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*PM 23*

*19713-254*

*7/31/96*

Ms. Barbara Brown  
Drexel Chemical Company  
P.O. Box 13327  
1700 Channel Ave.  
Memphis, TN 38113-0327

JUL 31 1996

Dear Ms. Brown:

SUBJECT: (1) Revised Basic and Alternate CSFs.  
(2) Label Amendment - Label Revisions to Incorporate  
WPS and Revise Directions for Use.  
Drexel Trifluralin 4EC Herbicide  
EPA File Symbol: 19713-254  
Your Submission Dated July 11, 1996, as Amended on  
July 23, 1996

**I. Revised Confidential Statements of Formula (CSFs):**

The Confidential Statements of Formula (CSF), referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Copies of the CSFs (Basic, Alternate, and Alternate #2 Formulations) dated July 11, 1996, have been placed in our file for the subject product. These CSFs supersede all other Basic and Alternate formula CSFs submitted for this product.

**II. Revised Labeling:**

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided you make the following change:

- 1. In item no. 3 of the Testing Procedure for Compatibility in Liquid Fertilizer on page 4, revise the fourth sentence to read as follows:

"If materials rise to the surface and form a thick layer (oily curds) that will not redisperse when agitated, a compatibility agent is required." [The sentence currently reads "... a compatibility agent is not required."]

RD:STANTON:PM Team 23:Rm. 235:CM-2:305-5218:Disk #3:S508557.LET

**CONCURRENCES**

SYMBOL ▶	7505C							
SURNAME ▶	S. Stanton							
DATE ▶	Jul 30, 1996							

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-2-

A stamped copy is enclosed for your records. Submit one copy of your final printed labeling before you release the product for shipment.

Sincerely yours,

*Susan L. Stanton, for*

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

Enclosure

3749

Drexel

Trifluralin 4EC

Herbicide

A selective herbicide for the pre-emergence control of annual grasses and broadleaf weeds.

**ACTIVE INGREDIENT:**

Trifluralin: a,a,a-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine..... 44.5%

**INERT INGREDIENTS:**..... 55.5%

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

Product contains 4 pounds a.i. per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**WARNING / AVISO**

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.)

**Read Entire Label Before Using This Product**

**SHAKE WELL BEFORE USING**

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

EPA Reg. No. 19713-254  
EPA Est No.

July 11, 1996

Manufactured By:

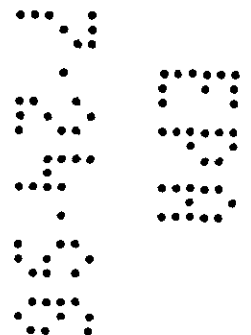
Drexel Chemical Company  
P.O. Box 13327, Memphis, TN 38113-0327

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated**

**JUL 3 1 1996**

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

19713-254



**STATEMENT OF PRACTICAL TREATMENT**

**IF IN EYES:** Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention if irritation persists.

**IF SWALLOWED:** Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoonfuls) with a large quantity of water. Do not induce vomiting or give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.

**IF INHALED:** Remove individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, give artificial respiration, preferably cardiopulmonary resuscitation assistance, and get medical attention immediately.

**IF ON SKIN:** Immediately wash with plenty of soap and water. Get medical attention if irritation develops.

**NOTE TO PHYSICIAN:** This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Aspiration of this product may produce a severe pneumonitis. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6-8 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

**WARNING:** Causes substantial but temporary eye injury. Harmful if swallowed, inhaled or absorbed through the skin. TRIFLURALIN 4EC may cause skin sensitization reactions in certain individuals.

Avoid breathing vapors or spray mist and contact with skin, eyes or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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

**Applicators and other handlers must wear:**

Long-sleeved shirt and long pants, Chemical-resistant gloves such as barrier laminate or Viton. Shoes plus socks, and Protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering control statements:**

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)(4-8)] 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. 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.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff from treatment areas may be hazardous to aquatic organisms in neighboring aquatic sites. Do not contaminate water when disposing of equipment washwaters or rinsate.

**GENERAL INFORMATION**

TRIFLURALIN 4EC is a selective herbicide for the pre-emergence control of annual grasses and broadleaf weeds. TRIFLURALIN 4EC may be applied in liquid sprays of water or liquid fertilizer, or impregnated on dry bulk fertilizer. To prevent loss of herbicidal activity, TRIFLURALIN 4EC must be soil incorporated within 24 hours after application. TRIFLURALIN 4EC may be tank mixed or followed by overlay or post-emergence treatment with other herbicides to improve the spectrum of weeds controlled. TRIFLURALIN 4EC controls weeds by disrupting growth processes during germination. TRIFLURALIN 4EC does not control established weeds.

**GENERAL USE PRECAUTIONS**

Applied according to directions and under normal growing conditions, TRIFLURALIN 4EC 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 TRIFLURALIN 4EC 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 TRIFLURALIN 4EC. Under these conditions, delayed crop development or reduced yields may result.

Do not apply TRIFLURALIN 4EC to soils that are wet or are subjected to prolonged periods of flooding as poor weed control may result.

Do not use TRIFLURALIN 4EC on any crop grown in Pecos county or Reeves county, Texas.

Do not use in Montana.

Chemigation: TRIFLURALIN 4EC may be applied by chemigation on certain crops. See instructions for chemigation in the "Approved Crops" section of this label.

**MIXING INSTRUCTIONS****TRIFLURALIN 4EC - Alone**

TRIFLURALIN 4EC may be mixed with water or most liquid fertilizer materials. Prior to mixing TRIFLURALIN 4EC in liquid fertilizer, refer to the label section entitled "Testing for Compatibility in Liquid Fertilizers" for testing procedures to determine compatibility with the liquid fertilizer product to be used. The combination of TRIFLURALIN 4EC with solution and suspension-type fertilizers provides weed and grass control equal to water sprays.

Fill spray tank 1/3 to 1/2 full with clean water or liquid fertilizer. Start agitation. Add correct amount of TRIFLURALIN 4EC and continue agitation while filling tank to required spray volume.

**PRECAUTION:** Do not allow water or spray mixture to back siphon into a water source.

**TRIFLURALIN 4EC - in Tank Mix**

TRIFLURALIN 4EC may be tank mixed with other products and applied with water or most liquid fertilizer materials. Prior to mixing tanks mixes containing TRIFLURALIN 4EC with liquid fertilizer, refer to the label section entitled "Testing for Compatibility in Liquid Fertilizers" for testing procedures to determine compatibility with the liquid fertilizer product to be used.

Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture. To prevent foaming during filling, keep end of fill pipe below the surface of the liquid in the spray tank.

**Mixing Order**

Fill the spray tank to 1/4 to 1/3 of the total spray volume required. Start agitation. Add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products. Add different formulation types in the following order: Dry Flowables (DF); Wettable Powders (WP); Aqueous Suspensions (AS); Flowables (F); and Liquids (L).

Maintain agitation and fill spray tank to 3/4 of total spray volume. Add TRIFLURALIN 4EC and other emulsifiable concentrates (EC) and any solutions (S).

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

**PRECAUTIONS:** Read and carefully follow all label instructions for each material added to the spray tank. Do not allow water or spray mixture to back siphon into a water source.

**PREMIXING:** Dry and flowable formulations may be premixed with water (slurried) and added to the spray tank through a 20-35 mesh screen. This procedure assures good initial dispersion of these products in liquid fertilizer or water.

Line screen in the spray tank should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

#### **Testing for Compatibility in Liquid Fertilizers**

TRIFLURALIN 4EC alone or in tank mix combination with dry flowables (DF), wettable powders (WP), aqueous suspensions (AS), flowables (F), liquids (L), or solutions (S) may not combine properly with some liquid fertilizer materials. Small quantities should always be tested before full scale mixing. Follow the testing procedure below to determine if a compatibility agent is needed and which one works best in your herbicide/fertilizer mixture. The seven compatibility agents listed at the end of this section have been thoroughly tested. Other surfactants commercially available may or may not be suitable for use with liquid fertilizers.

#### **Testing Procedure**

1. Add one pint of the liquid fertilizer to a quart jar.
2. Add 1 to 4 teaspoon(s) of the DF, WP, AS, F, or L formulation (depending on mixing ratio required) to the liquid fertilizer. Close the jar and agitate until the materials are evenly dispersed in the liquid fertilizer. If the materials do not disperse well, it may be necessary to slurry the chemicals in water before adding to the fertilizer.
3. After dispersing the materials (step 2) add 3 to 4 teaspoons of TRIFLURALIN 4EC to the jar and shake well. Add solution herbicides to the mixture last and agitate. Observe the jar for about 10 minutes. If materials rise to the surface and form a thick layer (oily curds) that will not redisperse when agitated, a compatibility agent is not required. If the mixture is easily redispersed with slight agitation, a compatibility agent is not required. Good agitation, however, must be provided to maintain dispersion in the spray tank.

4. If the need for a compatibility agent is demonstrated (step 3) the following procedure is recommended. Using a clean quart jar repeat step one above and add 1/2 teaspoon of the compatibility agent to the liquid fertilizer. Mix well then repeat steps 2 and 3.

An effective need for a compatibility agent will cause the mixture to remain uniformly dispersed with little or no separation (oil rising to the surface) for one half hour or longer. If slight separation occurs, 2 to 3 inversions of the jar should be sufficient to uniformly redisperse the mixture. If oily curds form and will not redisperse, additional compatibility agent or an alternative compatibility agent should be tried.

Use a clean jar for each test. A compatible mixture will have a uniform appearance and will be relatively easy to redisperse with gentle agitation of the jar.

#### **Compatibility Agents**

The phosphate ester-type surfactants listed below are designed for use with liquid fertilizers and can be mixed at rates as low as 1-1/2 to 2 pints per ton of liquid fertilizer. Add the compatibility agent just before adding pesticides.

1. Sponto 168D (Witco Chemicals Co., Chicago, IL)
2. Compat (Farm Chemicals, Inc., Aberdeen, NC) (Not for use in California)
3. Unite (Hopkins Ag Chemical, Madison, WI)
4. T-Muiz 734-2 (Thompson-Hayward Chemical Co., Kansas City, MO) (Not for use in California)
5. Rigo Compatibility Agent (Rigo Company, Buckner, KY)
6. Amoco Spray Mate (Amoco Oil Co., Chicago, IL) (Not for use in California)
7. Kem-Link (Universal Coop, Minneapolis, MN)

Compliance with state regulations relating to liquid fertilizer mixing, registration, labeling and application are the responsibility of the individual and/or company offering the fertilizer or chemical mixture for sale.

**PRECAUTIONS:** Do not use the compatibility agents listed above for tank mixes in plain water. Read the compatibility agent label for use directions and precautions before use.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all "Directions for Use" before applying this product. 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 and 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 exemptions 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 barrier laminate or Viton, Shoes plus socks, and Protective eyewear.

#### **ROTATION CROP RESTRICTIONS**

##### **SUGARBEETS, REDBEETS AND SPINICH**

**Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming:** Sugarbeets, redbeets or spinach should not be planted for 12 months after a spring application or 14 months after a fall application of TRIFLURALIN 4EC. Plowing to a depth of 12 inches prior to planting these crops will reduce 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 of TRIFLURALIN 4EC.

**All other areas:** Sugarbeets, redbeets, and spinach should not be planted for 12 months after a spring application or 14 months after a fall application. Before planting sugarbeets, 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 CROPS OR GRASS MIXTURES**

**Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming:** 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 TRIFLURALIN 4EC 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.

