water was used to produce the crop, do not plant sorghum or oats for 18 months after a TREFLAN application. Cool wet weather conditions during the early stage of growth may increase the possibility of injury to sorghum.

**In the Eastern United States:**

Moldboard plow before planting sugar beets where a TREFLAN spring application was made the previous season. Also note planting restrictions listed in the section on control of rhizome johnsongrass.

**In Florida Only:**

To avoid crop injury do not plant vegetable crops other than those listed on the label within 5 months following the application of TREFLAN.

#### CROPS CLEARED

	Eastern United States	Western United States		Eastern United States	Western United States
Alfalfa (Established)		35	Dry Beans	26	36
Almonds		43	Dry Peas		40
Apricots		43	English Peas	29	40
Beans			Grapefruits	33	44
Castor	26	35	Grapes (Vineyards)	33	43
Dry	26	36	Greens		
Guar	27	37	Collard	29	38
Lima	27	37	Kale	29	38
Mungbeans	27	37	Mustard	29	38
Snap	27	37	Turnip	29	38
Soybeans	21	37	Guar Beans	27	37
Broccoli	28	38	Hops		39
Brussels Sprouts	28	38	Kale Greens	29	38
Cabbage	28	38	Lemons	33	44
Cantaloupes	28	38	Lima Beans	27	37
Carrots	28	37	Mint		
Castor Beans	26	35	Peppermint		39
Cauliflower	28	38	Spearment		39
Celery		37	Mungbeans	27	37
Citrus Trees	33	43	Mustard Greens	29	38
Cole Crops			Mustard for seed	29	39
Broccoli	28	38	Nectarines		43
Brussels Sprouts	28	38	Okra	29	39
Cabbage	28	38	Oranges	34	44
Cauliflower	28	38	Peaches		43
Collard Greens	29	38	Peanuts		
Cotton	19	34	Spanish	29	39
Cucumbers	28	38	Peas		
Cucurbits			Dry		40
Cantaloupes	28	38	English	29	40
Cucumbers	28	38	Southern	29	40
Watermelons	28	38	Pecans	33	43

	Eastern United States	Western United States
Peppermint		39
Peppers	30	40
Plums		44
Prunes		44
Potatoes	30	40
Safflower	31	41
Snap Beans	27	37
Southern Peas	29	40
Soybeans	21	37
Spanish Peanuts	29	39
Spearment		39
Sugar Beets	31	42
Sugarcane	32	42
Sunflower	33	43
Tangeloes	34	44
Tangerines	34	44
Tomatoes	33	43
Trees		
Almonds		43
Apricots		43
Citrus	34	43
Grapefruits	34	44
Lemons	34	44
Nectarines		43
Oranges	34	44
Peaches		43
Pecans	34	43
Plums		44
Prunes		44
Tangeloes	34	44
Tangerines	34	44
Walnuts		43

Turnip Greens	29	38
Vineyards (Grapes)	33	43
Walnuts		43
Watermelons	28	38

**WEEDS AND GRASSES CONTROLLED**  
**TREFLAN will not control established weeds.**

**GRASSES CONTROLLED**

Annual bluegrass	( <i>Poa annua</i> )
Barnyardgrass	( <i>Echinochloa</i> sp.)
(Watergrass)	
Brachiaria	( <i>Brachiaria</i> sp.)
(Signalgrass)	
Bromegrass	( <i>Bromus tectorum</i> )
(Cheatgrass)	
(Downy brome)	
Cheat	( <i>Bromus secalinus</i> )
(Chess)	
Crabgrass	( <i>Digitaria</i> sp.)
(Large crabgrass)	
(Smooth crabgrass)	
Fall panicum	( <i>Panicum dichotomiflorum</i> )
(Spreading panicgrass)	
(See Page 20-22 for special instructions)	
Foxtails	( <i>Setaria</i> sp.)
(Bottlegrass)	
(Bristlegrass)	
(Giant foxtail)	
(Green foxtail)	
(Pigeongrass)	
(Robust foxtail)	
(Yellow foxtail)	

Goosegrass	( <i>Eleusine indica</i> )
(Silver crabgrass)	
(Silvergrass)	
(Wiregrass)	
(Yardgrass)	
Guineagrass	( <i>Panicum maximum</i> )
(see Page 40 for special instructions)	
Johnsongrass	( <i>Sorghum halepense</i> )
(Seedling and rhizome)	
(see Appendix II on Page 47 for special instructions on rhizome control)	
Junglerice	( <i>Echinochloa colonum</i> )
Raoulgrass	
(Itchgrass)	( <i>Rottboellia exaltata</i> )
(See Page 32 for special instructions)	
Sandbur	( <i>Cenchrus incertus</i> )
(Burgrass)	
Sprangletop	( <i>Leptochloa filiformis</i> )
Stinkgrass	( <i>Eragrostis ciliaris</i> )
(Lovegrass)	
Texas panicum	( <i>Panicum texanum</i> )
(Buffalograss)	
(Colortadograss)	
Wild Cane	( <i>Sorghum bicolor</i> )
(Shattercane)	
(See Page 24 for special instructions)	

**BROADLEAF WEEDS CONTROLLED**

Carpetweed	( <i>Mollugo verticillata</i> )
Chickweed	( <i>Stellaria media</i> )
Field Bindweed	( <i>Convolvulus arvensis</i> )
(See Page 44 for special instructions)	

Florida pusley	( <i>Richardia scabra</i> )
(Florida purslane)	
(Mexican clover)	
(Pusley)	
Goosefoot	( <i>Chenopodium hybridum</i> )
Henbit	( <i>Lamium amplexicaule</i> )
(Fall application only)	
Knotweed	( <i>Polygonum aviculare</i> )
Kochia	( <i>Kochia scoparia</i> )
(Fireweed)	
(Mexican fireweed)	
Lambsquarters	( <i>Chenopodium album</i> )
Pigweeds	( <i>Amaranthus</i> sp.)
(Carelessweed)	
(Prostrate pigweed)	
(Redroot)	
(Rough pigweed)	
(Spiny pigweed)	
Puncturevine (Western U.S. only)	( <i>Tribulus terrestris</i> )
(Caltrop)	
Purslane	( <i>Portulaca oleracea</i> )
Russian thistle	( <i>Salsola kali</i> )
(Tumbleweed)	
Stinging nettle	( <i>Urtica dioica</i> )
(Nettle)	
TREFLAN will not control certain resistant weeds such as cocklebur, jimsonweed, nutsedge (nutgrass), ragweed, velvetleaf or Venice mallow.	

