1386-609

07/12/2005

1/35

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

JUL 12 2005

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Ms. Nik Ramswick
Regulatory Affairs
Universal Cooperatives, Inc.
1300 Corporate Center Curve
Eagan, MN 55121

Dear Ms. Ramswick:

Subject: Trifluralin 4EC Herbicide
EPA Registration No. 1386-609
Application and Your Letter Dated April 29, 2005, Request To Amend Registration by Amending the Basic Confidntial Statement of Formula as Reflected on a Confidential Statement of Formula (CSF), on EPA Form 8570-4 and Dated October 4, 2004; Resubmission of Labeling To Reflect Amended Confidential Statement of Formula with Revised Signal Word, Precautionary Statements, First Aid Statements, Personal Protective Equipment, User Safety Recommendatons, Environmental Hazards and Agricultural Use Requirements

The subject application to amend the registration of "Trifluralin 4EC Herbicide" by revising the basic CSF has been reviewed and found acceptable as an amendment under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended. A copy of the new basic CSF dated October 4, 2004 has been placed in this Agency's files for this pesticide product registration. **This new CSF replaces all previously accepted CSFs for "Trifluralin 4EC Herbicide" on the date of your receipt of this letter. Please return a copy of this letter bearing the date of your receipt.**

Concurrently, the labeling submitted with your application dated April 29, 2005 has been reviewed and is accepted under the Federal Insecticide, Fungicide and Rodenticide Act, as amended; provided that it is revised as follows:

1. Revise the chemical name for the common name trifluralin to reflect the Chemical Abstracts Index name 2,6-dinitro-*N*,*N*-dipropyl-4-(trifluoromethyl)-benzenamine.

2. Delete the descriptor "selective" used to describe this pesticide product throughout the labeling.

2/35

Alternatively, you may describe the meaning of this descriptor as it applies to the labeling that follows the use of this descriptor.

3. On page 16, delete redundant directions under the topic "Restrictions and Use Precautions"

4. As much of the print of the proposed label is too blurred to copy electronically, please submit a final printed label within 60 days from the date of this letter. If you are unable to comply with this time line, please tell this Agency when you will comply with this requirement.

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

A stamped copy of the label is enclosed for your records. Please submit one copy of the final printed label before you release the product for shipment.

Sincerely yours,

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

Enclosure

3/35

TRIFLURALIN 4EC HERBICIDE

A Selective Herbicide For The Preemergence Control Of Annual Grasses And Broadleaf Weeds

KEEP OUT OF REACH OF CHILDREN

CAUTION - PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail.)

Refer To Inside Of Label Booklet For Additional Precautionary Statements and Directions For Use

ACTIVE INGREDIENT:	
Trifluralin (a,a,a-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine)	43.0%
INERT INGREDIENTS *	57.0%
Total	100.0%

*Contains Petroleum Distillate.
Contains 4 Pounds Trifluralin Per Gallon.

Net Contents: 2 ½ Gallons

ACCEPTED
with COMMENTS
In EPA Letter Dated:
JUL 12 2005
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.
1386-609

EPA Reg. No. 1386-609
EPA Est. No. Used Corresponds To Letter In Lot No.: A-1386-OH-1
B-42750-MO-1
C-1471-IN-2

UNIVERSAL COOPERATIVES, INC. EAGAN, MN 55121

TABLE OF CONTENTS

4/35

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Causes moderate eye irritation. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

Avoid contact with eyes, skin or clothing.

PERSONAL PROTECTIVE CLOTHING (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 Nitrile, Butyl, Neoprene, or Barrier Laminate
- Shoes plus socks
- 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 structions for washables, use detergent and hot water. Keep and wash PPE -parately from other laundry.

ENGINEERING CONTROLS 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)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID

If In Eyes:	Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a Poison Control Center or doctor for treatment advice.
If Swallowed:	Call a Poison Control Center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.
If Inhaled:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a Poison Control Center or doctor for further treatment advice.
If On Skin or Clothing:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes. Call a Poison Control Center or doctor for treatment.

Note: Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment. For Medical Emergency Information call 1-800-228-5635, extension 138.

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 to 9 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.

ENVIRONMENTAL HAZARDS

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

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Do not use or store the product near heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions For Use carefully before applying. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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

Avoid Freezing. Store above 40° F.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protection 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 Nitrile, Butyl, Neoprene, or Barrier Laminate
- Shoes plus socks
- Protective eyewear

GENERAL INFORMATION

Trifluralin 4EC Herbicide is a selective herbicide for the preemergence control of annual grasses and broadleaf weeds. Trifluralin 4EC Herbicide may be applied in liquid sprays of water or liquid fertilizer, or impregnated on dry bulk fertilizer. To reduce loss of herbicidal activity, Trifluralin 4EC Herbicide should be soil incorporated within 24 hours after application unless otherwise specified in specific use directions or supplemental labeling. Trifluralin 4EC Herbicide may be tank mixed or followed by overlay or postemergence treatments with other herbicides to improve the spectrum of weeds controlled. Trifluralin 4EC Herbicide controls weeds by disrupting growth processes during germination. Trifluralin 4EC Herbicide does not control established weeds.