**Minnesota, North Dakota, and South Dakota:** 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 TRIFLURALIN 4EC.

Portions of Kansas, Nebraska, Oklahoma, and Texas that received less than 20 inches of rainfall and irrigation to produce a crop: Do not plant proso millet, sorghum (milo), oats and annual or perennial grass crops or grass mixtures for 18 months after an application of TRIFLURALIN 4EC. In sorghum, cool wet weather conditions during early growth stages may increase the possibility of crop injury. In areas receiving more than 20 inches of rainfall and irrigation, these crops should not be planted for 12 months after a spring application or 14 months after a fall application of TRIFLURALIN 4EC.

#### OTHER CROPS

Vegetable crops other than those listed on this label for use with pre-plant soil incorporated application of TRIFLURALIN 4EC, should not be planted within 5 months after an application of TRIFLURALIN 4EC.

#### SOIL TEXTURE GUIDE FOR APPLICATION RATES

Rate recommendations for incorporated treatments of TRIFLURALIN 4EC 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 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*, Silt Loam, Silt, Sandy Clay Loam*
Fine (Heavy) Soils	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 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 METHODS

##### General

As spray volume decreases, the importance of accurate calibration and uniform application increases. Check calibration and uniformity of spray application daily. To avoid spray drift, do not apply when winds are gusting or when wind speed is greater than 15 mph.

##### Ground Broadcast Application

Apply TRIFLURALIN 4EC in 5 to 40 gallons of liquid carrier per acre (broadcast basis), using any properly calibrated, low pressure herbicide sprayer that will apply the spray uniformly. The carrier may be water or liquid fertilizer as specified for the crop to be treated in the "Approved Crops" section of this label. For band application, adjust herbicide rate and spray volume in proportion to the band width and row width treated.

##### Aerial Broadcast Application

Apply TRIFLURALIN 4EC in 5 to 10 gallons of water per acre. Adjust pump pressure, nozzle arrangements, speed and application height to provide uniform application to the soil surface. Use swath markers or flaggers to assure proper swath width interval.



### Application with Dry Bulk Fertilizer

Dry bulk fertilizers impregnated or coated with TRIFLURALIN 4EC may be applied as a pre-plant incorporated treatment on approved crops. All label recommendations for TRIFLURALIN 4EC regarding application rates, incorporation directions, special instructions and precautions should be followed. Read and follow all label instructions below concerning use of TRIFLURALIN 4EC with dry bulk fertilizer. Properly applied dry bulk fertilizers impregnated with TRIFLURALIN 4EC provides weed and grass control equal to water sprays.

Use the following formula to calculate the amount of TRIFLURALIN 4EC required to impregnate a ton of dry bulk fertilizer.

$$\begin{array}{r} \text{Pints TRIFLURALIN 4EC} \\ \text{Per Acre} \end{array} \times \frac{1000}{\begin{array}{r} \text{Pounds Fertilizer} \\ \text{Per Acre} \end{array}} = \begin{array}{r} \text{Quarts/TRIFLURALIN 4EC} \\ \text{Per Ton of} \\ \text{Fertilizer} \end{array}$$

**Limitations:** Apply a minimum of 200 lb./acre of dry fertilizer impregnated with TRIFLURALIN 4EC at the recommended broadcast rate per acre. Any commonly used dry fertilizer can be used for impregnation of TRIFLURALIN 4EC except coated ammonium nitrate and pure limestone. These materials will not absorb the herbicide. Blends containing mixtures of these materials can be impregnated.

**Impregnation:** Use any closed drum, belt, ribbon or other commonly used dry bulk fertilizer blender. Nozzles used to apply TRIFLURALIN 4EC to dry bulk fertilizer should be placed to provide uniform spray coverage.

**Application and Incorporation:** Spread the fertilizer/chemical mixture with properly calibrated application equipment. Be certain the material is applied uniformly to the soil surface. TRIFLURALIN 4EC should be incorporated 2 times when impregnated on dry bulk fertilizer. The first incorporation should occur within 24 hours after application. The second incorporation should be delayed 3 to 5 days after the first and be completed prior to planting.

**Compliance with State Regulations:** Compliance with state regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company offering the fertilizer or chemical mixture for sale.

### APPLICATION BY CHEMIGATION

TRIFLURALIN 4EC may be applied through properly equipped chemigation systems for weed control in certain crops as specified in "Approved Crops" section of this label. Read and follow all label instructions outlined below concerning chemigation before applying TRIFLURALIN 4EC by this method.

### GENERAL CHEMIGATION DIRECTIONS

Apply this product only through continuously moving center pivot, lateral move, or end tow sprinkler irrigation systems equipped for chemigation. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have any questions about calibration you should contact state extension specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### SPRINKLER CHEMIGATION DIRECTIONS

The following directions must be followed for all recommended sprinkler irrigation systems (center pivot, lateral move or end tow):

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back-flow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve location on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point that pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. TRIFLURALIN 4EC should be injected continuously throughout the chemigation period. The chemigation metering pump should be checked periodically during application to insure proper operation.
9. The injection metering pump must be calibrated as specified by the manufacturer.
10. Pesticide injection hoses which connect chemigation metering equipment to the sprinkler irrigation system should be of braided reinforced construction with an internal tube made of nylon, cross-linked polyethylene or high density polyethylene.
11. TRIFLURALIN 4EC may cause staining of plastic hoses and tanks.
12. Apply TRIFLURALIN 4EC in sprinkler irrigation equal to 1/2 to 1 inch of water.
13. During chemigation, maintain agitation in supply tank at all times.

### CHEMIGATION SYSTEM CALIBRATION

**Sample calculation for use of TRIFLURALIN 4EC in a chemigation system:** Assume, in this example, 133 acres are to be covered by a chemigation treatment. Product required, assuming 1.5 pints per acre is 199.5 pints (133 acres X 1.5 pts./acre = 199.5 pts. = 25 gallons). Add 25 gallons of product directly to the injection supply tank. Adjust the injection system to deliver 25 gallons during the time required to apply 1 inch of water to 133 acres.

If the irrigation system requires 20 hours to apply 1 inch of water to 133 acres, the injection rate is 1.25 gals./hr. and is calculated as follows:

$$0.25 \text{ gal.} \times 20 \text{ hr.} = 1.25 \text{ gals./hr.}$$

$$1.25 \text{ gals./hr.} = 160 \text{ fl. oz./hr.}$$

Proper calibration requires the injection pump to be adjusted to deliver 2.7 fl. ozs./min. and is calculated as follows:

$$160 \text{ fl. ozs./hr.} \div 60 \text{ min./hr.} = 2.7 \text{ fl. ozs./min.}$$

### CHEMIGATION MIXING DIRECTIONS

#### UNDILUTED TRIFLURALIN 4EC

When used alone, the injection of undiluted TRIFLURALIN 4EC is recommended in chemigation systems. For undiluted use, the metering pump, supply tank, and any associated equipment must be thoroughly clean and dry before TRIFLURALIN 4EC is added to the system for injection. When injecting undiluted TRIFLURALIN 4EC, maintain continuous agitation in the supply tank.

**DILUTED TRIFLURALIN 4EC**

TRIFLURALIN 4EC may be diluted if required to achieve accurate calibration for existing equipment. Partially fill the injection supply tank with a volume of water equal to the amount of TRIFLURALIN 4EC required (Do not add water to TRIFLURALIN 4EC). Start agitation. Add the required amount of TRIFLURALIN 4EC to water in the supply tank and continue mixing while filling the tank to the final volume required by the injection pump calibration. When injecting diluted TRIFLURALIN 4EC, maintain continuous agitation in supply tank.

**APPLICATION TIMING****SPRING APPLICATION**

Apply and incorporate TRIFLURALIN 4EC any time after January 1 when soil can be worked and is in a condition which allows thorough mixing to insure uniform incorporation. See "Approved Crops" section for application timing and recommendations for specified crops.

**FALL APPLICATION**

Fall application can be used for all crops for which TRIFLURALIN 4EC is recommended as a pre-plant incorporated treatment. Refer to "Approved Crops" section for any crop specific fall application instructions.

In the states of California, North Dakota, South Dakota, and Minnesota, apply and incorporate TRIFLURALIN 4EC any time between September 1 and December 31. In all other states, fall apply TRIFLURALIN 4EC between October 15 and December 31.

Ground may be bedded up over winter. On bedded ground, reduce beds to desired height before planting, by moving some treated soil from beds into furrows. Where soil is left flat over winter, care should be taken not to turn up untreated soil during spring bedding operations. Destroy established weeds during seedbed preparation. Weeds established in furrows as a result of exposing untreated soil should be destroyed before planting. Fall application of TRIFLURALIN 4EC is not recommended on fields which remain wet or are subject to periods of flooding.

**PRE-EMERGENCE APPLICATION IMMEDIATELY AFTER PLANTING**

Apply and incorporate TRIFLURALIN 4EC immediately after planting and prior to crop germination. Adjust incorporation equipment so as not to disturb planted seed. Refer to the "Approved Crops" section of this label for crop specific instructions.

**POST-EMERGENCE AND LAYBY APPLICATION**

Apply and incorporate TRIFLURALIN 4EC at the recommended rate to the established crop at or before the last cultivation. Required pre-harvest intervals for treatments with TRIFLURALIN 4EC for certain crops are specified in the "Approved Crops" section of this label. Crop cover may prevent uniform soil coverage from over-the-top sprays. To avoid this problem, use drop nozzles or directed sprays to achieve uniform soil coverage.

**INCORPORATION DIRECTIONS****SOIL PREPARATION AND INCORPORATION**

Ground cover, such as crop residues or existing weeds, can interfere with uniform soil incorporation of TRIFLURALIN 4EC. A manageable level of ground cover will allow uniform incorporation into the top 2 to 3 inches of soil. Ground cover and crop residues, if excessive, should be reduced by appropriate soil tillage prior to application.

Break up clods using tillage equipment prior to application of TRIFLURALIN 4EC. TRIFLURALIN 4EC must be incorporated within 24 hours after application. With most equipment and methods of application, a second incorporation is required and may occur any time before planting. The second incorporation should be in a different direction, and to avoid bringing untreated soil to the surface, should not be deeper than the first.

**General Soil Conditions:** The soil surface should be smooth enough to allow for uniform application and efficient incorporation of TRIFLURALIN 4EC. Apply when soil moisture is sufficient to allow the breakup of large clods and uniform mixing during the incorporation process. Soil compaction and/or non-uniform incorporation may occur if soil is excessively moist.

**Incorporation in Bedded Culture:** In bedded culture, TRIFLURALIN 4EC should be incorporated to a depth of 2 to 3 inches in the final seedbed.

**Application Prior to Bedding:** Apply TRIFLURALIN 4EC and incorporate one time with recommended equipment. The bedding operation serves as the second incorporation. Do not expose untreated soil during post-bedding operations such as planting since removal of treated soil during planting can allow weed germination and establishment in the drill row.

**Application After Bedding:** Knock off beds to planting height before applying TRIFLURALIN 4EC. Apply and incorporate TRIFLURALIN 4EC with recommended equipment that will conform to the shape of the bed. Do not expose untreated soil.

**Cultivation After Planting:** treated crops may be shallowly cultivated without reducing the weed control activity of TRIFLURALIN 4EC. Limit depth of cultivation to the zone of treated soil (2 to 3 inches) to avoid moving untreated soil to the surface. Exposure of untreated soil may cause loss of weed control.

### INCORPORATION EQUIPMENT

Use incorporation equipment capable of mixing TRIFLURALIN 4EC uniformly into the top 2 to 3 inches of the final seedbed. Use of inappropriate equipment or improper use of recommended equipment may result in erratic weed control and/or crop injury. Incorporation equipment such as a tandem disc will mix TRIFLURALIN 4EC approximately half as deep as the equipment is set to operate. For example, a disc set to cut four inches deep will mix most of the TRIFLURALIN 4EC within the top 2 inches of soil. Any recommended incorporation implement may be used alone or in combination with any other recommended implement. Two incorporation passes are required unless otherwise specified.