Additional weeds controlled by the TREFLAN/Sencor™ tank-mix in soybeans. (See Page 24 for special instructions)

Jimsonweed	( <i>Datura stramonium</i> )
Mallow, Venice (Flower-of-an-hour)	( <i>Hibiscus trionum</i> )
Mustard, wild (Charlock) (Field mustard)	( <i>Brassica kaber</i> )
Ragweed, common	( <i>Ambrosia artemisiifolia</i> )
Sesbania, hemp (Coffeebean) (Indigo)	( <i>Sesbania exaltata</i> )
Smartweed, annual (Pennsylvania smartweed) (Smartweed)	( <i>Polygonum pensylvanicum</i> )
Prickly sida (Teaweed) (Spiny sida)	( <i>Sida spinosa</i> )
Velvetleaf (Butterprint) (Buttonweed) (Cottonweed) (Elephant's Ear) (Indian mallow) (Pigmarker)	( <i>Abutilon theophrasti</i> )

Cocklebur, morningglory and giant ragweed. (See page 25 for special instructions)

Additional weeds controlled by the TREFLAN/Eptam® tank-mix in dry beans and potatoes. (See pages 27, 30, 36, 41 for special instructions)

Henbit (Spring applications)	( <i>Lamium amplexicaule</i> )
Nightshade, black	( <i>Solanum nigrum</i> )

Nightshade, hairy	( <i>Solanum sarachoides</i> )
Nutsedge (Nutgrass) (Purple nutsedge) (Yellow nuts)	( <i>Cyperus</i> sp.)
Oat, wild	( <i>Avena</i> sp.)

#### DIRECTIONS FOR USE

TREFLAN is a pre-emergence herbicide which is mixed (incorporated) into the soil to provide long-lasting control of a wide range of annual grasses and broadleaf weeds. TREFLAN controls weeds that germinate but will not control established weeds.

#### SOIL TEXTURE

One key to getting good results with TREFLAN is to know your soil texture so that you can apply the correct rate. The amount of TREFLAN you apply to your soil will vary with the soil texture. A fine-textured soil requires more TREFLAN than a coarse-textured soil.

#### Soil Texture—Guide:

Refer to the following guide to determine your soil texture.

<b>Coarse** Soils</b>	Sand Loamy sand Sandy loam
<b>Medium Soils</b>	Loam Silty clay loam* Silt loam Silt Sandy clay loam*

<b>Fine** Soils</b>	Clay Clay loam Silty clay loam* Silty clay Sandy clay Sandy clay loam*
---------------------	---------------------------------------------------------------------------------------

\*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 predominately sand or silt, they are usually classified as medium-textured soils; if predominately clay, they are usually classified as fine-textured soils.

\*\*Soil classification nomenclature for light and heavy-textured soils have been changed to coarse and fine-textured soils at the direction of the Environmental Protection Agency. Throughout this label all previous references to light-textured soils have been changed to coarse-textured soils. All previous references to heavy-textured soils have been changed to fine-textured soils. These new descriptions relate more closely to the size of the soil particles in a given classification.

#### SOIL PREPARATION

Destroy existing weeds before TREFLAN application. Chop and thoroughly mix crop residues into the soil to a depth of at least 4 to 6 inches by deep plowing or disking before a TREFLAN application. Use machinery that breaks up large clods before a TREFLAN application.

#### APPLICATION

Add the recommended amount of TREFLAN to clean water in the spray tank during the filling operation. Agitate before spraying. Apply in from 5 to 40 gallons of water per

acre (broadcast basis), using any properly calibrated low-pressure herbicide sprayer that will apply the spray uniformly. As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases. Check the sprayer daily to insure proper calibration and uniform application. Apply TREFLAN to the soil surface and incorporate in the same operation, if possible. Do not apply TREFLAN to soils which are wet or in poor condition. Do not apply TREFLAN to soils which are subject to prolonged periods of flooding.

#### AERIAL APPLICATION

For best results from aerial application of TREFLAN, apply to a dry soil surface at a spray volume of from 5 to 10 gallons per acre. Adjust pump pressure, nozzle arrangements, flying speed and flying height to provide a uniform application to the soil surface. Use flagmen to assure proper application spray widths.

Do not apply TREFLAN by aircraft when the wind is blowing at a velocity of 5 mph or greater. This will cause drift of spray particles and result in non-uniform application.

#### INCORPORATION DIRECTIONS

##### Incorporation Before Planting

TREFLAN must be incorporated one time within 8 hours after application. A second incorporation is required with most equipment (see page 16 for specific instructions), if TREFLAN is applied to a wet, warm soil surface or if the wind velocity is 10 mph or higher, variable weed control may result from delaying the first incorporation beyond 8 hours.

Incorporation should place the TREFLAN into the top 2 to 3 inches of the final seedbed. Generally, incorporation

equipment will place the chemical approximately half as deep as the equipment is run. For example, a disc running 4 inches deep will incorporate TREFLAN approximately 2 inches deep.

#### Incorporation After Planting

(Check crop list for those crops approved for incorporation after planting.)

When incorporating TREFLAN after planting or on established row crops use P.T.O.-driven equipment or rolling cultivators. Adjust equipment to till the soil over the seed or throw treated soil toward the crop. Avoid disturbing the seed or mechanically damaging the crop.

#### Incorporation in Bedded Culture

For effective weed control, TREFLAN should be incorporated into the top 2 to 3 inches of the final seedbed.

Knock off beds to planting height before application of TREFLAN and incorporation on bedded ground. If TREFLAN is applied and incorporated before bedding, do not furrow out deeper than the depth to which TREFLAN was incorporated. Furrowing too deep will expose untreated soil and allow weeds to germinate in the bottom of the furrow.

Avoid removal of treated soil from the seedbed before or during the planting operation. This will expose untreated soil and allow weeds to germinate in the drill row.

#### Incorporation Equipment

Use machinery that mixes TREFLAN thoroughly with the soil. Shallow incorporation with implements set to cut less than 2 inches deep may result in erratic weed control. Use of incorporation equipment not listed upon the label may result in poor or erratic weed control and/or crop injury.

#### Recommended equipment includes:

*Disc* set to cut 4 to 6 inches deep and operated in 2 different directions at 4 to 6 mph. A tandem or double-disc operated one time does not provide adequate incorporation.

*Field cultivator* set to cut 3 to 4 inches deep and operated at 5 mph or more. The field cultivator used alone or in combination with the double-disc will provide effective incorporation providing the following instructions are used:

1. Two passes over the field with a field cultivator with the second pass running at an angle to the first. Do not set cultivator to cut deeper than 4 inches, particularly on the second pass, since untreated soil may be turned up.
2. Field cultivator used for the first pass and the double-disc used for the second pass.
3. Double-disc used for the first pass and the field cultivator used for the second pass.

**NOTE:** A field cultivator is defined as an implement with 3 to 4 rows of sweeps, spaced at intervals of 7 inches or less and staggered so that no soil is left unturned. Chisel points should not be used.