GENERAL USE PRECAUTIONS

Applied according to directions and under normal growing conditions, Trifluralin 4EC Herbicide will not harm the treated crop. Over-application may result in crop injury or rotational crop damage from herbicide carryover. Uneven application or improper incorporation of Trifluralin 4EC Herbicide 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 Herbicide. Under these conditions, delayed crop development or reduced yields may result.

6/35

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

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

In Montana, uses of Trifluralin 4EC Herbicide are limited to those described in supplemental labeling. Refer to supplemental labeling for crops and specific use directions.

Chemigation: Trifluralin 4EC Herbicide may be applied by chemigation on certain crops. See instructions for chemigation in the "Application Methods" section of this label. Also, see specific instructions for certain crops in the "Approved Crops" section of this label.

ROTATION CROP RESTRICTIONS

Sugar beets, Red beets, and Spinach

In Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming: Sugar beets, red beets, or spinach should not be planted for 12 months after a spring application or 14 months after a fall application of Trifluralin 4EC Herbicide. Moldboard 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 Herbicide.

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

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

In Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming: Unless crop injury is acceptable, proso millet, corn, sorghum (milo), oats, and annual or perennial grass crops or grass mixtures should not be planted for 12 months after a spring application or 14 months after a fall application of Trifluralin 4EC Herbicide to avoid the possibility of crop injury. If land has not been irrigated, these crops should not be planted for 18 months after a spring application or 20 months after a fall application. Moldboard plowing to a depth of 12 inches before planting these crops will reduce the possibility of crop injury.

In Minnesota, North Dakota, and South Dakota: Unless crop injury is acceptable, proso millet, sorghum (milo), oats, and annual or perennial grass crops or grass mixtures should not be planted for 18 months after a spring application or 21 months after a fall application of Trifluralin 4EC Herbicide.

In those portions of Kansas, Nebraska, Oklahoma, and Texas that receive less than 20 inches of rainfall and irrigation to produce a crop: Unless crop injury is acceptable, do not plant proso millet, sorghum (milo), oats and annual or perennial grass crops or grass mixtures for 18 months after an application of Trifluralin 4EC Herbicide. In sorghum, cool, wet weather conditions during early growth stages may increase the possibility of crop injury.

All other areas receiving more than 20 inches of rainfall and irrigation: Unless crop injury is acceptable, do not plant proso millet, sorghum (milo), oats, and annual or perennial grass crops or grass mixtures for 12 months after a spring application or 14 months after a fall application of Trifluralin 4EC Herbicide.

Other Crops

Vegetable crops, other than those to which Trifluralin 4EC Herbicide may be applied as a preplant soil incorporated treatment, should not be planted within 5 months after an application of Trifluralin 4EC Herbicide.

SOIL TEXTURE GUIDE FOR APPLICATION RATES

Rate recommendations for incorporated treatments of Trifluralin 4EC Herbicide are based on "Soil Texture Class" (coarse, medium, or fine) and soil organic matter content. A fine textured soil (e.g., clay loam) will require a higher application rate than a coarse textured soil (e.g., loamy sand). In the table below, find the "Soil Texture Class" (coarse, medium, or fine) corresponding to the "Soil Texture to be Treated". Choose the proper rate for each application based on the "Soil Texture Class" and specific crop recommendations. Do not exceed recommended rates.

Soil Texture Class	Soil Texture to be Treated
Coarse (Light) Soils	Sand, loamy sand, sandy loam
Medium Soils	Loam, silty clay loam†, 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.

MIXING DIRECTIONS

Trifluralin 4EC Herbicide – Alone

Trifluralin 4EC Herbicide may be mixed with water or most liquid fertilizer materials. Prior to mixing Trifluralin 4EC Herbicide 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 Herbicide 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 Herbicide and continue agitation while filling tank to required spray volume.

Precautions: Do not allow water or spray mixture to back-siphon into a water source.

Trifluralin 4EC Herbicide in Tank Mix

For broader spectrum weed control, Trifluralin 4EC Herbicide may be applied in tank mix combination with other products registered for use on crops listed in this label unless tank mixing with Trifluralin 4EC Herbicide (trifluralin) is prohibited by the manufacturer's label. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use.