**Tandem Disc:** Set equipment 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 and staggered so that no soil is left unturned. Chisel points should not be used.

**Combination Seedbed Conditioners:** These implements are defined as three or more tillage devices combined to operate as a single tillage unit. For example, 2 to 3 rows of field cultivator C- or S- chaped shanks with an effective sweep spacing of 6 to 9 inches, (staggered so that no soil is left unturned), followed by a spike-tooth or flexline harrow, followed by a ground driven reel or basket. Combination implements should be set to cut 3 to 4 inches deep and operated at a minimum of 6 mph. TRIFLURALIN 4EC can be incorporated with one pass when using a combination seedbed conditioner. Two incorporation's are required under conditions which prevent optimum soil mixing such as excessive trash, roughness, high clay content or soil moisture.

**Rolling Cultivator:** Set equipment to cut 2 to 4 inches deep and operate at 6 to 8 mph. Generally, rolling cultivators are adequate for use only on coarse and medium soils. In sugarcane, the rolling cultivator may be used on fine textured soils.

**Bed Conditioner (Do-All):** Set equipment to cut 2 to 4 inches deep and operate at 4 to 6 mph. One incorporation pass is adequate in bedded culture, while two incorporation passes are required in flat planted culture. The do-all should be used only on coarse and medium textured soils.

**Mulch Treader and other similar Disc-type Implements:** Set equipment to cut 3 to 4 inches deep and operate at 5 to 8 mph.

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

**Other Equipment:** Other implements including the flexible fine-tooth harrow (Flexline or Melroe), are recommended, but only for certain uses defined in the "Approved Crops" section of this label.

## WEEDS CONTROLLED BY TRIFLURALIN 4EC

## GRASS WEEDS

<u>Common Name</u>	<u>Scientific Name</u>
annual bluegrass	Poa annua
barnyardgrass (watergrass)	Echinochloa crus-galli
brachiaria (signalgrass)	Brachiaria spp.
bromegrass (cheatgrass) (downy brome)	Bromus tectorum
cheat (chess)	Bromus secalinus
crabgrass (large crabgrass) (smooth crabgrass)	Digitaria spp.
foxtail (bottlegrass) (bristlegrass) (giant foxtail) (green foxtail) (foxtail millet) (pigeongrass) (robust foxtail) (yellow foxtail)	Setaria spp.
guineagrass (See special instructions for control in sugarcane in the "Approved Crops" section.)	Panicum maximum
itchgrass (raoulgrass) (See special instructions for control in sugarcane in the "Approved Crops" section.)	Rottboellia exaltata
johnsongrass (from seed) (rhizome) (See special instructions for control in cotton, soybean, fruit and nut crops and vineyards in the "Approved Crops" section.)	Sorghum halepense
jungerice	Echinochloa Colonum
oats, wild*	Avena fatua
panicum fall panicum (spreading panicgrass) (See special instructions for control in cotton and soybeans in the "Approved Crops" section.)	Panicum dichotomiflorum
ryegrass, Italian (annual ryegrass)	Lolium multiflorum
Texas panicum (buffalograss) (Coloradograss)	Panicum texanum
red rice (See special instructions for suppression or partial control in soybeans in the "Approved Crops" section.)	Oryza sativa
sandbur (burgrass)	Cenchrus incertus
sprangletop	Leptochloa filiformis
stinkgrass (lovegrass)	Eragrostis cilianensis

**WEED CONTROLLED BY TRIFLURALIN 4EC****GRASS WEEDS (continue)**

shattercane  
(wild cane) Sorghum bicolor  
(See special instructions for control in soybeans in the "Approved Crops" section.)

woolly cupgrass Eriochloa villosa

\*When applied as a pre-plant incorporated treatment. TRIFLURALIN 4EC controls wild oats that germinate in the treated zone. Wild oat control is not claimed for incorporated uses in small grains.

**BROADLEAF WEEDS****Common Name****Scientific Name**

carpetweed

Mollugo verticillata

chickweed

Stellaria media

field bindweed

Convolvulus arvensis

(See special instructions for control in fruit and nut crops and vineyards in the "Approved Crops" section.)

goosefoot

Chenopodium hybridum

henbit

Lamium amplexicaule

knotweed

Polygonum aviculare

kochia

Kochia scoparia

(fireweed)

(Mexican fireweed)

lambsquarters, common

Chenopodium album

pigweed

Amarathus spp.

(carelessweed)

(prostrate pigweed)

(redroot)

(rough pigweed)

(spiny pigweed)

(See special instructions for control in soybeans in "Approved Crops" section.)

puncturevine

Tribulus terrestris

(Western U.S. only)

(caltrop)

(goatweed)

purslane, common

Portulaca oleracea

pusley, Florida

Richardia scabra

(Florida purslane)

(Mexican clover)

(pusley)

Russian Thistle

Salaoia ibenca

(tumbleweed)

stinging nettle

Urtica dioica

(nettle)

**GREEN FOXTAIL (PIGEONGRASS) RESISTANCE TO DINITROANILINE HERBICIDES  
INCLUDING TRIFLURALIN 4EC, IDENTIFIED IN THE STATE OF NORTH DAKOTA**

(For Distribution and Use in the State of North Dakota)

**CROP PRODUCTION PRECAUTION**

Populations of green foxtail (pigeongrass) resistant to the dinitroaniline (DNA) class of herbicides have been identified in the state of North Dakota in fields which have a long history of dinitroaniline herbicide use. TRIFLURALIN 4EC will not control green foxtail which has developed DNA resistance. Therefore, the grower assumes the risk of non-performance due to DNA resistance if TRIFLURALIN 4EC is used to control green foxtail in the state of North Dakota. Alternative green foxtail control practices should be utilized in these fields.

Drexel Chemical Company strongly recommends utilizing the following management practices to prevent or delay the development or spread of DNA-resistant green foxtail in spring cereal production areas:

1. Rotate herbicides so that the same product or same class of herbicide is not used repeatedly year after year. TRIFLURALIN 4EC and/or other dinitroaniline herbicides should not be applied in consecutive years and preferably should be used only once in a three year period. Consult your local extension service or Drexel Chemical Company representative for information regarding herbicides with alternative modes of action.

2. Rotate crops and use alternative weed control methods, including tillage, fallow periods and/or other herbicides with different modes of action.

3. Thoroughly clean small grains harvested from fields with confirmed resistance before using as seed, or avoid using grain from DNA-resistant fields for seed.

4. Thoroughly clean all crop residues from tillage and harvesting equipment before moving out of fields with confirmed resistance.

For further information or consultation, contact your Drexel Chemical Company representative.

**SPECIAL USE PROGRAMS**

TRIFLURALIN 4EC is approved for the following special use programs. Refer to "Approved Crops" section of this label for details on soil preparation, use rates, application, soil incorporation, and precautions for each type of program.

**COTTON**

For control of Fall Panicum, Pigweed and Seedling Johnsongrass, Additional Weed and Grass (Gulf Coast Counties of Texas), and Rhizome Johnsongrass.

**SOYBEANS**

For control of Fall Panicum, Pigweed and Seedling Johnsongrass, Additional Weed and grass (Gulf Coast Counties of Texas), Rhizome Johnsongrass, Charcoal Soils in Arkansas, Louisiana, and Mississippi, Red Rice in Arkansas, Louisiana, Mississippi and Texas, Wild Cane (shattercane), and TRIFLURALIN 4EC plus Sencor or Lexone for Rhizome Johnsongrass.

**FRUIT AND NUT CROPS AND VINEYARDS**

For control of Rhizome Johnsongrass and Field Bindweed.

**APPROVED CROPS****ALFALFA - ESTABLISHED**

**Mechanically Incorporated:** Apply TRIFLURALIN 4EC with ground or aerial equipment and mechanically incorporate prior to weed emergence to control weeds listed in the "Weeds Controlled by Trifluralin 4EC" section of this label. Use mechanical incorporation equipment that will insure thorough soil mixing with minimal damage to crop stand.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5
Medium	2.0
Fine	2.0

**SURFACE APPLICATIONS (CHEMIGATION OR WATER INCORPORATED)**

TRIFLURALIN 4EC may be surface applied for annual grass control in established alfalfa by chemigation, or ground or aerial broadcast application equipment.

**Chemigation:** Refer to "General Chemigation Directions" section.

**Surface Applications Activated by Rainfall or Irrigation:** Broadcast surface applications of TRIFLURALIN 4EC to established alfalfa may be activated by rainfall, sprinkler, flood or furrow irrigation. Rainfall or a single overhead sprinkler irrigation of 0.5 acre inch or more is required to activate TRIFLURALIN 4EC. If activated by furrow irrigation, care should be taken to thoroughly wet beds between furrows. If rainfall or irrigation has not occurred within 3 days after application, TRIFLURALIN 4EC may be mechanically incorporated. If mechanically incorporated, use equipment that will insure thorough soil mixing with minimum damage to the established alfalfa.

**Application Timing and Weeds Controlled:** Applications to established alfalfa for annual grass control can be made during dormancy or semi-dormancy, or during the growing season immediately after a cutting. because TRIFLURALIN 4EC does not control established weeds, application must be made prior to the expected time of weed germination. Bromegrass and cheat begin to germinate in the fall with the onset of cooler weather. To control these weeds, apply TRIFLURALIN 4EC immediately after a cutting between August 1 and October 1, but prior to weed germination. When fall applied, TRIFLURALIN 4EC controls bromegrass and cheat in addition to other labeled weeds that germinate after application.

The following weeds are controlled when TRIFLURALIN 4EC is applied by chemigation or surface applied and incorporated by rainfall or irrigation:

barnyardgrass	crabgrass
bromegrass	cupgrass
(cheatgrass)	foxtail
(downy brome)	junglerice
(cheat)	sandbur
(chess)	wild barley
canarygrass	

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Soil Textures	4.0

**PRECAUTIONS:** Do not cut or graze alfalfa within 21 days after application of TRIFLURALIN 4EC. Apply no more than 4 pints of TRIFLURALIN 4EC during any growing season. In the growing season following application of 4 pints of TRIFLURALIN 4EC to alfalfa, plant only those crops for which TRIFLURALIN 4EC is registered as a pre-plant treatment or crop injury may occur.

**TANK MIX COMBINATIONS**

Other products registered for use on established alfalfa may be ground broadcast in tank mix combination with TRIFLURALIN 4EC or applied as sequential treatment following application of TRIFLURALIN 4EC. Tank mixes containing TRIFLURALIN 4EC must be applied when alfalfa is dormant or semi-dormant or immediately after a cutting.

**Precaution:** Refer to the tank mix product label for application rates, weeds controlled, additional use directions precautions and limitations before use.

**ASPARAGUS - ESTABLISHED**

Apply TRIFLURALIN 4EC to established asparagus as a single or split application. TRIFLURALIN 4EC will suppress volunteer seedling asparagus and field bindweed when applied as directed. Follow recommended soil preparation, application and incorporation procedures for TRIFLURALIN 4EC.



**Application Timing:** Make applications to dormant asparagus in winter or early spring after mature ferns have been removed. Do not apply after new spears begin to emerge. Apply post-harvest application immediately after harvest in late spring or early summer just before ferns are allowed to develop.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC		
Soil Texture	Split Application Before and After Harvest (Pints/Acre)	Single Application Before or After Harvest (Pints/Acre)
Coarse	1.0 + 1.0	2.0
Medium	1.5 + 1.5	3.0
Fine	2.0 + 2.0	4.0

Do not apply more than the recommended dosage listed above during any calendar year.