*Rolling cultivator* set to cut 2 to 4 inches deep and operated 2 times at 6 to 8 mph. Rolling cultivators are adequate for use on coarse and medium-textured soils only (except when used in sugarcane where the rolling cultivator may be used on fine-textured soils).

*Bed conditioner (Do-All)* set to cut 2 to 4 inches deep and operated one time at 4 to 6 mph. Bed conditioners are adequate for use on coarse and medium-textured soils only.

*Mulch treader and other similar disc-type implements* set to cut 3 to 4 inches deep and operated at 5 to 8 mph in two different directions.

*P.T.O.-driven equipment (tillers, cultivators, hoes)* set to

cut 2 to 3 inches deep with rotors spaced to provide a clean sweep of the soil and operated one time. P.T.O.-driven equipment should not be operated at a speed greater than 4 mph.

#### CULTIVATION AFTER PLANTING

Soil treated with TREFLAN may be shallow-cultivated, rotary-hoed or hand-hoed without reducing the weed control activity of TREFLAN. Do not cultivate deeper than the TREFLAN treated layer of soil since this may bring untreated soil to the surface and poor weed control may result.

#### REGIONAL USE MAP

All crop recommendations are given on a regional basis. The dividing line between the Eastern and Western United States is that point where the average rainfall per year is a minimum of 20 to 25 inches. Use the recommendation in your region only (refer to map on page 19).



#### CROP RECOMMENDATIONS

##### Eastern United States

#### GENERAL

These recommendations are given as the broadcast (overall) rates of TREFLAN per acre. For band applications, use proportionately less. Apply TREFLAN anytime after January 1 when the soil can be worked. TREFLAN is not recommended on muck soils. Where a rate range is shown, use the lighter rate for more coarse soils or soils with lower organic matter.

#### COTTON—Pre-emergence applications:

Apply and incorporate TREFLAN before planting, at planting or immediately after planting using the following broadcast rates per acre:

Coarse soils	..... 1 pint
Medium Soils	..... 1½ pints
Fine soils	..... 2 pints
Coarse soils with 2 to 5% organic matter	..... 1½ pints
Soils with 5.1 to 10% organic matter	..... 2 to 2½ pints

When incorporating after planting (post-plant), care must be taken not to disturb the seed.

Seedling diseases may weaken cotton plants and increase the possibility of damage from TREFLAN. To control seedling disease, use a good fungicide program.

**COTTON—Post-emergence applications:**

Apply TREFLAN anytime up to layby, but not less than 90 days before harvest. Direct layby applications to the soil between the rows and beneath emerged cotton plants. Use the same rates as for a pre-emergence application.

**COTTON—Fall application:**

See Appendix I Page 47 on Fall Application.

**COTTON—Fall panicum control:**

For the control of fall panicum in the states of Alabama, Florida, Georgia, North Carolina, South Carolina and Virginia, apply and incorporate TREFLAN at the broadcast rate of 2 pints per acre on both coarse and medium soils. Plant cotton after early season adverse weather conditions have passed. Do not plant cotton deeper than 1 inch. Crop injury in the form of delayed growth or reduced yields may occur under adverse cool, wet weather conditions when TREFLAN is used according to these special recommendations.

**COTTON—Rhizome Johnsongrass control:**

See Appendix II Page 49 on Rhizome Johnsongrass control.

**COTTON—More Complete Control of Pigweed and Seedling Johnsongrass in Cotton Grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Southeastern Missouri, North Carolina, South Carolina, Tennessee and southern Virginia:**

For more complete control of pigweed and seedling johnsongrass, TREFLAN may be applied preplant at a broadcast rate per acre of from 1 to 1½ pints on coarse soils, from 1½ to 2 pints on medium soils and 2 pints on fine soils except in the state of Louisiana where 3 pints per acre are recommended on fine soils.

**Precaution:** Plant cotton after early season adverse weather conditions have passed. Do not plant cotton deeper than 1½ inches. Crop injury in the form of delayed growth may occur under adverse cool, wet weather conditions early in the season when TREFLAN is used according to these recommendations.

**COTTON—More Complete Weed and Grass Control in Certain Counties Along the Texas Gulf Coast:**

For more complete control of those weeds and grasses listed in the TREFLAN label in the Texas Gulf Coast Counties of Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller and Wharton, TREFLAN may be applied up to 2 weeks before planting at a broadcast rate of 1½ pints on coarse soils, 2 pints on medium soils and 3 pints on fine soils.

See precaution in preceding paragraph.

**SOYBEANS:**

Apply and incorporate TREFLAN before planting using the following broadcast rates per acre:

Coarse soils ..... 1 pint  
Medium soils ..... 1½ pints  
Fine soils ..... 2 pints  
Coarse soils with 2 to 5%  
organic matter ..... 1½ pints

Soils with 5.1 to 10%

organic matter ..... 2 to 2½ pints (except  
charcoal soils in  
Arkansas, Louisiana  
and Mississippi—  
see below)

Do not plant soybeans deeper than 2 inches.

**SOYBEANS—Fall application:**

See Appendix I Page 48 on Fall Application.

**SOYBEANS—Fall panicum control:**

For the control of fall panicum in the states of Alabama, Florida, Georgia, North Carolina, South Carolina and Virginia, apply TREFLAN at the broadcast rate of 2 pints per acre on both coarse and medium soils. Plant soybeans after early season adverse weather conditions have passed. Do not plant soybeans deeper than 2 inches. Crop injury in the form of delayed growth or reduced yields may occur under adverse cool, wet weather conditions when TREFLAN is used according to these special recommendations.

**SOYBEANS—More Complete Control of Pigweed and Seedling Johnsongrass in Soybeans Grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, southeastern Missouri, North Carolina, South Carolina, Tennessee and southern Virginia:**

For more complete control of pigweed and seedling johnsongrass, TREFLAN may be applied at a broadcast rate per acre of from 1 to 1½ pints on coarse soils, from 1½ to 2 pints on medium soils and 2 pints on fine soils except in the state of Louisiana where 3 pints per acre are recommended on fine soils.

**Precaution:** Plant soybeans after early season adverse weather conditions have passed. Do not plant soybeans deeper than 2 inches. Crop injury in the form of delayed

growth may occur under adverse cool, wet weather conditions early in the season when TREFLAN is used according to these recommendations.

**SOYBEANS—More Complete Weed and Grass Control in Certain Counties Along the Texas Gulf Coast:**

For more complete control of those weeds and grasses listed in the TREFLAN label in the Texas Gulf Coast Counties of Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller and Wharton, TREFLAN may be applied up to 2 weeks before planting at a broadcast rate of 1½ pints on coarse soils, 2 pints on medium soils and 3 pints on fine soils.