Trifluralin 4EC Herbicide may be tank mixed with other products and applied with water or most liquid fertilizer materials. Prior to mixing tank mixes containing Trifluralin 4EC Herbicide with liquid fertilizer, refer to label section entitled "Testing for Compatibility in Liquid Fertilizers" for testing procedures to determine tank mix 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 Herbicide 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/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 to 35 mesh screen. This procedure assures good initial dispersion of these products in liquid fertilizer or water.

Line screens 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 Herbicide 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. If required, use only a phosphate ester-type surfactant designed for use with liquid fertilizers. Such compatibility agents can be mixed at rates as low as 1.5 to 2.0 pints per ton of liquid fertilizer. Add the compatibility agent just before adding pesticides.

Testing Procedure
1. Add 1 pint of the liquid fertilizer to a quart jar.
2. Add 1 to 4 teaspoons 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 Herbicide and other EC formulations 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 needed. 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 1 above and add 1/2 teaspoon of the compatibility agent to the liquid fertilizer. Mix well and then repeat steps 2 and 3.

An effective compatibility agent will cause the mixture to remain uniformly dispersed with little or no separation (oil rising to the surface) for 1/2 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.

If the materials continue to rise to the surface and form a thick layer (oily curds) that will not disperse, DO NOT USE.

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

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

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

$$\text{Pints Trifluralin 4EC Herbicide Per Acre} \times \frac{1000}{\text{Pounds Fertilizer Per Acre}} = \text{Quarts Trifluralin 4EC Herbicide Per Ton of Fertilizer}$$

Limitations: Apply a minimum of 200 lb/acre of dry fertilizer impregnated with Trifluralin 4EC Herbicide at the recommended broadcast rate per acre. Any commonly used dry fertilizer can be used for impregnation with Trifluralin 4EC Herbicide 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 Herbicide 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. Dry bulk fertilizer impregnated with Trifluralin 4EC Herbicide must be incorporated 2 times. The first incorporation should occur within 24 hours after application. The second incorporation should be delayed a minimum of 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

8/35

are the responsibility of the individual and/or company offering the fertilizer or chemical mixture for sale.

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

General Chemigation Directions:
Apply this product only through continuously moving center pivot, lateral move end tow, solid set, or hand move irrigation systems, or certain other systems described in EPA-accepted supplemental labeling.

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

If you have 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.

Posting of areas to be chemigated is required when (1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks playgrounds, or other public facilities not including public roads, or (2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Postings must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive area. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

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 located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point 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 Herbicide 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 Herbicide may cause staining of plastic hoses and tanks.
12. Apply Trifluralin 4EC Herbicide 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 Herbicide 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 pt/acre = 199.5 pt = 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 gal/hr and is calculated as follows:

- 25 gal ÷ 20 hr = 1.25 gal/hr
  1.25 gal/hr = 160 fl oz/hr

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

- 160 fl oz/hr ÷ 60 min./hr = 2.7 fl oz per min.

Chemigation Mixing Directions:

Undiluted Trifluralin 4EC Herbicide: When used alone, the injection of undiluted Trifluralin 4EC Herbicide 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 Herbicide is added to the system for injection. When injecting undiluted Trifluralin 4EC Herbicide, maintain continuous agitation in the supply tank.

Diluted Trifluralin 4EC Herbicide: Trifluralin 4EC Herbicide 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 Herbicide required (Do not add water to Trifluralin 4EC Herbicide). Start agitation. Add the required amount of Trifluralin 4EC Herbicide 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 Herbicide, maintain continuous agitation in supply tank.

SPRAY DRIFT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

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

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

Information On Droplet Size

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

Controlling Droplet Size

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Do not exceed the nozzle manufacture's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid steam nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length

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

Application Height

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

Swath Adjustment

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

Wind

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

Temperature and Humidity

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

Temperature Inversions

Applications should not occur during a temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a

10/95

ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

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

APPLICATION TIMING

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

Fall Application
Fall application can be used for all crops for which Trifluralin 4EC Herbicide is recommended as a preplant incorporated treatment. Refer to "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 Herbicide any time between September 1 and December 31. In all other states, fall apply Trifluralin 4EC Herbicide 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 Herbicide is not recommended on fields which remain wet or are subject to periods of flooding.

Preemergence Application Immediately After Planting
Apply and incorporate Trifluralin 4EC Herbicide immediately after planting and prior to crop germination. Adjust incorporation equipment so as to not disturb planted seed. Refer to the "Crops" section of this label for crop specific instructions.

Postemergence and Layby Application
Apply and incorporate Trifluralin 4EC Herbicide at the recommended rate to the established crop at or before the last cultivation. Required preharvest intervals for treatments with Trifluralin 4EC Herbicide for certain crops are specified in the "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 or existing weeds, can interfere with uniform soil incorporation of Trifluralin 4EC Herbicide. A manageable level of ground cover will allow uniform incorporation into the top 2 to 3 inches of the final seedbed. Ground cover and crop residues, if excessive, should be reduced by appropriate soil tillage prior to application.