#### BEANS - DRY BEANS

##### TRIFLURALIN 4EC - Alone

Apply and incorporate TRIFLURALIN 4EC in the spring before planting or in the fall. See instructions for fall application of TRIFLURALIN 4EC under the heading "Application Timing" section of this label.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

**TRIFLURALIN 4EC - plus Eptam Tank Mix**

TRIFLURALIN 4EC May be tank mixed with Eptam 7E and applied as a pre-plant incorporated treatment to control additional weeds. Use application rates recommended for dry beans "TRIFLURALIN 4EC-alone" above. Refer to the label for Eptam for application rates, additional use directions, precautions and limitations before use.

**BEANS - GUAR AND MUNGBEAN**

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	1.5

**BEANS - LIMA BEAN AND SNAP BEAN**

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.0
Fine	1.5

**CARROTS**

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

**CASTOR BEAN**

Apply TRIFLURALIN 4EC as soil incorporated treatment, before or immediately after planting. If applied and incorporated after planting, set equipment so as to not disturb the seed.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

**CELERY**

Apply TRIFLURALIN 4EC as a soil incorporated treatment. TRIFLURALIN 4EC may be applied to direct seeded or transplant celery before planting, at planting or immediately after planting.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

**CHICORY / ENDIVE**

TRIFLURALIN 4EC may be applied as a pre-plant 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 yield the following:

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 growth from field grown rootstalks.

**Cichorium endiva**, considered to be a leafy vegetable, may yield the following:

Escarole - curly green leaves from field grown plantings.

Endive - very curly green leaves from field grown plantings.

Apply TRIFLURALIN 4EC as a soil incorporated treatment in spring or early summer prior to planting. Apply and incorporate TRIFLURALIN 4EC according to directions on the label for TRIFLURALIN 4EC.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

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

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.0
Fine	1.5

Use 1.5 pints for soils with 2 - 5 % organic matter.

**PRECAUTION:** Direct seeded cole crops exhibit marginal tolerance to higher than recommended rates of TRIFLURALIN 4EC. Stunting or reduced stands may occur.

**TRANSPLANTED COLE CROPS**

Apply and incorporate TRIFLURALIN 4EC prior to transplanting.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

**CORN - FIELD CORN ONLY****POST-EMERGENCE INCORPORATED TREATMENT**

Apply TRIFLURALIN 4EC as a post-emergence treatment following cultivation or use of a pre-emergence herbicide. TRIFLURALIN 4EC does not control established weeds. Apply when crop is well established (2 true leaf stage or taller). Apply as an over-the-top spray or as a directed spray using drop nozzles if foliage prevents uniform coverage of the soil surface.

**INCORPORATION DIRECTIONS**

Application of TRIFLURALIN 4EC must be mechanically incorporated within 24 hours. Mechanical 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 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	TRIFLURALIN 4EC (Pints/Acre)
Coarse	0.75 - 1.0*
Medium	1.0 - 1.5
Fine	1.5 - 2.0

\*Apply 1.0 to 1.5 pts./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:** Do not apply to sweet corn or corn grown for seed. Do not apply TRIFLURALIN 4EC to corn as a pre-plant or pre-emergence treatment or crop injury may occur. Where corn is planted in a furrow, TRIFLURALIN 4EC should be applied only after cultivation to move soil into the row.

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**CHEMIGATION**

TRIFLURALIN 4EC may be applied through properly equipped chemigation systems for weed control in field corn. Refer to "General Chemigation Directions" section. Do not apply TRIFLURALIN 4EC through any type of irrigation system unless these directions are carefully followed.

**Application Timing:** Apply TRIFLURALIN 4EC in 0.5 to 1 acre inch of sprinkler irrigation when field corn is at the 2 true leaf stage of growth or taller. Apply TRIFLURALIN 4EC prior to weed emergence or after existing weeds have been controlled with herbicides or cultivation. TRIFLURALIN 4EC does not control established weeds.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5 - 2.0
Medium	1.5 - 2.0
Fine	Do not apply TRIFLURALIN 4EC by chemigation to fine textured soils

**PRECAUTIONS:** Do not apply TRIFLURALIN 4EC by chemigation to sweet corn or corn grown for seed. Where corn is planted in furrow, TRIFLURALIN 4EC should be applied only after a cultivation to move soil into the row. Do not apply TRIFLURALIN 4EC to corn as a pre-plant or pre-emergence treatment as crop injury may occur.

**TRIFLURALIN 4EC - plus Atrazine Tank Mix**

TRIFLURALIN 4EC may be applied in tank mix combination with atrazine plus an emulsifiable oil or oil concentrate when corn is at the 2-leaf stage of growth or taller and weeds are no more than 1-1/2 inches in height. A period of 24 to 48 hours is required to obtain atrazine post-emergence activity after which the pre-emergence activity of the TRIFLURALIN 4EC plus atrazine combination may be activated by 0.5 inch or more of rainfall or overhead sprinkler irrigation or mechanical incorporation. Use the application rates and incorporation methods for TRIFLURALIN 4EC recommended under "Post-Emergence Incorporated Treatment" in the "Corn -Field Corn Only" section of this label.

**PRECAUTIONS:** Where corn is planted in a furrow, TRIFLURALIN 4EC should be applied only after a cultivation to move soil into the row. Refer to the product label for atrazine for application rates, additional use directions, precautions and limitation before use.

**COTTON****TRIFLURALIN 4EC - Alone**

Apply TRIFLURALIN 4EC to cotton as a soil incorporated treatment. TRIFLURALIN 4EC may be applied before planting, immediately after planting, to the established crop up to layby, or in the fall. Refer to instructions for fall application under "Application Timing" section of this label. Follow recommended soil preparation, application and incorporation procedures in the "General Information" section of this label. When incorporating TRIFLURALIN 4EC after planting, but prior to crop emergence, set equipment so as not to disturb planted seed.

Post-emergence application of TRIFLURALIN 4EC may be made from the 4 true leaf stage of growth up to layby, but not less than 90 days before harvest. Apply post-emergence treatments as a directed spray beneath cotton plants to soil between the rows. Use the same application rates for pre-plant, pre-emergence, and layby treatments.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC			
Soil Texture	Spring Application <sup>1</sup>	Fall Application	
		Eastern U.S. <sup>2</sup>	Western U.S. <sup>3</sup>
Coarse	1.0	2.0	1.5
Medium	1.25 - 1.5	2.0	2.0
Fine	1.5 - 2.0	2.5	2.5

<sup>1</sup>**Spring Application:** Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soil with 2 - 5% organic matter. Use 2.0 to 2.5 pints for soils with 5 - 10% organic matter. Use lower rate in rate range for areas receiving less than 20 inches of total annual rainfall and irrigation.

<sup>2</sup>**Fall Application rates for eastern cotton producing areas, including:** Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, New Mexico, Oklahoma, South Carolina, Tennessee and Texas.

<sup>3</sup>**Fall Application rates for western cotton producing areas, including:** Arizona, California and Nevada.

For cotton grown in states other than those listed above, fall apply at broadcast rates recommended for areas receiving greater than 20 inches average annual rainfall.

**PRECAUTIONS:** Cotton should be planted after early season adverse weather conditions have passed, especially when using higher rate programs. Cool, wet weather early in the growth cycle causes additional stress to the cotton plant. This may result in reduced stand, delayed maturity and reduced yields.

#### LAYBY TREATMENT

Apply and incorporate TRIFLURALIN 4EC in established cotton from the 4 true leaf stage of growth up to layby, but not less than 90 days before harvest. Apply uniformly to the soil surface, using drop nozzles if necessary. Use the application rates recommended above for pre-plant incorporated treatments. Soil 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.

#### CHEMIGATION

TRIFLURALIN 4EC may be applied through properly equipped chemigation systems for weed control in cotton. Refer to "General Chemigation Directions" section of this label for use directions for chemigation. Do not apply TRIFLURALIN 4EC through any type of irrigation system unless these directions are carefully followed.

Apply TRIFLURALIN 4EC in overhead sprinkler irrigation equal to 1/2 to 1 inch of water. Planting and application should occur as soon as possible after the last tillage operation. TRIFLURALIN 4EC must be applied within 2 days after planting prior to crop emergence. TRIFLURALIN 4EC does not control established weeds. Soil incorporation is not required when TRIFLURALIN 4EC is applied through chemigation systems.

**Broadcast Application Rates/Acre:** See rates for cotton "TRIFLURALIN 4EC - Alone" above.

Apply at the maximum recommended rate for each soil texture class to be treated.

**Cultivation:** Soil treated by chemigation with TRIFLURALIN 4EC may be shallow cultivated without reducing weed control activity.

**SPECIAL USE PROGRAMS****FALL PANICUM CONTROL**

Apply and incorporate a broadcast rate of 2.0 pints/acre on both coarse and medium soils.

**PIGWEEED AND SEEDLING JOHNSONGRASS CONTROL**

Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment.

**Broadcast Application Rates/Acre:** In Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, South Carolina, Tennessee and southern Virginia, apply TRIFLURALIN 4EC at the following broadcast rates:

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0 -1.5
Medium	1.5 - 2.0
Fine	2.0

**Exception:** Louisiana, where 3.0 pints/acre can be applied to fine soils.

Use higher rates in the rate range where high weed populations are anticipated.

**ADDITIONAL WEED AND GRASS CONTROL (GULF COAST COUNTIES OF TEXAS)**

Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment up to 2 weeks before planting.

**Broadcast Application Rates/acre:** For cotton grown in Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller, and Wharton counties of the Texas Gulf Coast, apply TRIFLURALIN 4EC at the following broadcast rates:

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5
Medium	2.0
Fine	3.0

**Rhizome Johnsongrass Control (For use in all cotton producing states except Arizona and California).**

Rhizome johnsongrass control with Trifluralin 4EC requires double application rates for 2 consecutive years. Commercially acceptable control cannot be obtained with only one year of double rate use of Trifluralin 4EC. Carefully follow all special use directions.

**Soil Preparation:** Satisfactory results are dependent upon proper preparation of soil prior to application. Chisel plow to bring rhizomes to the soil surface. Disc twice before application to chop rhizomes into small (2 to 3 inch) pieces and destroy any recently emerged johnsongrass plants.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	2.0
Medium	3.0
Fine	4.0



**Spring Application:** Apply TRIFLURALIN 4EC any time before planting in the spring for 2 years in succession.

**Fall Application:** Apply TRIFLURALIN 4EC between October 15 and December 31 for 2 years in succession.

**Incorporation:** Deep incorporation with a tandem disc is essential for good results. Set disc to operate 4 to 6 inches deep and operate at 4 to 6 mph. Two incorporation passes are necessary and the second should be in a different direction than the first.

**Cultivation:** Some Johnsongrass plants will not be controlled. Timely cultivation during the crop season is necessary to remove escaped plants and maintain commercially acceptable control.

**PRECAUTIONS:** In the season following a double rate treatment, plant only rice or those crops for which TRIFLURALIN 4EC can be applied as a pre-plant treatment or crop injury may occur.

#### **TANK MIXES, OVERLAY, AND POST-EMERGENCE TREATMENTS**

##### **TRIFLURALIN 4EC - in Tank Mix**

TRIFLURALIN 4EC may be tank mixed with Caparol, Cotoran, Zorial and other products registered for use on cotton as a pre-plant incorporated treatment to control additional weeds. Use the application rates for TRIFLURALIN 4EC recommended for cotton "TRIFLURALIN 4EC - Alone".

**PRECAUTION:** Refer to the tank mix product label for additional weeds controlled, application rates, additional use directions, precautions and limitations before use.

##### **TRIFLURALIN 4EC - Pre-plant Incorporated Followed by Overlay Treatments**

Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment. Additional weeds tolerant to TRIFLURALIN 4EC may be controlled using overlay pre-emergence applications of Cotoran, Karmex, Zorial or other products registered for use on cotton, unless use following TRIFLURALIN 4EC is specifically prohibited by the manufacturer. Consult the manufacturer's labels for additional weeds controlled, use directions, precautions, and limitations before use.