See precaution in preceding paragraph.

**SOYBEANS—Soils Containing Charcoal in Arkansas, Louisiana and Mississippi:**

Newly cleared land often contains high organic matter (4 to 10%) and charcoal which result from burning debris. This charcoal and/or organic matter tends to tie up TREFLAN and reduce its weed control activity. Higher rates of TREFLAN are therefore necessary for satisfactory weed control. Increased rates can cause crop injury if charcoal or a high percentage of organic matter is not present to tie up some of the TREFLAN. In the actual wind-row or burn row, where a high level of charcoal is present, poor weed control may result even with an increased rate of TREFLAN.

Apply and incorporate TREFLAN at the following broadcast rates per acre:

Coarse soils ..... 1½ pints  
Medium soils ..... 2¼ pints  
Fine soils ..... 3 pints

**SOYBEANS—Rhizome Johnsongrass Control:**  
See Appendix II Page 49 on Rhizome Johnsongrass control.

**SOYBEANS—Wild Cane Control:**

Wild Cane (Shattercane) can germinate from greater soil depth than most other weed seeds. Several "flushes" or germinating times are common in one season. Commercially acceptable control of wild cane can be obtained with increased rates of TREFLAN.

**Land Preparation**—Work your land to destroy existing grasses and weeds. Thoroughly mix crop residues into the soil to a depth of 4 to 6 inches.

**Application**—Apply TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 2 pints on medium soils; and 2½ pints on fine soils.

**Incorporation**—Deep incorporation is essential to good wild cane control. Incorporate (mix) TREFLAN thoroughly with a disc only set to cut 4 to 6 inches deep and operate in 2 different directions at 4 to 6 mph.

**Cultivation**—Cultivations during the crop season will also contribute to control.

**Precaution:** Plant soybeans after early season adverse weather conditions have passed. Do not plant soybeans deeper than 2 inches. Crop injury in the form of delayed growth may occur under adverse cool, wet weather conditions early in the season when TREFLAN is used according to these recommendations.

**SOYBEANS—TREFLAN/Sencor™ Tank-Mix:**

The TREFLAN/Sencor tank-mix effectively controls all of the annual grasses and broadleaf weeds listed on the TREFLAN label (see page 9) plus many additional broad-

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leaf weeds including hemp sesbania, teaweed (prickly sida), annual smartweed, jimsonweed, velvetleaf, wild mustard, Venice mallow, and common ragweed. Control of cocklebur, morningglory and giant ragweed (horseweed) may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation. Follow normal TREFLAN procedures for soil preparation. The TREFLAN/Sencor tank-mix may be applied up to 2 weeks before planting in 10 to 40 gallons of water with any low-pressure herbicide sprayer equipped with herbicide tips and screens no finer than 50 mesh in nozzle and in-line strainers.

**Broadcast Rates Per Acre**

	TREFLAN E.C.	Sencor 50W
Coarse soils*	1 pint	½ pound
Medium soils	1½ pints	¾ pound
Fine soils**	2 pints	1 pound

\*Do not use on coarse soils with less than 1% organic matter.

\*\*Silty clay loam and sandy clay loam soils are transitional soils and may be classified as medium textured soils in some regions of the U.S.

Do not plant any crop other than soybeans within 4 months after treatment. Follow normal TREFLAN procedures for incorporation and cultivation.

**NOTE:** In those areas of the Mid-South where cocklebur is a serious problem, an overlay of Sencor may be preferred to the TREFLAN/Sencor tank-mix.

**Special Precaution:** Applied according to directions and under normal growing conditions, the TREFLAN/Sencor

tank-mix will not harm the treated crop. Over-application may result in crop injury or soil residue. Uneven application or improper soil incorporation of the TREFLAN/Sencor tank-mix can result in erratic weed control or crop injury. Seedling disease, cold weather, deep planting, excessive moisture, soil pH over 7.5, high salt concentration, or drought may weaken crop seedlings and increase possibility of damage from the TREFLAN/Sencor tank-mix. Under these conditions, delayed crop development or reduced yields may result. Caution: Observe all cautions and limitations on labeling of all products used in mixtures. Sencor may be harmful if swallowed or inhaled. Avoid contact with eyes, skin or clothing. Avoid breathing of dust or spray mist. Wash clothing thoroughly with soap and hot water before reuse. Do not contaminate feed or food. Keep out of reach of children.

Do not use the foliage from soybeans treated with the TREFLAN/Sencor tank-mix for feed or forage. Do not contaminate any body of water nor apply to any area not specified on this label. Do not allow sprays to drift onto adjacent desirable plants. Dispose of the Sencor container by burying with wastes or by burning. (Keep out of smoke.)

**BEANS—Castor Beans:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**BEANS—Dry Beans (Kidney, Navy, Pinto, etc.):**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**BEANS—TREFLAN/Eptam® Tank-Mix for Dry Beans:**

The TREFLAN/Eptam tank-mix effectively controls henbit, black nightshade and nutsedge (nutgrass) in addition to all of the annual grasses and broadleaf weeds listed on the TREFLAN label (see page 9). Follow normal TREFLAN procedures for soil preparation. The TREFLAN/Eptam tank-mix may be applied up to 2 days before planting. Apply at a broadcast rate of 1 pint of TREFLAN and 1¾ pints of Eptam 7E per acre or up to the label recommended rate for each herbicide depending on soil texture and weed problem. TREFLAN at 1 pint per acre, alone or in combination, should not be used on soils containing 5% or more organic matter. Incorporate immediately after application. Follow normal TREFLAN procedures for cultivation.

**Caution:** Read the Eptam label before using. Observe all cautions and limitations on labeling of all products used in mixtures. The combination of TREFLAN and Eptam should not be used on soybeans, black-eyed peas (beans), lima beans and other flatpodded beans, except Romano. Do not use the foliage from a crop treated with the TREFLAN/Eptam tank-mix for feed or for grazing.

**BEANS—Guar Beans and Mungbeans:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils and 1½ pints on medium and fine soils.

**BEANS—Lima Beans and Snap Beans:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

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**CARROTS:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**COLE CROPS—Broccoli, Brussels Sprouts, Cabbage and Cauliflower:**

For Direct-Seeded cole crops apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils and coarse soils with 2 to 5% organic matter. Direct-seeded cole crops have exhibited marginal tolerance to recommended rates of TREFLAN. Stunting or reduced stands may occur. For Transplant cole crops apply and incorporate TREFLAN before transplanting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Do not apply TREFLAN after transplanting.