Trifluralin 4EC Herbicide must be incorporated within 24 hours after application unless otherwise specified on supplemental labeling. Non-uniform application may result in erratic weed control or crop injury. 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.

Note: Two-pass incorporation is required for all special use programs unless otherwise specified.

48 Hour Incorporation Delay (For Use Only In Texas, Oklahoma and New Mexico): Trifluralin 4EC Herbicide may be applied as a preplant incorporated treatment for weed control in registered crops. The incorporation delay for Trifluralin 4EC Herbicide is extended from 24 to 48 hours when applied in the states of Texas, Oklahoma and New Mexico. If Trifluralin 4EC Herbicide is applied to a warm wet soil surface or the wind velocity is 10 mph or greater, variable weed control may result if the first incorporation is delayed more than 24 hours.

Follow soil incorporation procedures recommended on the label for Trifluralin 4EC Herbicide. Where two incorporation passes are required, the first pass must be accomplished within 48 hours after application. The second incorporation pass may occur anytime before planting.

72 Hour Incorporation Delay (For Use Only In The States of Arizona and California): When Trifluralin 4EC Herbicide is applied as a preplant incorporated treatment, the first incorporation pass must be accomplished within 24 hours after application. In Arizona and California the incorporation delay has been extended from 24 to 72 hours when applied to dry soils. However, when Trifluralin 4EC Herbicide is applied to warm soil or if wind velocity is 10 mph or higher, variable weed control may result from delaying the first incorporation beyond 24 hours.

Where two incorporation passes are required, the second incorporation may occur anytime prior to planting. Follow other recommended incorporation directions on the label for Trifluralin 4EC Herbicide.

General Soil Conditions: The soil surface should be smooth enough to allow for uniform application and efficient incorporation of Trifluralin 4EC Herbicide. Break up clods using tillage equipment prior to application of Trifluralin 4EC Herbicide. 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 Herbicide should be incorporated to a depth of 2 to 3 inches in the final seedbed.

Application Prior to Bedding: Apply Trifluralin 4EC Herbicide and incorporate 1 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 Herbicide. Apply and incorporate Trifluralin 4EC Herbicide 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 Herbicide. Limit depth of cultivation to the zone of treated soil 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 Herbicide 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 Herbicide approximately half as deep as the equipment is set to operate. For example, a disc set to cut 4 inches deep will mix most of the Trifluralin 4EC Herbicide 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 when using the following incorporation implements (for single pass incorporation, refer to soil conditions and equipment listed under Single Pass Incorporation Option below):

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

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

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 2 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.

Incorporation With the Springtooth Harrow on Coarse Textured Soils To Be Bedded Up Prior To Planting (For Use Only In The State of Texas): A springtooth harrow is defined as an implement with 3 to 4 rows of shanks equipped with chisel points spaced at intervals of 7 inches or less and staggered so that no soil is left unturned. The springtooth harrow may be used to effectively incorporate (mix) Trifluralin 4EC Herbicide into coarse textured (sandy) soils to be bedded up prior to planting. Destroy existing weeds before an application of Trifluralin 4EC Herbicide. Chop and thoroughly mix crop residues into the soil to a depth of at least 4 to 6 inches by deep plowing or discing prior to an application of Trifluralin 4EC Herbicide. Use machinery that breaks up large clods before an application of Trifluralin 4EC Herbicide. Trifluralin 4EC Herbicide must be incorporated the first time within 24 hours after application. Set the springtooth harrow to cut 3 to 4 inches deep and operate at a speed of 5 mph or greater. Two passes over the field are required with the second pass in a different direction than the first. The springtooth harrow also may be used as the first or second incorporation tool in combination with other recommended equipment for the other incorporation. When Trifluralin 4EC Herbicide is applied and incorporated before bedding, do not furrow out deeper than the depth to which Trifluralin 4EC Herbicide was incorporated. Furrowing too deep will expose untreated soil and allow weeds to germinate in the bottom of the furrow.

Precautions

- Do not incorporate with springtooth harrow if soil is too wet for good mixing.
- Avoid removal of treated soil from seedbed during planting operation since exposure of untreated soil will allow weeds to grow.

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

Conservation Tillage Practices: In reduced or minimum tillage situations, fall or spring application and incorporation of Trifluralin 4EC Herbicide may be combined with tillage operations. The first incorporation may utilize equipment such as a tandem disc, combination implement or bedding equipment that provides good soil mixing but leaves a maximum amount of crop residue on the soil surface. The second incorporation may be accomplished with tillage equipment that provides uniform soil mixing used in conjunction with no-till planters (See specific recommendations for reduced or conservation tillage situations for cotton and soybeans in the "Crops" section).