##### **TRIFLURALIN 4EC - Pre-plant Incorporated Followed by Post-emergence Treatments**

Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment. Additional weeds tolerant to TRIFLURALIN 4EC may be controlled using overlay post-emergence treatments of products registered for use on cotton, unless use following TRIFLURALIN 4EC is specifically prohibited by the manufacturer. Consult the manufacturer's labels for additional weeds controlled, use directions, precautions, and limitations before use.

#### **POST-EMERGENCE SOIL INCORPORATED APPLICATION FOR WEED CONTROL IN COTTON**

##### **(For distribution and Use in Texas, Oklahoma, and New Mexico)**

TRIFLURALIN 4EC may be applied to cotton as a post-emergence incorporated treatment from the 4-true leaf stage up to layby. Apply as a broadcast spray using ground or aerial equipment. A ground applied directed spray is recommended if cotton foliage prevents uniform coverage of the soil surface.

**Incorporation Directions:** TRIFLURALIN 4EC must be mechanically incorporated within 24 hours. Mechanical incorporation may be accomplished with one pass of 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 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	TRIFLURALIN 4EC (Pints/Acre)
Coarse	0.75 - 1.0
Medium	1.0 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter.

**PRECAUTIONS:** Do not apply within 90 days of harvest. treated soil may be shallow cultivated or rotary hoed without loss of herbicidal activity. To avoid bringing untreated soil to the surface and loss of weed control, do not cultivate deeper than the depth of incorporation.

**CUCURBITS - CANTALOUPE, CUCUMBER AND WATERMELON**

Apply TRIFLURALIN 4EC after emergence when plants have reached the 3 to 4 true leaf stage of growth. Apply as a directed spray to soil between the rows. Avoid foliage contact as slight crop injury may occur. Set incorporation equipment to move treated soil around the base of the plants.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**FLAX (Fall Applications Only)**

Apply and incorporate TRIFLURALIN 4EC in the fall for weed control in spring seeded flax. Incorporate once within 24 hours after application. The second incorporation may be performed in the spring prior to planting.

**SPECIAL INSTRUCTIONS FOR FLAX**

1. Incorporation operations or other tillage practices performed in the spring prior to seeding should be relatively shallow so as to maintain a firm seedbed, and the seedbed should be packed prior to seeding.
2. Seeding should be done with a press drill or hoe drill. Seed into moist seedbed and plant no more than 1.5 inches deep.
3. Delay seeding until soil has warmed sufficiently to allow rapid germination and establishment.
4. Refer to "General Use Precautions" in the "General Information" section of this label for information on growing conditions that can lead to crop injury or yield reduction.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	2.0

**FORAGE LEGUMES****FORAGE LEGUMES USED AS COVER CROPS OR IN THE ACREAGE CONSERVATION RESERVE PROGRAM**

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.0 - 1.5
Fine	1.5

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

**PRECAUTIONS:** If used under the Acreage Conservation reserve program, follow the most severe grazing restrictions imposed by the USDA Conservation Use Program. Consult the local ASCS committee or other state agency to determine the period of the USDA grazing restriction. Some crop stand reduction may occur with this use; however, reduced weed competition will allow establishment of a quality stand.

**GRAIN SORGHUM (MILO)****POST-EMERGENCE INCORPORATED TREATMENT**

Apply TRIFLURALIN 4EC as a directed or over-the-top spray when grain sorghum is 8 inches tall or taller. Drop nozzles should be used if foliage prevents uniform soil coverage.

**Soil Preparation:** Cultivate before application of TRIFLURALIN 4EC to remove established weeds and to cover the base of grain sorghum plants with soil. Cultivation equipment should be set to add approximately 1 inch of soil to the base of sorghum plants.

**Incorporation Directions:** Application of TRIFLURALIN 4EC must be mechanically incorporated within 24 hours after application. Mechanical incorporation may be accomplished with one pass of a sweep-type cultivator or properly adjusted rolling cultivator. Sweep-type cultivators should have 3 to 5 sweeps per row per middle and be operated at a speed that will 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	TRIFLURALIN 4EC (Pints/Acre)
Coarse	0.75 - 1.0
Medium	1.0 - 1.5
Fine	1.5 - 2.0

Apply TRIFLURALIN 4EC at lower rate in rate range in areas receiving less than 20 inches total rainfall and irrigation.

**Chemigation**

TRIFLURALIN 4EC may be applied through properly equipped chemigation systems for weed control in grain sorghum 8 inches tall or taller. Refer to "General Chemigation Directions" section of this label for chemigation use directions. Do not apply TRIFLURALIN 4EC through any irrigation system unless these directions are carefully followed.

**Soil Preparation:** Cultivate before application of TRIFLURALIN 4EC to destroy existing weeds and cover the base of the grain sorghum plants with soil. Cultivation equipment should be set to add approximately 1 inch of soil to the base of sorghum plants.

**Chemigation**

Application Timing: Apply TRIFLURALIN 4EC to grain sorghum in 0.5 to 1 acre inch of overhead sprinkler irrigation as soon as possible after a cultivation when grain sorghum is at least 8 inches tall. TRIFLURALIN 4EC must be applied prior to weed emergence or after existing weeds are controlled. TRIFLURALIN 4EC does not control established weeds.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	0.75 - 1.0
Medium	1.0 - 1.5
Fine	Do not apply TRIFLURALIN 4EC by chemigation to fine textured soils.

**PRECAUTIONS:** Do not apply TRIFLURALIN 4EC to grain sorghum as a pre-plant or pre-emergence treatment or crop injury will occur. Over-application may result in injury to grain sorghum.

**TRIFLURALIN 4EC plus Atrazine Tank Mix**

TRIFLURALIN 4EC may be applied in tank mix combination with atrazine plus an emulsifiable oil or oil concentrate when grain sorghum is 8 inches tall or taller and weeds are no more than 1-1/2 inches in height. A period of 24 to 48 hours is required to obtain post-emergence activity of atrazine after which the pre-emergence activity of the TRIFLURALIN 4EC plus atrazine combination may be activated by 0.5 inch or more of sprinkler irrigation or mechanical incorporation. Use application rates and incorporation methods for TRIFLURALIN 4EC recommended under "Post-emergence Incorporated Treatment" in the "Grain Sorghum (Milo)" section of this label.

**PRECAUTIONS:** Where grain sorghum is planted in a furrow, TRIFLURALIN 4EC should be applied only after cultivation to move soil into the row. Refer to the product label for atrazine for application rates, additional use directions, precautions and limitations before use.

**GREENS - TURNIP GREENS GROWN FOR PROCESSING: COLLARD, KALE AND MUSTARD GREENS**

Apply TRIFLURALIN 4EC to greens as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	1.5

Use 1.5 pints for soils with 2 - 10% organic matter.

**HOPS**

Apply and incorporate TRIFLURALIN 4EC to established crop during dormancy. Use incorporation equipment that will insure thorough soil mixing with minimal damage to crop stand.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5

Use 1.5 pints for soils with 2 - 10% organic matter.

**MUSTARD - GROWN FOR SEED OR PROCESSED FOR FOOD**

Apply TRIFLURALIN 4EC to mustard as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	1.5

Use 1.5 pints for soils with 2 - 10% organic matter.

**OKRA**

Apply TRIFLURALIN 4EC as a soil incorporated treatment before or immediately after planting. If applied and incorporated after planting, set equipment so as to not disturb the seed.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 to 10% organic matter. Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**ONIONS - GROWN FOR DRY BULBS ONLY**

Apply TRIFLURALIN 4EC to established onions as a soil incorporated treatment. Apply as a directed spray to soil between onion rows. Spray shields should be used to avoid injury to foliage or exposed bulbs. Do not apply within 60 days of harvest.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	0.75 - 1.0
Medium	1.0 - 1.25

Use lower rate in rate range in areas receiving less than 20 inches total rainfall and irrigation or where light weed pressure is anticipated.

**Incorporation:** Incorporate with 1 pass of a sweep-type or rolling cultivator. Set equipment to cut 2 to 4 inches deep and operate at 6 to 8 mph. Avoid covering exposed onion bulbs with treated soil during incorporation as crop injury may occur. Avoid injury to crop roots during incorporation.

**PRECAUTIONS:** When applied according to directions under normal growing conditions, TRIFLURALIN 4EC will not adversely affect onions. Diseases, improper incorporation depth, excessive moisture, high salt concentration or drought may weaken the crop and increase the possibility of damage from TRIFLURALIN 4EC. Under these conditions, delayed crop development or reduced yields may result.

#### PEAS - DRY PEA AND ENGLISH PEAS

##### TRIFLURALIN 4EC - Alone

Apply and incorporate TRIFLURALIN 4EC in the spring before planting or in the fall. refer to instructions for fall application under "Application Timing" section of this label.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC		
Soil Texture	Spring Application	Fall Application*
Coarse	1.0	1.0
Medium	1.0	1.25 - 1.5
Fine	1.5	1.5

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

\*TRIFLURALIN 4EC may be fall applied to Dry and English Peas in the states of Idaho, Oregon and Washington.

TRIFLURALIN 4EC plus Far-Go tank Mix (For Use in Idaho, Oregon, and Washington)

TRIFLURALIN 4EC may be tank mixed with Far-Go and applied as a pre-plant soil incorporated treatment to control wild oats in dry and English peas. Use application rates recommended for dry and English peas "TRIFLURALIN 4EC-Alone", above. Refer to the label for Far-Go for application rates, additional use directions, precautions, and limitations before use.

#### PEAS - SOUTHERN PEAS

Apply as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for all soils with 5 -10% organic matter. Use the lower rate in the rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**PEANUTS****TRIFLURALIN 4EC - Alone**

Spanish peanuts, Florunner and Florigiant Varieties (For Use in Texas, Oklahoma and New Mexico)  
Apply and incorporate TRIFLURALIN 4EC before planting, at planting or immediately after planting.  
When incorporating after planting, adjust equipment so as not to disturb planted seed.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5

**TRIFLURALIN 4EC plus Vernam Tank Mix**

Spanish Peanuts, Florunne, and Florigiant Varieties (For Use in Texas, Oklahoma and New Mexico)  
TRIFLURALIN 4EC may be tank mixed with Vernam and applied as a pre-plant incorporated treatment to control additional weeds. Use application rates recommended for peanuts "TRIFLURALIN 4EC-Alone" above. Refer to the label for Vernam for application rates, additional use directions, cautions and limitations before use.

**PEPPER (Transplant Only)**

Apply and incorporate TRIFLURALIN 4EC prior to transplanting.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

**POTATOES (Not for use in the State of Maine)****TRIFLURALIN 4EC - Alone**

Apply and incorporate TRIFLURALIN 4EC after planting prior to crop emergence, immediately following dragoff, or after potato plants have fully emerged.

**Incorporation:** 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 TRIFLURALIN 4EC 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	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

Use 1.5 pints for coarse and medium soils with 2 - 5% organic matter. Use 2.0 pints for fine soils with 2 - 5% organic matter. Use 2.0 pints for soils with 5 - 10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

#### CHEMIGATION

TRIFLURALIN 4EC may be applied through properly equipped chemigation systems for weed control in potatoes. Refer to "General Chemigation Directions" section of this label. Do not apply TRIFLURALIN 4EC through any type of irrigation system unless these directions are carefully followed.

Apply TRIFLURALIN 4EC to potatoes in 0.5 to 1 acre inch of overhead sprinkler irrigation after planting, before emergence, or immediately following dragoff or after the potato plants have fully emerged. Existing weeds must be destroyed by tillage or cultivation prior to application of TRIFLURALIN 4EC. TRIFLURALIN 4EC does not control established weeds. Incorporation is not necessary when TRIFLURALIN 4EC is applied by chemigation.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	Do not apply TRIFLURALIN 4EC by chemigation to fine textured soils.