**CUCURBITS—Cantaloupes, Cucumbers and Watermelons—Post-Plant, emerged in Texas only:**

Apply TREFLAN at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter and 2 pints on soils with 5.1 to 10% organic matter. Apply TREFLAN as a directed spray to the soil between the rows and beneath plants which are in the 3 to 4 true-leaf stage. Set incorporation machinery to throw treated soil toward plants in the row. Care should be taken that incorporation machinery does not damage the plants.

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**GREENS—Turnip Greens Grown for Processing and All Collard, Kale and Mustard Greens:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

**MUSTARD—Grown For Seed in Minnesota and North Dakota Only:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

**OKRA:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**PEANUTS—Spanish Peanuts Grown in Texas and Oklahoma Only:**

Apply and incorporate TREFLAN before planting, at planting or immediately after planting at a broadcast rate per acre of 1 pint on coarse soils. When incorporating after planting, care must be taken not to disturb the seed.

**PEAS—English:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

**PEAS—Southern:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

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**PEPPERS—Transplants only:**

Apply and incorporate TREFLAN before transplanting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Do not apply TREFLAN after transplanting.

**POTATOES—Not recommended for use in the state of Maine:**

Apply TREFLAN after planting, up to or immediately following dragoff at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. TREFLAN is not recommended on muck soils.

Set incorporation equipment so that the bed and furrow will be uniformly covered with a layer of TREFLAN. If the layer of TREFLAN treated soil is not uniform and the herbicide is concentrated over the bed, potato emergence may be retarded and stem brittleness can occur. Care should be taken so that incorporation machinery does not damage potato seed pieces or elongating sprouts. Cultivation prior to emergence may result in mechanical injury to the elongated potato sprouts.

**POTATOES—TREFLAN/Eptam® Tank-Mix for Potatoes Grown in Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, South Dakota and Texas only:**

The TREFLAN/Eptam tank-mix effectively controls henbit, black nightshade and nutsedge (nutgrass) in addition to all of the annual grasses and broadleaf weeds listed on the TREFLAN label (see page 9). Follow normal TREFLAN procedures for soil preparation. The TREFLAN/Eptam

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tank-mix may be applied after planting but prior to crop emergence. In areas where potatoes are normally dragged-off, the TREFLAN/Eptam tank-mix should be applied and incorporated up to or immediately following dragoff at a broadcast rate per acre of 1 pint of TREFLAN and 1¼ pints of Eptam 7E on all soil textures or up to the label recommended rate for each herbicide depending on soil texture and weed problem. TREFLAN at 1 pint per acre, alone or in combination, should not be used on soils containing 5% or more organic matter. Incorporate immediately after application. Follow normal TREFLAN procedures for cultivation.

**Caution:** Read the Eptam label before using. Observe all cautions and limitations on labeling of all products used in mixtures. Do not graze or feed forage to livestock from fields treated with the TREFLAN/Eptam tank-mix.

**SAFFLOWER:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**SUGAR BEETS:**

Apply TREFLAN as a broadcast, overtop spray when plants are between 2 and 6 inches tall at a rate per acre of 1 pint on coarse soils and 1½ pints on medium and fine soils. Exposed beet roots should be covered with soil before a TREFLAN application to reduce the possibility of girdling. Set incorporation machinery to throw treated soil toward the plants in the row. Care should be taken that incorporation machinery does not damage the sugar beet taproot.

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#### **SUGARCANE—Plant Cane Only:**

Apply and incorporate TREFLAN twice a year at a broadcast rate per acre of 2 to 4 pints for all soil textures. Make the TREFLAN application in the fall on firmly packed beds immediately after the seed pieces are planted. Make the TREFLAN application in the spring before or shortly after the cane emerges. Loosen rain-packed beds 2 to 3 inches deep before the spring application. Care should be taken so that incorporation machinery does not damage the seed pieces or emerging shoots.

#### **SUGARCANE—Applications up to Layby for Plant Cane or Ratoon Cane Grown in Louisiana or Texas only:**

Apply and incorporate TREFLAN at a broadcast rate per acre of 2 to 4 pints for all soil textures. Make the TREFLAN application in the spring from before or shortly after the cane emerges up to layby. Make the TREFLAN application after the beds have been shaved or false shaved. Loosen rain-packed beds 2 to 3 inches deep before application. Care should be taken so that incorporation machinery does not damage seed pieces or emerging shoots. A rolling cultivator or bed chopper may be used to incorporate TREFLAN layby applications in sugarcane on all soil textures. Follow normal incorporation directions for the rolling cultivator. Set bed chopper to cut 3 to 4 inches deep and operate 2 times at 4 to 6 mph.

#### **SUGARCANE—Raoulgrass Control in Louisiana only:**

Apply and incorporate TREFLAN on either plant or ratoon cane at a broadcast rate per acre of 4 pints for all soil textures. Make the TREFLAN application in the spring from before or shortly after the cane emerges up to layby. Make the TREFLAN application after the beds have been shaved

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or false shaved. Loosen rain-packed beds 2 to 3 inches deep before application. Care should be taken so that incorporation machinery does not damage seed pieces or emerging shoots. A rolling cultivator or bed chopper may be used to incorporate TREFLAN layby applications in sugarcane on all soil textures. Follow normal incorporation directions for the rolling cultivator. Set bed chopper to cut 3 to 4 inches deep and operate 2 times at 4 to 6 mph.

#### **SUNFLOWER:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ to 2 pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

#### **TOMATOES:**

For *Direct-seeded* tomatoes apply TREFLAN at blocking or thinning at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Apply TREFLAN as a directed spray to the soil between the rows and beneath the plants and incorporate. For *Transplant* tomatoes apply and incorporate TREFLAN before transplanting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ pints on coarse soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Do not apply TREFLAN after transplanting.

#### **TREES AND VINEYARDS:**

For *New Plantings of Vineyards, Citrus and Pecan Trees* apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints

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on medium soils; 2 pints on coarse soils; 1½ pints on fine soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

For *Non-Bearing Established Plantings of Citrus and Pecan Trees and Bearing Plantings of Grapefruit, Lemon, Orange, Pecan, Tangelo, Tangerine Trees* apply TREFLAN at a broadcast rate per acre of 2 to 4 pints for all soil textures. In these established plantings, apply TREFLAN as a directed spray to the soil around the trees and use incorporation methods not injurious to the trees.

**Note:** If crops are planted between the trees, label directions for those specific crops apply to the area which is interplanted. For continued weed control in citrus trees, apply TREFLAN 2 times a year at an interval of approximately 4 to 6 months.

#### **CROP RECOMMENDATIONS Western United States**

##### **GENERAL**

These recommendations are given as the broadcast (overall) rates of TREFLAN per acre. For band application, use proportionately less. TREFLAN is not recommended for peat soils exceeding 20% organic matter or on any muck soils. Do not exceed recommended rates at any time. Where a rate range is shown, use the lighter rate for more coarse soils or soils with lower organic matter.