Single Pass Incorporation Option
Trifluralin 4EC Herbicide may be incorporated in a single pass if incorporation conditions allow for thorough and uniform mixing into the top 2 to 3 inches of the final seedbed. Thorough and uniform incorporation may be achieved if the soil at the time of incorporation is of good tilth with moderate moisture, and is relatively free of clods and crop residue. **The following types of equipment can be used to obtain thorough and uniform soil mixing from a single incorporation pass:**

Finishing Disc with disc blades no greater than 22 inches in diameter, spaced no more than 7 1/2 inches apart. Operate at 4 to 6 mph. Best results are obtained when the disc is equipped with harrow, reel, or basket attachments.

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

Combination Implements: These implements are defined as 2 or more tillage devices combined to operate as a single tillage unit. For example, 2 to 3 rows of field cultivator C- or S-shaped shanks with successive rows of sweeps staggered so that no soil is left unturned, followed by a spike-tooth or flextine harrow, followed by ground driven reel, basket or incorporator wheels. Combination implements should be set to cut 3 to 4 inches deep and operated at a minimum of 6 mph. Two incorporations are recommended under conditions which prevent optimum soil mixing such as excessive surface residue, roughness, high clay content or soil is too wet or too dry. Combination tools can also be composed of 2 rows of wide crown sweeps that overlap so that the roots of all weeds and plants are severed. This should be followed by 2 gangs of rotating spoked wheels that thoroughly mix Trifluralin 4EC Herbicide into the top 2 to 3 inches of the final seedbed.

P.T.O.-Driven Equipment (tillers, cultivators, hoes): Adjust equipment to incorporate Trifluralin 4EC Herbicide into the top 2 to 3 inches of the final seedbed with rotors spaced to provide a clean sweep of the soil.

P.T.O. equipment should not be operated more than 4 mph.

WEEDS CONTROLLED BY TRIFLURALIN 4EC HERBICIDE

Grass Weeds

Common Name	Scientific Name
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, soybeans, fruit and nut crops and vineyards in the "Approved Crops" section.)	*Sorghum halepense*
junglerice	*Echinochloa colonum*
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*
shattercane (wild cane) (See special instructions for control in soybeans in the "Approved Crops" section.)	*Sorghum bicolor*
woolly cupgrass	*Eriochloa villosa*

Green Foxtail (Pigeongrass) Resistance to Dinitroaniline Herbicides, Including Trifluralin 4EC Herbicide, Identified In The State of North Dakota (For use in The State of North Dakota Only): 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 Herbicide will not control green foxtail which has developed DNA resistance. **Therefore, the grower assumes the risk of nonperformance due to DNA resistance if Trifluralin 4EC Herbicide is used to control green foxtail in the state of North Dakota.** Alternative green foxtail control practices should be utilized in these fields.

Universal Cooperatives, Inc., 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 Herbicide 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 Universal Cooperatives, Inc., 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.

Broadleaf Weeds Common Name	Scientific Name
carpetweed	*Mollugo verticillata*
chickweed	*Stellaria media*
field bindweed (See special instructions for control in fruit and nut crops and vineyards in the "Approved Crops" section.)	*Convolvulus arvensis*
goosefoot	*Chenopodium hybridum*
henbit	*Lamium amplexicaule*
knotweed	*Polygonum aviculare*
kochia (fireweed) (Mexican fireweed)	*Kochia scoparia*
lambsquarters, common	*Chenopodium album*
pigweed (carelessweed) (Palmer amaranth) †† (prostrate pigweed) (redroot) (rough pigweed) (spiny pigweed) (See special instructions for control in soybeans in "Approved Crops" section.)	*Amaranthus* spp.
puncturevine (Western U.S. only) (caltrop) (goatweed)	*Tribulus terrestris*
purslane, common	*Portulaca oleracea*
pusley, Florida (Florida purslane) (Mexican clover) (pusley)	*Richardia scabra*
Russian thistle (tumbleweed)	*Salsola iberica*
stinging nettle (nettle)	*Urtica dioica*

††Suppression only in areas of the Southwest U.S. where tolerance to trifluralin has been observed. Consult your local extension service representative for information regarding alternative weed control practices.

SPECIAL USE PROGRAMS

Trifluralin 4EC Herbicide 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 or program.