#### PRECAUTION

If cultivation is required after treatment with TRIFLURALIN 4EC, avoid complete covering potato plants with treated soil. Erratic weed control may result if cultivation exposes untreated soil between rows.

#### TRIFLURALIN 4EC In Tank Mix

##### TRIFLURALIN 4EC plus Eptam Tank Mix - Post Plant Pre-emergence Treatment

TRIFLURALIN 4EC may be tank mixed with Eptam and applied as a soil incorporated treatment to control additional weeds. Apply after planting, but before crop emergence. In areas where potatoes are normally dragged off, apply and incorporate up to or immediately following drag off. Use application rate recommended to potatoes "TRIFLURALIN 4EC - Alone". Refer to the label for Eptam for application rates, additional use directions, precautions and limitations before use.



**RADISH**

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	1.5

**RAPESEED (CANOLA)**

Apply and incorporate TRIFLURALIN 4EC in the spring before planting or in fall. See instructions for fall application under "Application Timing" section of this label.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	2.0

Precaution: Do not apply TRIFLURALIN 4EC to rapeseed (canola) grown in the state of Alaska.

**SAFFLOWER**

Apply and incorporate TRIFLURALIN 4EC in the spring before planting or in fall. See instructions for fall application under "Application Timing" section of this label.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC		
Soil Texture	Spring Application (Pints/Acre)	Fall Application* (Pints/Acre)
Coarse	1.0	1.5
Medium	1.25 - 1.5	2.0
Fine	1.5 - 2.0	2.5

Coarse and medium soils with 2% to 5% organic matter - 1.5 pints

Fine soils with 2% to 5% organic matter - 2.0 pints

Soils with 5% to 10% organic matter - 2.5 pints

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

\*TRIFLURALIN 4EC may be fall applied to safflower in the states of Arizona, California, Idaho, Nevada, Oregon, Utah, Washington and Wyoming

**SMALL GRAINS - BARLEY, DURUM AND WHEAT****Special Precautions for Use of TRIFLURALIN 4EC on Small Grains**

Carefully follow directions for use of TRIFLURALIN 4EC on small grains to minimize potential crop stress. Under certain conditions, delayed crop emergence and or stand and reduction may occur when TRIFLURALIN 4EC is applied to barley, durum or wheat. The combined effect of certain cultural practices and unfavorable soil or environmental conditions may cause excessive crop seedling stress resulting in retarded crop growth, stand reduction and possible 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, friable seedbeds. Do not exceed recommended application rates for TRIFLURALIN 4EC. This is particularly important on coarse textured or low organic matter soils.

Carefully follow incorporation directions. When applying pre-plant incorporated treatments, operate equipment at recommended depth and speed to place TRIFLURALIN 4EC into the upper 1 to 1.5 inches of soil. If applied after planting, set equipment so as to not disturb planted seed. Set drills to place seed at a 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 TRIFLURALIN 4EC 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.

Do not fall apply TRIFLURALIN 4EC in combination with any other pre-plant incorporated herbicide.

Soil characteristics and environmental conditions which may contribute to crop seedling stress that may be accentuated by use of TRIFLURALIN 4EC include:

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

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

**Note:** Do not apply TRIFLURALIN 4EC on small grains where a dinitroaniline herbicide such as TRIFLURALIN 4EC was applied at a rate recommended for row crops (oil seeds) during the previous growing season.

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

**Barley, Spring Seeded – Spring Application Pre-plant Incorporated for Foxtail (Pigeongrass) Control (For Use In Minnesota, North Dakota and South Dakota)** Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment prior to planting spring seeded barley. TRIFLURALIN 4EC may be applied to ground that has a manageable trash level or has been fallowed or preilled. The first incorporation is required within 24 hours after application.

The second incorporation is required prior to planting to destroy emerged weeds and insure even distribution of TRIFLURALIN 4EC in the soil surface.

**Broadcast Application Rates/Acre:** Apply at a rate of 1.0 pint per acre for all soil textures regardless of organic matter content.

**Incorporation:** "Recommended incorporation tools include the chisel plow (first incorporation pass only), tandem disc and field cultivator. Refer to "Incorporation Equipment" section of this label for details on operation of incorporation equipment.

**Planting Directions:** Barley should be seeded approximately 2 inches deep.

#### **Precautions:**

Carefully read and follow "Special Precautions for Use of TRIFLURALIN 4EC in Small Grains" before application of TRIFLURALIN 4EC. While use of weed control practice may result in a stand reduction, slight stand reductions do not normally affect yield.

**Barley, Spring Seeded – Spring Application Pre-plant Incorporated for Foxtail (Pigeongrass) Control in Barley Used as a Cover Crop or in the Conservation Reserve Program**

Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment prior to planting spring seeded barley on land enrolled in acreage conservation reserve programs. Follow recommended soil preparation, application and incorporation procedures for TRIFLURALIN 4EC.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.5
Fine	1.5

**Planting Directions:** Barley should be seeded approximately 2 inches deep.

**Precautions:** Use of this weed control practice may result in slight stand reduction. Follow the most severe grazing restrictions imposed either by the label for TRIFLURALIN 4EC or by the USDA Acreage Conservation Reserve Program, whichever is longest. Consult the local ASCS office or other state agency to determine the period of USDA grazing restriction.

**Winter Wheat – Pre-plant Incorporated for Control of Cheatgrass and Other Annual Grasses and Broadleaves (For Use In Idaho, Oregon and Washington)**

Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment for control of downy brome (cheatgrass), annual ryegrass, annual bluegrass, pacific meadow foxtail (blackgrass), henbit and fiddleneck (tarweed). The growth, development and yield of winter wheat will not be adversely affected, provided the seed is placed below the zone of soil treated with TRIFLURALIN 4EC. TRIFLURALIN 4EC may be applied for up to 3 weeks before planting.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5
Medium	1.5
Fine	2.0

**Incorporation Directions:** Incorporate TRIFLURALIN 4EC with a flexible tine-tooth harrow (Flextine or Melroe) set to cut 1 to 2 inches deep and operate at 3 to 6 mph. Incorporate once within 24 hours after application and a second time in a different direction from the first prior to planting. Do not till the soil with a disc after TRIFLURALIN 4EC 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 of soil treated with TRIFLURALIN 4EC.

**Precautions:**

Carefully read and follow "Special Precautions for Use of TRIFLURALIN 4EC in Small Grains" before application of TRIFLURALIN 4EC. Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and development.

**Winter Wheat - - Post Plant Incorporated Treatment****(For Use In Idaho, Oregon and Washington)**

Apply and incorporate TRIFLURALIN 4EC after planting, but before emergence, to control the following weeds susceptible to TRIFLURALIN 4EC in winter wheat: annual ryegrass, annual bluegrass, downy brome (cheatgrass), pacific meadow foxtail (blackgrass), fiddle neck (tarweed) and henbit.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0 - 1.5
Medium	1.5

**Planting Directions:** Plant wheat 2 to 3 inches deep in a well-tilled seedbed. Do not use a deep or semi-deep furrow drill..

**Incorporation Directions:** Incorporate TRIFLURALIN 4EC using 2 passes with a flex-tine or spike-tooth harrow operated at least 5 mph. The second incorporation pass should be in a different direction than the first. Set equipment to cut 1 to 1-1/2 inches deep and avoid disturbing seed. Application and first incorporation should be done in the same operation if possible. Both incorporation's must be done within 24 hours.

**Precautions:**

Carefully read and follow "Special Precautions for Use of TRIFLURALIN 4EC in Small Grains" before application of TRIFLURALIN 4EC. Wheat seed in direct contact with treated soil may suffer crop injury in the form of delayed emergence and development. If less than 20 inches of rainfall plus irrigation was received between planting and harvest, refer to rotation crop restrictions before planting sorghum or oats.

**Winter Wheat - Fallow Soil Application Prior to Planting (For Use In Idaho, Oregon and Washington)**

TRIFLURALIN 4EC may be applied and shallowly incorporated into fallow soil up to 4 months before planting wheat to control cheatgrass and certain annual grasses and broadleaf weeds. Apply TRIFLURALIN 4EC any time from May to September prior to fall planting or winter wheat. Wheat growth, development and yield will not be adversely affected so long as the seed is placed below the zone of soil treated with TRIFLURALIN 4EC.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5
Medium	1.5
Fine	2.0

**Incorporation Directions:** Incorporate TRIFLURALIN 4EC with a flexible tine-tooth harrow (Flextine or Melroe) set to cut 1 to 2 inches deep and operate at 3 to 6 mph. Incorporate once within 24 hours after application and a second time in a different direction from the first prior to planting. Do not till the soil with a disc after TRIFLURALIN 4EC 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 zero of soil treated with TRIFLURALIN 4EC.

**PRECAUTIONS:** Carefully read and follow "Special Precautions for Use of TRIFLURALIN 4EC in Small Grains" before application of TRIFLURALIN 4EC. Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and development.

**SPRING WHEAT, DURUM AND BARLEY - POST-PLANT INCORPORATED FOR FOXTAIL (PIGEONGRASS) CONTROL**

Apply and incorporate TRIFLURALIN 4EC after planting, but before emergence to control foxtail (pigeongrass) in spring wheat, durum and barley. TRIFLURALIN 4EC may be tank mixed with Far-Go to control wild oats. Refer to the label for Far-Go for application rates, additional use direction, precautions and limitations before use.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.0
Fine	1.5

**Planting Directions:** Plant wheat 2 to 3 inches deep in a well-tilled seedbed.

**Incorporation Directions:** Incorporate TRIFLURALIN 4EC using 2 passes with a flex-tine or diamond harrow operated at least 5 mph. The second incorporation pass should be in a different direction than the first. Set equipment to cut 1 to 1.5 inches deep and avoid disturbing seed. Application and first incorporation should be done in the same operation if possible. Both incorporation's must be done within 24 hours.

**PRECAUTIONS:** Carefully read and follow "Special Precautions for Use of TRIFLURALIN 4EC in Small Grains" before application of TRIFLURALIN 4EC. Wheat seed in direct contact with treated soil may suffer crop injury in the form of delayed emergence and development.

**SOYBEANS**

**TRIFLURALIN 4EC - Alone**

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment. TRIFLURALIN 4EC may also be applied in the fall. See instructions for fall application under "Application Timing" section of this label.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC		
Soil Texture	Spring Application (Pints/Acre)	Fall Application (Pints/Acre)
Coarse	1.0	2.0
Medium	1.5	2.0
Fine	2.0	2.5

Use 1.5 pints for coarse and medium soils with 2% to 5% organic matter. Use 2.0 pints for fine soil with 2% to 5% organic matter. Use 2.0 to 2.5 pints for soils with 5% to 10% organic matter.

**Fall Application Rates for States Including:** Alabama, Arkansas, Northern Florida, Georgia, Louisiana, Mississippi, Southeastern Missouri (Bootheel), North Carolina, Oklahoma, South Carolina, Tennessee and Texas.

For soybeans grown in states other than those listed above, fall apply TRIFLURALIN 4EC at broadcast rates recommended for normal pre-plant incorporated treatment.

**PRECAUTIONS:** Soybeans should be planted after early season adverse weather conditions have passed, especially when using higher rate programs. Cool, wet weather early in the growth cycle causes additional stress on the soybean plant which may result in reduced stand, delayed maturity and reduced yield.

#### CHEMIGATION

TRIFLURALIN 4EC may be applied through properly equipped chemigation systems for weed control in soybeans. Refer to "General Chemigation Directions" section of this label for use directions for chemigation. Do not apply TRIFLURALIN 4EC through any irrigation system unless these directions are carefully followed.