##### **COTTON—Pre-emergence applications:**

Apply and incorporate TREFLAN before planting, at planting or immediately after planting using the following broadcast rates per acre:

Coarse soils ..... 1 pint  
Medium soils ..... 1¼ to 1½ pints  
Fine soils ..... 1½ pints

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Soils with 2 to 5% organic matter ..... 1½ to 2 pints  
Soils with 5.1 to 10% organic matter ..... 2 pints

When incorporating after planting (post-plant), care must be taken not to disturb the seed.

Seedling disease may weaken cotton plants and increase the possibility of damage from TREFLAN. To control seedling disease, use a good fungicide program.

##### **COTTON—Post-emergence applications:**

Apply TREFLAN anytime up to layby, but not less than 90 days before harvest. Direct layby applications to the soil between the rows and beneath emerged cotton plants. Use the same rates as for a pre-emergence application.

##### **COTTON—Fall Application:**

See Appendix I Page 47 on Fall Application.

##### **COTTON—Rhizome Johnsongrass Control:**

See Appendix II Page 50 for Rhizome Johnsongrass control.

##### **ALFALFA—Established Alfalfa Only:**

Apply TREFLAN to established alfalfa stands at a broadcast rate per acre of 1½ pints on coarse soils and 2 pints on medium and fine soils. Use incorporation equipment that will insure thorough soil mixing with a minimum of damage to the established alfalfa.

##### **BEANS—Castor Beans:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

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**BEANS—Dry Beans (Kidney, Navy, Pinto, etc.):**  
Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**BEANS—TREFLAN/Eptam® Tank-Mix for Dry Beans:**

The TREFLAN/Eptam tank-mix effectively controls henbit, nightshade and nutsedge (nutgrass) in addition to all of the annual grasses and broadleaf weeds listed on the TREFLAN label (see page 9). Follow normal TREFLAN procedures for soil preparation. The TREFLAN/Eptam tank-mix may be applied up to 2 days before planting. Apply at a broadcast rate of 1 pint of TREFLAN and 1¼ pints of Eptam 7E per acre or up to the label recommended rate for each herbicide depending on soil texture and weed problem. TREFLAN at 1 pint per acre, alone or in combination, should not be used on soils containing 5% or more organic matter. Incorporate immediately after application. Follow normal TREFLAN procedures for cultivation.

**Caution:** Read the Eptam label before using. Observe all cautions and limitations on labeling of all products used in mixtures. The combination of TREFLAN and Eptam should not be used on soybeans, black-eyed peas (beans), lima beans and other flatpodded beans, except Romano. Do not use the foliage from a crop treated with the TREFLAN/Eptam tank-mix for feed or for grazing.

**BEANS—Fall Application in Dry Beans Grown in Idaho, Oregon and Washington Only:**

See Appendix I Page 48 on Fall Application.

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**BEANS—Guar Beans and Mungbeans:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils and 1½ pints on medium and fine soils.

**BEANS—Lima Beans and Snap Beans:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

**BEANS—Soybeans:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**BEANS—Fall Application on Soybeans:**

See Appendix I Page 48 on Fall Application.

**BEANS—Rhizome Johnsongrass Control in Soybeans:**

See Page 49.

**BEANS—TREFLAN/Sencor™ Tank-Mix for Soybeans:**

See Page 24.

**CARROTS:**

Apply and incorporate TREFLAN before planting at a broadcast rate of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**CELERY—Both Direct-seeded and Transplant:**

Apply and incorporate TREFLAN before planting or transplanting at a broadcast rate per acre of 1 pint on coarse

soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**COLE CROPS—Broccoli, Brussels Sprouts, Cabbage and Cauliflower:**

For Direct-seeded cole crops apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse, medium and fine soils and 1½ pints on soils with 2 to 10% organic matter. For Transplant cole crops apply and incorporate TREFLAN before transplanting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Do not apply TREFLAN after transplanting.

**CUCURBITS—Cantaloupes, Cucumbers and Watermelons—Post-plant, emerged only:**

Apply TREFLAN at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter and 2 pints on soils with 5.1 to 10% organic matter. Apply TREFLAN as a directed spray to the soil between the rows and beneath plants which are in the 3 to 4 true-leaf stage. Set incorporation machinery to throw treated soil toward plants in the row. Care should be taken that incorporation machinery does not damage the plants.

**GREENS—Turnip Greens Grown for Processing and All Collard, Kale and Mustard Greens:**

Apply and incorporate TREFLAN before planting at a

broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

**HOPS:**

Apply and incorporate TREFLAN while the crop is dormant at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils and 1½ pints on fine soils and soils with 2 to 10% organic matter.

**MINT—Established Peppermint and Spearmint:**

Apply TREFLAN at a rate per acre of 1 pint on coarse soils; 1¼ pints on medium soils; and 1½ pints on fine soils. Use incorporation equipment that will insure thorough soil mixing with a minimum of damage to the established, dormant mint.

**MUSTARD—Grown For Seed in Montana and North Dakota Only:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

**OKRA:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**PEANUTS—Spanish Peanuts Grown in Texas and Oklahoma Only:**

Apply and incorporate TREFLAN before planting, at planting or immediately after planting at a broadcast rate per acre of 1 pint on coarse soils. When incorporating after planting, care must be taken not to disturb the seed.

**PEAS—Dry Peas and English Peas:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse and medium soils and 1½ pints on fine soils.

**PEAS—Fall Application in Dry Peas and English Peas Grown in Idaho, Oregon and Washington Only:**

See Appendix I Page 47 on Fall Application.

**PEAS—Southern Peas:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**PEPPERS—Transplants Only:**

Apply and incorporate TREFLAN before transplanting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Do not apply TREFLAN after transplanting.

**POTATOES:**

Apply and incorporate TREFLAN after planting, before emergence on all soil textures or after the potato plants have fully emerged on coarse and medium soils at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Set incorporation equipment so that the bed and furrow will be uniformly covered with a layer of TREFLAN. If the layer of TREFLAN treated soil is not uniform and the herbicide is concen-

trated over the bed, potato emergence may be retarded and stem brittleness can occur. When applying and incorporating TREFLAN after potato plants have fully emerged, do not completely cover the foliage with treated soil. Likewise do not completely cover foliage at subsequent cultivations. Care should be taken so that incorporation machinery does not damage potato seed pieces or elongating sprouts.