Cotton
- Chemigation
- Weed Control in Conservation Tillage
- Fall Panicum Control
- Pigweed and Seedling Johnsongrass Control
- Additional Weed and Grass Control (Gulf Coast Counties of Texas)
- Rhizome Johnsongrass Control

Soybeans

- Chemigation
- Weed Control Under Reduced or Conservation Tillage
- Control of DNA-Resistant Goosegrass
- Fall Panicum Control
- Pigweed and Seedling Johnsongrass Control
- Additional Weed and Grass Control (Gulf Coast Counties of Texas)
- Itchgrass (Raoulgrass) Suppression
- Charcoal Soils in Arkansas, Louisiana, and Mississippi
- Red Rice Control In Arkansas, Louisiana, Mississippi, and Texas
- Rhizome Johnsongrass Control in Eastern United States and the State of Texas
- Wild Cane (Shattercane) Control

Fruit and Nut Crops and Vineyards

- Rhizome Johnsongrass Control
- Field Bindweed Control

CROPS

ALFALFA – ESTABLISHED

Mechanically Incorporated
Apply Trifluralin 4EC Herbicide with ground or aerial equipment and mechanically incorporate prior to weed emergence to control weeds listed in the "General Information" 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)
Coarse	1.5
Medium	2.0
Fine	2.0

Use For Alfalfa: Apply at a rate of 2 lbs. a.i./A. *Restrictions*: Do not apply more than 2 lbs. a.i. per application. Do not apply within 21 days before harvest of forage, or 20 days before harvest of hay. Do not apply more than 4 lbs. a.i. per year.

SURFACE APPLICATIONS (CHEMIGATION OR WATER INCORPORATED)

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

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
All Soil Textures	4.0

Chemigation
Refer to "Application by Chemigation" section in the "General Information" section of this label for use directions for chemigation.

Surface Applications Activated by Rainfall or Irrigation
Broadcast surface applications of Trifluralin 4EC Herbicide 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 Herbicide. 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 Herbicide 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 Herbicide 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 Herbicide immediately after a cutting between August 1 and October 1, but prior to weed germination. When fall applied, Trifluralin 4EC Herbicide controls bromegrass and cheat in addition to other labeled weeds that germinate after application.

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

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

Precautions:
- Do not cut or graze alfalfa within 21 days after application of Trifluralin 4EC Herbicide.
- Apply no more than 4.0 pints of Trifluralin 4EC Herbicide during any growing season. In the growing season following application of 4.0 pints of Trifluralin 4EC Herbicide to alfalfa, plant only those crops for which Trifluralin 4EC Herbicide is registered as a preplant treatment or crop injury may occur.

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

Precautions: Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

ASPARAGUS – ESTABLISHED

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

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 applications immediately after harvest in late spring or early summer just before ferns are allowed to develop.

Broadcast Application Rates/Acre:

	Trifluralin 4EC	
	Split Application	Single Application
Soil Texture	Before and After Harvest	Before or After Harvest
	(pints)	(pints)
Course	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 2.0 pt/acre on coarse soils, 3.0 pt/acre on medium soils or 4.0 pt/acre on fine soils during any calendar year.

BEANS – ALL DRY AND FRESH BEANS/PEAS (EXCEPT BEANS/PEAS LISTED ELSEWHERE ON THIS LABEL)

Trifluralin 4EC Herbicide – Alone
Apply and incorporate Trifluralin 4EC Herbicide in the spring before planting or in the fall in advance of spring planting. See instructions for fall application of Trifluralin 4EC Herbicide under the heading "Application Timing" in the "General Information" section of this label.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.0 - 1.5
Fine	1.5 - 2.0

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

TANK MIXING OR SEQUENTIAL TREATMENTS

For broader spectrum weed control, other products registered for use in dry and fresh beans/peas may be applied in tank mix combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

BEANS – GUAR AND MUNGBEAN

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5
Fine	1.5

- All soils with 2% to 5% organic matter - 1.5 pints

BEANS – LIMA BEAN AND SNAP BEAN

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.0
Fine	1.5

- All soils with 2% to 5% organic matter - 1.5 pints

CARROT

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

CASTOR BEAN

Apply Trifluralin 4EC Herbicide 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)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

CELERY

Apply Trifluralin 4EC Herbicide as a soil incorporated treatment. Trifluralin 4EC Herbicide 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)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

CHICORY (*CICHORIUM INTYBUS* OR *CICHORIUM ENDIVA*)

Trifluralin 4EC Herbicide may be applied as a preplant incorporated treatment to chicory grown either as a root crop or leafy vegetable as indicated below:

Cichorium intybus, considered to be a root crop, may 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 Herbicide as a soil incorporated treatment in spring or early summer prior to planting.

Broadcast Application Rates per Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5
Fine	2.0

- 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 - 2.0 pints

COLE CROPS – BROCCOLI, BRUSSELS SPROUTS, CABBAGE, AND CAULIFLOWER

Direct Seeded Cole Crops

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.0
Fine	1.5

- Soils with 2% to 5% organic matter - 1.5 pints

Precaution: Direct seeded cole crops exhibit marginal tolerance to higher than recommended rates of Trifluralin 4EC Herbicide. Stunting or reduced stands may occur.