Apply TRIFLURALIN 4EC in sprinkler irrigation equal to 0.5 to 1 inch of water. Planting and application should occur as soon as possible after the last tillage operation. TRIFLURALIN 4EC must be applied within 2 days after planting and prior to crop emergence. TRIFLURALIN 4EC does not control established weeds. Soil incorporation is not required when TRIFLURALIN 4EC is applied through chemigation systems.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5 to 2.0
Medium	1.5 to 2.0
Fine	2.0 to 2.5

Use 2.0 pints for soil with 2% to 5% organic matter. Use 2.0 to 2.5 pints for soil with 5% to 10% organic matter.

#### CULTIVATION

Soil treated by chemigation with TRIFLURALIN 4EC may be shallow cultivated without reducing weed control activity.

#### SPECIAL USE PROGRAMS

**Fall Panicum Control:** Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment at a broadcast rate of 2.0 pints/acre on coarse and medium soils.

**Pigweed and Seedling Johnsongrass Control:** Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment.

**Broadcast Application Rates/Acre:** In Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Mississippi, Missouri, Nebraska, North Carolina, Oklahoma, Southern Carolina, Tennessee, and southern Virginia, apply TRIFLURALIN 4EC at the following broadcast rates:

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0 to 1.5
Medium	1.5 to 2.0
Fine	2.0 to 2.5

Exception: Louisiana apply 3.0 pints/acre on fine soils.

**Additional Weed and Grass Control (Gulf Coast Counties of Texas):** Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment up to 2 weeks before planting.

**Broadcast Application Rates/Acre:** For soybeans grown in Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller and Wharton counties of the Texas Gulf Coast, apply TRIFLURALIN 4EC at the following broadcast rates:

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5
Medium	2.0
Fine	3.0

**Itchgrass (Raoulagrass) Suppression:** Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment or at layby.

**Layby Treatment:** Cultivate to remove existing weeds and treat when soybeans are well established (10 inches tall). Apply a directed spray to the soil surface and incorporate using a rolling cultivator set to cut 2 to 4 inches deep or sweep-type cultivator with 3 to 5 sweeps per row middle operated 2 to 3 inches deep. Set incorporation equipment to throw treated soil to the row.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC		
Soil Texture	Pre-plant Incorporated	Layby Application
Medium	3.0	1.0
Fine	3.0	2.0

**Charcoal Soils In Arkansas, Louisiana and Mississippi:** Newly cleared land often contains high organic matter (5% to 10%) and charcoal from burning debris. Charcoal and organic matter tends to bind TRIFLURALIN 4EC and reduce weed control activity. Under these conditions, higher rates of TRIFLURALIN 4EC are necessary for weed control. Increased rates, however can cause crop injury if charcoal or organic matter is not present to bind some of the TRIFLURALIN 4EC. In the burn row a high level of charcoal is usually present. Consequently, poor weed control may result, even if an increased rate of TRIFLURALIN 4EC is used. Follow recommended application and incorporation procedures for TRIFLURALIN 4EC.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5 to 2.5
Medium	2.5
Fine	3.0

**Red Rice Control in Arkansas, Louisiana, Mississippi, and Texas Only:** Suppression or partial control of red rice can be obtained from a 2 year treatment program which consists of a double rate application the first year followed by application in the second year at normal rates indicated for soil texture, organic matter or charcoal content. Apply and incorporate TRIFLURALIN 4EC in the spring before planting. Follow recommended soil preparation and incorporation procedures for TRIFLURALIN 4EC.

BROADCAST APPLICATION RATES/ACRE TRIFLURALIN 4EC		
Soil Texture	Application Year 1 (Pints/Acre)	Application Year 2 (Pints/Acre)
Coarse	2.0	1.0
Medium	3.0	1.5
Fine	4.0	2.0
Coarse Soils w/ 2% to 5% organic matter	3.0	1.5
Soils with 5% to 10% organic matter	4.0	2.0 to 2.5

In Arkansas, Louisiana and Mississippi, if a combination of high soil organic matter (5% to 10%) and charcoal are present, apply TRIFLURALIN 4EC at the following broadcast rates:

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.5 to 2.5
Medium	2.5
Fine	3.0

For more information on charcoal soils see discussion in preceding section.

**PRECAUTION (Crop Rotation):** The recommendation for red rice control in soybeans is a 2-year program. In the first year following a double rate application, plant only soybeans. during the second year, after applying TRIFLURALIN 4EC at the normal rate indicated for soil texture and charcoal level, plant only those crops for which TRIFLURALIN 4EC is registered as a pre-plant treatment or crop injury may result. Rice may be planted during the third year following application of normal use rates in year two.

**Rhizome Johnsongrass Control In Eastern United States and the State of Texas:** Rhizome johnsongrass control with TRIFLURALIN 4EC requires double rate application for two consecutive years. Commercially acceptable control cannot be obtained with only one year of double rate use of TRIFLURALIN 4EC. Carefully follow the special use directions which follow.

**Soil Preparation:** Satisfactory results are dependent upon proper soil preparation prior to application. Chisel plow to bring rhizomes to the soil surface. Disc twice before application to chop rhizomes into small (2 to 3 inch) pieces and destroy any recently emerged johnsongrass plants.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	2.0
Medium	3.0
Fine	4.0

Use 3.0 pints for coarse soils with 2% to 5% organic matter. Use 4.0 pints for soils with 5% to 10% organic matter.



**Spring Application:** Apply TRIFLURALIN 4EC any time before planting in the spring for two consecutive years.

**Fall Application:** Apply TRIFLURALIN 4EC after October 15 for two consecutive years

**Split Application:** Apply TRIFLURALIN 4EC at the broadcast rates indicated in the following table both spring and fall for 2 consecutive years.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC FALL + SPRING (Pints/Acre)
Coarse	1.0 + 1.0
Medium	1.5 + 1.5
Fine	2.0 + 2.0
Coarse Soils with 2% to 5% organic matter	1.5 + 1.5
Soils with 5% to 10% organic matter	2.0 + 2.0

**Incorporation:** Deep incorporation with a tandem disc is essential for good results. Set disc to operate 4 to 6 inches deep and operate at 4 to 6 mph. Two incorporation passes are necessary and the second should be in a different direction than the first.

**Cultivation:** Some johnsongrass plants will not be controlled. Timely cultivation during the crop season is necessary to remove escaped plants and maintain commercially acceptable control.

**PRECAUTIONS:** In the season following a double rate treatment, plant only rice and those crops to which TRIFLURALIN 4EC can be applied as a pre-plant or crop injury may result.

**Rhizome Johnsongrass Control with TRIFLURALIN 4EC plus Sencor or TRIFLURALIN 4EC plus Lexone Tank Mix:** Rhizome johngrass control with TRIFLURALIN 4EC plus Sencor or Lexone requires application for two consecutive years. Apply TRIFLURALIN 4EC plus Sencor or Lexone as a pre-plant incorporated treatment up to two weeks before planting. This tank mix controls weed susceptible to TRIFLURALIN 4EC plus additional weeds listed on the label for Sencor or Lexone.

**Application Rates:** See rate recommendations above for "Rhizome Johnsongrass Control in Eastern United States and the State of Texas". Use application rates for soybeans in the label for Sencor or Lexone.

**PRECAUTION:** Refer to the label for Sencor or Lexone for application rates, additional use directions, precautions and limitations prior to applying TRIFLURALIN 4EC plus Sencor or Lexone tank mix. Carefully follow all use precautions on the labels for Sencor or Lexone.

#### WILD CANE (SHATTERCANE) CONTROL

Follow recommended soil preparation and application procedures for TRIFLURALIN 4EC. Wild cane (shattercane) can germinate throughout the growing season and from greater soil depth than most other weed seeds. Commercially acceptable control of wild cane can be obtained by using increased rates of TRIFLURALIN 4EC.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	2.0
Fine	2.5

**Incorporation:** Deep incorporation with a tandem disc is essential for good wild cane control. Incorporate TRIFLURALIN 4EC thoroughly with a disc set to cut 4 to 6 inches deep and operate at 4 to 6 mph. Two incorporation passes are necessary with the second in a different direction than the first.

**Cultivation:** Cultivation during the growing season will improve shattercane control.

#### **Tank Mix, Overlay and Post-emergence Recommendations**

##### **TRIFLURALIN 4EC - In Tank Mix**

TRIFLURALIN 4EC may be mixed with Sencor, Lexone, Canopy, Lasso, Dual, Preview or Vernam and applied as a pre-plant soil incorporated treatment to control additional weeds in soybeans. Refer to the tank mix product label for weeds controlled, application rates, additional use directions, precautions and limitations before use.

**TRIFLURALIN 4EC plus Command (Reduced Rate) and TRIFLURALIN 4EC plus Command and Lexone or TRIFLURALIN 4EC plus Command and Sencor Tank Mixes (Not For Use In California):** TRIFLURALIN 4EC may be tank mixed with Command, Command plus Lexone or Command plus Sencor. Apply the tank mix as a pre-plant incorporated treatment up to 3 weeks before planting.

**NOTE:** The use of an agriculturally approved drift reducing additive is required at finished spray volumes of 10 to 15 gallons/acre. Use nozzles suitable for broadcast boom application of herbicides. Coarse sprays are less likely to drift out of the target area than fine sprays. Application to overly moist or wet soils will increase the potential for off-site movement of Command vapors and may result in poor soil incorporation and unsatisfactory weed control. These directions must be followed to reduce the potential for off-site movement of Command vapors and potential injury to desirable vegetation including adjacent crops, trees and ornamentals.

**Incorporation:** Tank mixes containing Command must be incorporated immediately after application. Follow other soil preparation, application and incorporation procedures for TRIFLURALIN 4EC.

**TRIFLURALIN 4EC plus Command:** Use the TRIFLURALIN 4EC plus Command tank mix to control velvetleaf and weeds susceptible to TRIFLURALIN 4EC. Control of jimsonweed, annual morning-glory, prickly sida, common ragweed, smartweed and venice mallow 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.

<b>BROADCAST APPLICATION RATES/ACRE</b>		
<b>Soil Texture</b>	<b>TRIFLURALIN 4EC (Pints/Acre)</b>	<b>Command 4 E. C. (Pints/Acre)</b>
Coarse	1.0	0.75
Medium	1.5	1.12
Fine	2.0	1.5

**TRIFLURALIN 4EC plus Command and Lexone or TRIFLURALIN 4EC plus Command and Sencor:** Use the TRIFLURALIN 4EC plus Command and Lexone or Sencor tank mix to control weeds susceptible to TRIFLURALIN 4EC plus additional weeds listed on the labels for Command and Lexone or Sencor.

TRIFLURALIN 4EC plus Command and Lexone or Sencor also provides partial control or suppression of cocklebur, annual morning-glory and giant ragweed. Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed seed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

BROADCAST APPLICATION RATES/ACRE				
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)	Command 4EC (Pints/Acre)	Lexone 4L or Sencor 4 (Pints/Acre)	Lexone or Sencor DF (Pounds/Acre)
Coarse	1.0	0.5	0.33 to 0.5 <sup>1</sup>	0.25 to 0.33 <sup>1</sup>
Medium	1.5	0.75	0.5 to 0.75	0.33 to 0.5
Fine	2.0	1.12	0.75 to 1.0	0.5 to 0.67

<sup>1</sup> Use the higher rate range in areas where weed populations are dense, for control of venice mallow and wild mustard, and for best control of common cocklebur, annual morning-glory and giant ragweed.