**POTATOES—TREFLAN/Eptam® Tank-Mix:**

The TREFLAN/Eptam tank-mix effectively controls henbit, nightshade and nutsedge (nutgrass) in addition to all of the annual grasses and broadleaf weeds listed on the TREFLAN label (see page 9). Follow normal TREFLAN procedures for soil preparation. The TREFLAN/Eptam tank-mix may be applied after planting, up to or immediately following dragoff at a broadcast rate per acre of 1 pint of TREFLAN and 1¼ pints of Eptam 7E on all soil textures or up to the label recommended rate for each herbicide depending on soil texture and weed problem. TREFLAN at 1 pint per acre, alone or in combination, should not be used on soils containing 5% or more organic matter. Incorporate immediately after application. Follow normal TREFLAN procedures for cultivation.

**Caution:** Read the Eptam label before using. Observe all cautions and limitations on labeling of all products used in mixtures. Do not graze or feed forage to livestock from fields treated with the TREFLAN/Eptam tank-mix.

**SAFFLOWER:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to

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2 pints on soils with 2 to 5% organic matter; 2 pints on soils with 5.1 to 10% organic matter; and 2 to 3 pints on soils with 10.1 to 20% organic matter.

**SAFFLOWER—Fall Application:**

See Appendix I Page 48 on Fall Application.

**SUGAR BEETS:**

Apply TREFLAN as a broadcast, overtop spray when plants are between 2 and 6 inches tall at a rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; and 1½ pints on fine soils. Exposed beet roots should be covered with soil before a TREFLAN application to reduce the possibility of girdling. Set incorporation machinery to throw treated soil toward the plants in the row. Care should be taken that incorporation machinery does not damage the sugar beet taproot.

**SUGAR BEETS—Incorporation with a Tine-Tooth Harrow in the States of California, Colorado, Idaho, Kansas, Montana, Nebraska, Oregon, Texas, Utah, Washington and Wyoming Only:**

A properly operated tine-tooth harrow (Flexline or Melroe) can provide adequate incorporation of TREFLAN for effective weed control in sugar beets. Operate the tine-tooth harrow 2 times over the field in opposite directions at a speed of 3 to 6 mph and set the harrow to cut 1 to 2 inches deep. Care should be taken to insure that the tine-tooth harrow does not damage the sugar beet taproot.

**SUGARCANE—Post-Plant in Hawaii Only For control of most annual grasses, including guineagrass:**

Surface apply TREFLAN after planting (for plant cane) or after harvesting (for ratoon cane), before weeds and cane

emerge at a broadcast rate per acre of 6 to 8 pints for all soil textures. In plant cane, the beds should be formed or rolled before application. In ratoon cane, the crop residue should be removed before application. If large amounts of crop residues are present, TREFLAN will not be effective. Apply just before anticipated rainfall or sprinkle irrigate immediately after application.

**SUNFLOWER:**

Apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

**TOMATOES:**

For Direct-seeded tomatoes apply TREFLAN at blocking or thinning at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Apply TREFLAN as a directed spray to the soil between the rows and beneath the plants and incorporate. For Transplant tomatoes apply and incorporate TREFLAN before transplanting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter. Do not apply TREFLAN after transplanting.

**TREES AND VINEYARDS:**

For New Plantings of Almond, Apricot, Citrus, Nectarine, Peach, Pecan and Walnut trees apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 pint on coarse soils; 1¼ to 1½ pints on medium soils; 1½ pints on fine soils; 1½ to 2 pints on

soils with 2 to 5% organic matter; and 2 pints on soils with 5.1 to 10% organic matter.

For New Plantings of Vineyards apply and incorporate TREFLAN before planting at a broadcast rate per acre of 1 to 1½ pints on coarse soils; 1½ to 3 pints on medium soils and 3 to 4 pints on fine soils or soils with 2 to 10% organic matter. Do not use more than 2 pints per acre on heat-treated vines.

For Post-Plant Applications on Bearing or Non-Bearing Established Plantings of Vineyards, Almond, Apricot, Grapefruit, Lemon, Nectarine, Orange, Peach, Pecan, Plum, Prune, Tangelo, Tangerine and Walnut Trees apply TREFLAN at a broadcast rate per acre of 2 to 4 pints for all soil textures. In these established plantings, apply TREFLAN as a directed spray to the soil around the trees or vines and use incorporation methods not injurious to the trees or vines. Do not apply to vineyards within 60 days of harvest.

Note: If crops are planted between the trees or vines, label directions for those specific crops apply to the area which is interplanted. For continued weed control in citrus trees, apply TREFLAN 2 times a year at an interval of approximately 4 to 6 months.

#### **TREES AND VINEYARDS—Rhizome Johnsongrass Control:**

See Appendix II Page 52 on Rhizome Johnsongrass control.

**TREES AND VINEYARDS—Field Bindweed Control in Vineyards, Almond, Apricot, Grapefruit, Lemon, Nectarine, Orange, Peach, Pecan, Tangelo, Tangerine and Walnut Trees in California only:**

For the control of field bindweed in the state of California, apply TREFLAN at a broadcast rate of 4 pints per acre on all soil textures. TREFLAN must be applied in the spring with a specially designed spray blade which applies a thin concentrated layer at a soil depth of 4 to 6 inches. The layer of TREFLAN prevents bindweed shoots from emerging.

**Land Preparation**—Destroy all weeds and grasses with soil tillage before applying TREFLAN. This tillage is necessary to prevent trash from interfering with the operation of the spray blade.

**Equipment**—This operation requires a spray blade capable of running 4 to 6 inches below the surface of the soil. The spray blade should be equipped with nozzles located under the blade and directed so that the TREFLAN spray will be trapped under the soil which is flowing over the blade as it is pulled through the soil. Use a sufficient number of nozzles with spacing to completely and uniformly apply TREFLAN underground in a thin horizontal layer.

**Application**—Apply TREFLAN in 40 to 80 gallons of water per acre. Operate the spray blade at a depth of 4 to 6 inches.

**Precaution:** Some soils develop cracks as they dry after rainfall or irrigation. Field bindweed may emerge if the cracks extend through the TREFLAN layer. Prevent or eliminate cracks by shallow disking or other tillage. Avoid deep tillage which disturbs the subsurface layer. Cultivation or tillage also aids the control of germinating seeds.

#### **TREFLAN® PERFORMANCE GUARANTEE**

Elanco Products Company guarantees that Treflan will control the weeds and grasses as indicated on its current label when used according to label directions.

Elanco will refund the purchase price of Treflan under the following conditions:

1. Purchaser must notify Elanco promptly if a lack of satisfactory control occurs. Such notice must be given within 90 days after the first planting or application of Treflan to treated crop, whichever occurs later.
2. An Elanco representative must be satisfied that purchaser used Treflan according to label and must visually observe unsatisfactory control of weeds in field.
3. Refund shall be limited to acreage on which weed control was not satisfactory and to season in which crop was treated.
4. Purchaser has option of receiving refund in cash or an equivalent amount of Treflan, which shall be verified by his paid invoice showing price and quantity of Treflan purchased.
5. Void outside U.S.A.