Direct Seeded Chinese Cabbage or Kohlrabi

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.0
Fine	1.5

- Soils with 2% to 5% organic matter - 1.5 pints

Precautions:

Chinese cabbage and kohlrabi tolerance to Trifluralin 4EC Herbicide is marginal. Additionally, 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 reduced yield.

For best results, observe the following cultural practices or precautions when applying Trifluralin 4EC Herbicide:

- Seedling disease, cold weather, deep planting, excessive moisture, high salt concentration, or drought may weaken crop seedlings and increase the possibility of crop stress and damage.
- Do not exceed recommended application rates. This is particularly important on coarse textured or low organic matter soils.
- Carefully follow incorporation directions.
- Use only high quality seed and plant at maximum seeding rates.

Transplanted Cole Crops

Apply and incorporate Trifluralin 4EC Herbicide prior to transplanting.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

CORN - FIELD CORN ONLY

Postemergence Incorporated Treatment

Apply Trifluralin 4EC Herbicide as a postemergence treatment following cultivation and/or use of a preemergence herbicide. Trifluralin 4EC Herbicide 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

Applications of Trifluralin 4EC Herbicide must be mechanically incorporated within 24 hours. Mechanical incorporation may be accomplished with 1 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.

Water In Option for Coarse and Medium Textured Soils:

On coarse and medium textured soils, Trifluralin 4EC Herbicide may be incorporated by continuous rainfall or sprinkler irrigation amounting to at least 1/2 to 1 inch of water. Best results are obtained if application is made immediately after a cultivation when the soil surface is open and porous. Rainfall or sprinkler irrigation prior to application will tend to consolidate and seal the soil surface and prevent the downward movement of Trifluralin 4EC Herbicide that is expected under porous, open, recently tilled conditions. Supplemental irrigation can be applied through a center pivot, solid set, or hand moved sprinkler system. Do not use furrow irrigation. Mechanically incorporate as described above if the required amount of rainfall or sprinkler irrigation does not occur within 24 hours after application.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 0.75 - 1.0†
Medium	1.25 - 1.5
Fine	1.5 - 2.0

†Apply 1.0 to 1.5 pt/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, popcorn, or corn grown for seed.
- Do not apply Trifluralin 4EC Herbicide to corn as a preplant or preemergence treatment or crop injury may occur.
- Where corn is planted in a furrow, Trifluralin 4EC Herbicide should be applied only after a cultivation to move soil into the row.

Restrictions: Do not apply Trifluralin 4EC Herbicide within 6 weeks prior to harvesting forage, fodder, or silage, or after corn is 30 inches tall.

Chemigation

Trifluralin 4EC Herbicide may be applied through properly equipped chemigation systems for weed control in field corn. Refer to "Application by Chemigation" section in the "General Information" section of this label for chemigation use directions. Do not apply Trifluralin 4EC Herbicide through any type of irrigation system unless these directions are carefully followed.

Application Timing

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

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 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 Herbicide by chemigation to sweet corn, popcorn, or corn grown for seed.
- Where corn is planted in a furrow, Trifluralin 4EC Herbicide should be applied only after a cultivation to move soil into the row.
- Do not apply Trifluralin 4EC Herbicide to corn as a preplant or preemergence treatment as crop injury may occur.

Restrictions: Do not apply Trifluralin 4EC Herbicide within 6 weeks prior to harvesting forage, fodder, or silage, or after corn is 30 inches tall.

Trifluralin 4EC Herbicide Plus Atrazine Tank Mix for Weed Control in Field Corn (For Use Only in the States of Alabama, Florida, Georgia, and Texas): Trifluralin 4EC Herbicide may be applied in tank mix combination with atrazine herbicide plus an emulsifiable oil or oil concentrate when corn is from the 2-leaf stage of growth up to 12 inches tall and weeds are no more than 1 1/2 inches in height. A period of 24 to 48 hours is required to obtain atrazine postemergence activity after which the preemergence activity of the Trifluralin 4EC Herbicide plus atrazine combination may be activated by 0.5 inch or more of rainfall or overhead sprinkler irrigation or mechanical incorporation. **Note:** In Texas, the tank mix of Trifluralin 4EC Herbicide plus atrazine may be applied only to coarse textured soils.

Incorporation directions: Mechanical incorpor-ation 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
Coarse †	(pints) 1.0 ††
Medium	1.0 - 1.5
Fine	1.5 - 2.0

† In Texas, the tank mix of Trifluralin 4EC Herbicide plus atrazine may be applied only to coarse textured soils.

††Apply 1.5 pints/acre of Trifluralin 4EC Herbicide on coarse soils to control fall panicum, pigweed and Texas panicum.