**PRECAUTIONS:** Off-site movement of spray drift or vapors of Command can cause foliar whitening or yellowing of adjacent crops, trees and ornamental plants which is usually temporary in nature but can result in permanent injury or death of the plants if the exposure is excessive. Prior to making application of this product, read and strictly follow all precautions, rotational crop guidelines and application instructions on the label for Command. Refer to the label for Lexone and Sencor for additional use directions, precautions and limitations before applying TRIFLURALIN 4EC plus Lexone or TRIFLURALIN 4EC plus Sencor tank mix.

#### PRE-PLANT INCORPORATED FOLLOWED BY OVERLAY TREATMENTS (Not For Use In California)

Apply TRIFLURALIN 4EC as a pre-plant soil incorporated treatment. Additional weeds tolerant to TRIFLURALIN 4EC may be controlled using overlay pre-emergence applications of Canopy, Dual, Gemini, Lasso, Lexone, Lorox, Lorox plus, Preview, Pursuit<sup>1</sup>, Scepter<sup>2</sup> or Sencor or other products registered for pre-emergence use on soybeans, unless use following TRIFLURALIN 4EC is specifically prohibited by the manufacturer. Consult the manufacturer's labels for application rates, additional weeds controlled, additional use directions and precautions before use.

<sup>1</sup> The use of Pursuit is limited to certain states. Use Pursuit as an overlay treatment following TRIFLURALIN 4EC only in states specified on the label for Pursuit.

<sup>2</sup> Use of Scepter is limited to certain states. Do not use the overlay pre-emergence application with Scepter following a pre-plant incorporated treatment with TRIFLURALIN 4EC in the "Northern Use Area" as defined by the label for Scepter.

#### PRE-PLANT INCORPORATED FOLLOWED BY POST-EMERGENCE TREATMENTS (Not For Use In California)

Apply TRIFLURALIN 4EC as a pre-plant incorporated treatment. Additional weeds tolerant to TRIFLURALIN 4EC may be controlled using post-emergence applications of Basagran, Blazer, Classic, Cobra, Galaxy, Pinnacle, Pursuit<sup>1</sup>, Reflex, Scepter<sup>2</sup>, Storm, or Tackle or other products registered for post-emergence use on Soybeans, unless use following TRIFLURALIN 4EC is prohibited by the manufacturer. Consult the manufacturer's labels for application rates, additional weeds controlled, additional use directions, precautions and limitations before use.

<sup>1</sup> Use of Pursuit is limited to certain states. Use Pursuit as a post-emergence treatment following TRIFLURALIN 4EC only in states specified in the label for Pursuit.

<sup>2</sup> Use of Scepter is limited to certain states. Do not use Scepter as a post-emergence application following a pre-plant incorporated treatment with TRIFLURALIN 4EC in the "Northern Use Area" as defined by the label for Scepter.

**SUGAR BEETS****TRIFLURALIN 4EC - ALONE**

Apply TRIFLURALIN 4EC as an over-the-top spray and incorporate. Apply from the time the first true leaves have formed until plants are 6 inches tall.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 to 1.5
Fine	1.25 to 1.5

**Incorporation:** Set incorporation equipment to move treated soil around the plants in the row. Avoid damage to the sugar beet taproot from incorporation equipment.

**PRECAUTION:** Exposed beet roots should be covered with soil before application of TRIFLURALIN 4EC to reduce the possibility of girdling.

**Incorporation with a Tine-Tooth Harrow (For Use In California, Colorado, Idaho, Nebraska, Oregon, Texas, Utah, Washington and Wyoming):** A tine-tooth harrow (Flextine or Melroe) can be used to incorporate TRIFLURALIN 4EC in sugar beets. Incorporation with tine-tooth harrow requires 2 passes in opposite directions over the same set of rows. Set the harrow to cut 1 to 2 inches deep and operate at 3 to 6 mph. Set incorporation equipment carefully to void damage to sugar beet tap root. Use application procedures and broadcast application rates recommended in preceding section.

**TRIFLURALIN 4EC plus Eptam Tank Mix:** TRIFLURALIN 4EC may be tank mixed with Eptam and applied as an over-the-top spray followed by incorporation to control additional weeds. Use application rates recommended for sugar beets "TRIFLURALIN 4EC - Alone", above. Refer to the label for Eptam for weeds controlled, application rates, additional use directions, precautions and limitations before use.

**SUGARCANE**

**TRIFLURALIN 4EC - Alone:** Apply and incorporate TRIFLURALIN 4EC twice a year. Make the first application of TRIFLURALIN 4EC in the fall on firmly packed beds immediately after the seed pieces are planted. Make the second application of TRIFLURALIN 4EC in the spring before or shortly after the cane emerges. Loosen rain-packed beds 2 to 3 inches deep before the spring application. Take care that incorporation equipment does not damage the seed pieces or emerging shoots.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Textures	2.0 to 4.0 <sup>1</sup>

<sup>1</sup> Application rate within rate range may be adjusted according to weed pressure.

**Post-plant Application for Control of Most Annual Grasses, Including Guineagrass (For Use In Hawaii):** Surface apply TRIFLURALIN 4EC after planting (for plant cane) or after harvesting (for ratoon cane). For best results in plant cane, the soil surface should be smooth and finely tilled. Apply TRIFLURALIN 4EC as soon as possible after tillage and planting before germination and emergence of grass weeds. For optimum efficacy in ratoon cane, minimize surface residue from previous crop before applying. Apply TRIFLURALIN 4EC just before anticipated rainfall in non-irrigated and furrow-irrigated sugarcane. Irrigate as soon as possible after applying in drip-irrigated or sprinkle-irrigated sugarcane to activate TRIFLURALIN 4EC.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Textures	6.0 to 8.0

**Application Up to Layby for Plant Cane or Ratoon Cane (For Use In Louisiana and Texas):** Apply and incorporate TRIFLURALIN 4EC in spring from shortly before or after cane emergence until layby. 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 4 to 6 mph. Two incorporation passes are necessary.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Textures	2.0 to 4.0 <sup>1</sup>

<sup>1</sup> Application rate within rate range may be adjusted according to weed pressure.

**Itchgrass (Raoulgrass) Control (For Use In Louisiana):** Apply and incorporate TRIFLURALIN 4EC on plant or ratoon cane. Follow use directions in preceding section for layby application.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Textures	2.0 to 4.0

**SUNFLOWER**

**TRIFLURALIN 4EC - Alone:** Apply and incorporate TRIFLURALIN 4EC in the spring before planting or in the fall. See instructions for fall application under "Application Timing" section of this label.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 to 1.5
Fine	1.5 to 2.0

Use 1.5 to 2.0 pints for coarse and medium soils with 2% to 5% organic matter. Use 2.0 pints for fine soils with 2% to 5% organic matter. Use 2.0 pints for soils with 5% to 10% organic matter. Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

**TRIFLURALIN 4EC plus Eptam Tank Mix:** TRIFLURALIN 4EC may be tank mixed with Eptam and applied as a pre-plant incorporated treatment to control additional weeds in sunflowers in Minnesota, North Dakota and South Dakota. Refer to the label for Eptam for application rates, additional use directions, precautions and limitations before use.

**TOMATO**

Apply to direct-seeded tomato as a directed spray between rows and beneath plants and incorporate at the time of blocking or thinning. For transplant tomato, apply and incorporate before transplanting. Do not apply after transplanting.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 to 1.5
Fine	1.5 to 2.0

Use 1.5 pints for coarse and medium soils with 2% to 5% organic matter. Use 2.0 pints for fine soils with 2% to 5% organic matter. Use 2.0 pints for soils with 5% to 10% organic matter. Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

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

Application to New Plantings of Citrus, Fruit and Nut Crops: For new plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine and walnut trees, apply and incorporate TRIFLURALIN 4EC before planting.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0
Medium	1.25 to 1.5
Fine	1.5 to 2.0

Use 1.5 to 2.0 pints for all soils with 2% to 5% organic matter. Use 2.0 pints for all soils with 5% to 10% organic matter. Use lower rate in rate range in areas receiving less than 20 inches total rainfall and irrigation.

Application to New Plantings of Vineyards: For new plantings of vineyards, apply and incorporate TRIFLURALIN 4EC before planting.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
Coarse	1.0 to 1.5
Medium	1.5 to 3.0
Fine	3.0 to 4.0

Use 4.0 pints for soils with 2% to 10% organic matter. Use lower rate in rate range in areas receiving less than 20 inches total rainfall and irrigation.

NOTE: Do not use more than 2.0 pints/acre on heat-treated grape rootings.

Application to Established Non-bearing and Bearing Citrus, Fruit and Nut Crops and Vineyards: TRIFLURALIN 4EC 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 TRIFLURALIN 4EC as a directed spray to the soil and use incorporation methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Soil Textures	2.0 to 4.0

Application rate within the rate range may be adjusted according to weed pressure.

**Rhizome Johnsongrass Control - Special Two-year Use Program:** TRIFLURALIN 4EC may be applied for two consecutive years in a special use program to control rhizome johnsongrass in established vineyards and plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, tangelo, tangerine and walnut trees. Do not apply to vineyards within 60 days of harvest.

**Soil Preparation:** Work the soil thoroughly to move rhizomes near the soil surface and cut them into smaller pieces.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Soil Textures	4.0

**Incorporation:** Incorporate TRIFLURALIN 4EC thoroughly with a disc set to cut 4 to 6 inches deep and operate 4 to 6 mph. Two incorporation passes are necessary, with a second pass in a different direction from the first.

**Cultivation:** Some johnsongrass plants will escape. Timely cultivation's are necessary to obtain commercially acceptable control. Commercially acceptable control cannot be obtained with only a single year use of TRIFLURALIN 4EC.

**PRECAUTIONS:** Do not use 4 pint rate on new plantings or crop injury may result. Do not interplant orchards or vineyards with other crops. If treated vineyards and orchards are diverted to other crop uses, then in the next cropping season plant only those crops for which TRIFLURALIN 4EC has been registered as a pre-plant incorporated treatment.

**Bindweed Control in California:** TRIFLURALIN 4EC can be applied using a specially equipped spray blade for the control of field bindweed in vineyards and in plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, tangelo, tangerine and walnut trees.

**Soil Preparation:** Destroy existing weeds with soil tillage before apply TRIFLURALIN 4EC. Thorough tillage is necessary to prevent trash from interfering with operation of the spray blade.

**Equipment:** Application requires a spray blade capable of operation at 4 to 6 inches below the soil surface. The blade should be equipped with nozzles located under the blade and directed so as to allow spray to be trapped in a thin layer as the blade is pulled through the soil. Use a nozzle spacing sufficient to insure application of a uniform horizontal layer.

**Application:** Apply TRIFLURALIN 4EC in 40 to 80 gallons of water per acre. Operate blade at a depth of 4 to 6 inches.

BROADCAST APPLICATION RATES/ACRE	
Soil Texture	TRIFLURALIN 4EC (Pints/Acre)
All Soil Textures	4.0



**PRECAUTIONS:** Some soils may develop cracks as they dry after rainfall or irrigation. Field bindweed may emerge if the cracks extend through the layer of TRIFLURALIN 4EC. Prevent or eliminate cracks by shallow discing or other tillage. Avoid deep tillage which disturbs the sub-surface layer. Cultivation or tillage also aids the control of germinating seeds.

**STORAGE AND DISPOSAL**

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

**STORAGE:** Store in original container only. Avoid freezing. Store above 40° F. If frozen, poor weed control may result. Do not store near heat or flame. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

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

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

**BULK/MINI BULK TANK CLEANING:** Triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

**WARRANTY - CONDITION OF SALE**

Drexel warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Drexel makes no other express or implied warranty of merchantability or fitness for a particular purpose or any other express or implied warranty.

It is impossible to eliminate all risks associated with the use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Drexel Chemical Company or the Seller. All such risks shall be assumed by Buyer.