#### **APPENDIX I—FALL APPLICATION**

##### **GENERAL**

Apply and incorporate TREFLAN anytime between October 15 and December 1. 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 tops into furrows. Where soil is left flat over winter, take care during spring bedding operations to prevent turning up untreated soil. Destroy established weeds during seedbed preparation. If weeds become established in furrows due to uncovering of untreated soil during listing, destroy these weeds before planting. Do not fall apply TREFLAN to soils which are wet or in poor condition. Do not fall apply TREFLAN to soils which are subject to prolonged periods of flooding or soils where rice was grown the previous year.

##### **COTTON**

For cotton grown in Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri, Bootheel, North Carolina, New Mexico, Oklahoma, South Carolina, Tennessee and Texas: Apply and incorporate TREFLAN at a broadcast rate per acre of 2 pints on coarse and medium soils and 2½ pints on fine soils. For cotton grown in Arizona, California and Nevada: Apply and incorporate TREFLAN at a broadcast rate per acre of 1½ pints on coarse soils; 2 pints on medium soils and 2½ pints on fine soils. For cotton grown in states other than those listed above: Apply and incorporate TREFLAN at a broadcast rate per acre of 1 pint on coarse soils; 1½ pints on medium soils; 2 pints on fine soils; 1½ pints on coarse soils with 2 to 5% organic matter; and 2 to 2½ pints on soils with 5.1 to 10% organic matter.

# PREN

## The Weed Preventer

**1** Apply PREN to soil before planting. (See application rate table for proper rate for your type of soil.)

**2** Mix PREN into soil before transplanting. (See application rate table for proper rate for your type of soil.)

**3** Apply PREN to soil after transplanting. (See application rate table for proper rate for your type of soil.)

**4** Spray PREN on weeds. (See application rate table for proper rate for your type of soil.)

**WHERE TO APPLY:** Apply PREN to soil before planting in vegetable gardens, shrubs, and flower beds. Do not apply PREN to lawns, golf courses, or other areas where it may be harmful to desirable plants.

**WHEN TO APPLY:** Apply PREN to soil before planting in vegetable gardens, shrubs, and flower beds. Do not apply PREN to lawns, golf courses, or other areas where it may be harmful to desirable plants.

**WEEDS CONTROLLED:** PREN keeps out the following weeds: Annual Bluegrass, Barnyardgrass, (watergrass), Brachiaria, Bromegrass, Cheat, Crabgrass, Foxtails, Goosegrass, Johnsongrass, (from seed) Junglerice, Sandbur, Stinkgrass, Sprangletop, Texas Panicum, Wildcane.

**LENGTH OF PROTECTION:** One pre-plant application of PREN lasts through the entire growing season. Reapply PREN to soil before planting in vegetable gardens, shrubs, and flower beds.

**PREN is not recommended on muck soils.**  
**ANNUAL GRASSES CONTROLLED:** Annual Bluegrass, Barnyardgrass, (watergrass), Brachiaria, Bromegrass, Cheat, Crabgrass, Foxtails, Goosegrass, Johnsongrass, (from seed) Junglerice, Sandbur, Stinkgrass, Sprangletop, Texas Panicum, Wildcane.  
**ANNUAL BROADLEAF WEEDS CONTROLLED:** Carelessweed, Carpetweed, Chickweed, Florida Purslane (Pusley), Goosefoot, Knotweed, Kochia, Lambsquarters, Pigweeds (spiny, redroot), Purslane, Russia, Thistle, Stinging Nettle.  
**NOTE:** Avoid over-application since PREN may harm crops if applied in excess. PREN is not recommended on muck soils.  
 MV 5026 AMB

**Keeps Out Weeds**  
**In Vegetable Gardens,**  
**Shrubs and Flower Beds**

CONTAINS  
**TREFLAN**

**CAUTION:** Keep out of reach of children. See back panel for additional caution statements.

Active Ingredient  
 1 Trifluralin (a,a,a trifluoro 2,6-dinitro-N,N-dipropyl-p-toluidine)

Inert Ingredients 98.5  
 1 TREFLAN, the registered trademark of Elanco Products Company, Inc.

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**SPECIAL INSTRUCTIONS FOR VEGETABLE GARDENS**

<b>DIRECT SEEDED</b> Carrots, Okra, Southern Peas (Cowpeas), Field Peas, Black-eyed Peas	Apply anytime from 10 weeks before planting up to planting these vegetables from seed. See application rate table for proper rate for your type of soil.
<b>DIRECT SEEDED</b> Lima Beans Snap Beans	Apply anytime from 10 weeks before planting up to planting. In light and medium soils apply at the rate of 1 lb. per 1280 sq. ft. In heavy soils apply at the rate of 1 lb. per 960 sq. ft.
<b>TRANSPLANTS</b> Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Peppers, Tomatoes	Apply and mix into soil before transplanting. Do not apply after transplanting. See application rate table for proper rate for your type of soil.
<b>Irish Potatoes</b>	Apply and mix into soil after planting potatoes.

**GENERAL APPLICATION RATES WHEN MIXING PREN INTO SOIL**  
 One standard measuring cup (tightly packed) equals 1/4 pound of PREN.

SOIL TEXTURE	Light Sandy & Sandy Loam	Medium Loam	Heavy Silt & Clay
<b>APPLICATION RATES</b>	1 lb. per 1280 sq. ft.	1 lb. per 960 sq. ft.	1 lb. per 640 sq. ft.

**PREN is not recommended on muck soils.**  
**ANNUAL GRASSES CONTROLLED:** Annual Bluegrass, Barnyardgrass, (watergrass), Brachiaria, Bromegrass, Cheat, Crabgrass, Foxtails, Goosegrass, Johnsongrass, (from seed) Junglerice, Sandbur, Stinkgrass, Sprangletop, Texas Panicum, Wildcane.  
**ANNUAL BROADLEAF WEEDS CONTROLLED:** Carelessweed, Carpetweed, Chickweed, Florida Purslane (Pusley), Goosefoot, Knotweed, Kochia, Lambsquarters, Pigweeds (spiny, redroot), Purslane, Russia, Thistle, Stinging Nettle.  
**NOTE:** Avoid over-application since PREN may harm crops if applied in excess. PREN is not recommended on muck soils.  
 MV 5026 AMB

**CAUTION:** Harmful if swallowed. Avoid contact with skin. Do not contaminate any body of water by direct application, cleaning of equipment or disposal of waste.

The manufacturer makes no warranties, express or implied, concerning this product or its use, which extend beyond the description on the face hereof. All statements made concerning this product apply only when used as directed.

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 INDIANAPOLIS, IND. 46206 U.S.A.



YT 1556 AMX