Precautions

- Do not apply to sweet corn or corn grown for seed.
- Do not apply Trifluralin 4EC Herbicide to corn as a preplant or preemergence treatment or crop injury may occur.
- Where corn is planted in a furrow, apply Trifluralin 4EC Herbicide only after a cultivation to move soil into the row.
- Refer to the atrazine product label for application rates, additional use directions, precautions and limitations before use.

COTTON

Application Timing

Trifluralin 4EC Herbicide may be applied for weed control in cotton in the fall, in the spring before planting, after planting, but prior to crop emergence, or to established cotton up to and including layby, but no later than 90-days before harvest.

How To Apply

Trifluralin 4EC Herbicide may be applied and soil incorporated or it may be applied through Chemigation (see directions for chemigation in "Chemigation" section below).

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

If incorporating after planting, incorporate Trifluralin 4EC Herbicide soon after planting and set equipment so as to avoid disturbing planted cottonseed.

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

Tank Mixing or Sequential Treatments: For broader spectrum weed control, other products registered for use in cotton may be applied in tank mix combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions For Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

Conventional Tillage Cotton

Broadcast Application Rates/Acre

Soil Texture	Trifluralin 4EC Herbicide		
	Spring Application †	Fall Application	
		Eastern U.S. ††	Western U.S. †††
	(pints)	(pints)	(pints)
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

†Spring Application:

- On coarse and medium soils with 2 - 5% organic matter use 1.5 pints per acre.
- On fine soils with 2 - 5% organic matter use 2.0 pints per acre.
- On all soils with 5 - 10% organic matter use 2.0 - 2.5 pints per acre.
- Use lower rate in rate range for areas receiving less than 20 inches of total annual rainfall and irrigation.

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

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

For fall applic[illegible] in all other states and areas not listed in the above footnotes: Apply Trifluralin 4EC Herbicide at the spring application rate, using the high rate where a range is given.

Minimum Tillage Cotton (Conservation Tillage Cotton)

Fall Application Prior To Establishing A Cover Crop

Apply Trifluralin 4EC Herbicide to flat ground at a broadcast rate of 2.0 to 3.0 pints per acre. Use the 3-pint per acre rate where crop residues are present or where dense weed populations are anticipated. Incorporate once within 24 hours using incorporation implements, such as a springtooth harrow, set to cut no more than 2 to 3 inches deep. **Do not incorporate with a tandem disc.** Form beds with disc bedders or other bedding implements that will mix and move most of the treated soil from the furrow area to the beds. Fertilizer may be applied as appropriate during incorporation operations. Plant 2 to 4 rows of a small grain cover crop, such as barley, rye or wheat, 2 inches deep in the furrow area between the beds. To avoid injury to small grain seedlings, place seed below the treated layer of soil. Barley is more tolerant to injury than wheat or rye. Existing soil moisture must be present to establish and maintain the cover crop. In late winter (February), apply 2,4-D if necessary for broadleaf weed control.

Spring Application Before Or After Planting

Apply Trifluralin 4EC Herbicide as a broadcast treatment or as a band to bare ground or standing dead cover following burndown with a postemergence herbicide. Trifluralin 4EC Herbicide may be applied and incorporated either before planting or after planting. If applied after planting, incorporate immediately and set incorporation equipment to operate at a depth that will not disturb the planted seed. If Trifluralin 4EC Herbicide is applied as a band, adapt incorporation equipment to the width of the treated band and use equipment that will uniformly mix Trifluralin 4EC Herbicide into the top 1 inch of soil. Be aware, that compared to double-pass incorporation, weed control may be reduced when using single pass incorporation; or, if using equipment that does not provide thorough soil mixing.

Broadcast Application Rates/Acre For Minimum Tillage

Soil Texture	Trifluralin 4EC Herbicide
	(pints)
Coarse	1.0 2.0
Medium	1.5-2.0
Fine	2.0 - 4.0

Use the lower rate in the rate range when additional sequential applications of Trifluralin 4EC Herbicide are anticipated. Use the higher rate in the rate range where crop residues are present, and where dense weed populations are anticipated.

Chemigation

Apply Trifluralin 4EC Herbicide in overhead sprinkler irrigation equal to 1/2 to 1 inch of water in either conventional or minimum tillage cotton. Trifluralin 4EC Herbicide must be applied within 2 days after planting and prior to crop emergence. Because Trifluralin 4EC Herbicide does not control established weeds, planting and application should occur as soon as possible after the last tillage operation. Soil incorporation is not required when Trifluralin 4EC Herbicide is applied through Chemigation systems.

Cultivation: Soil treated by Chemigation with Trifluralin 4EC Herbicide may be shallow cultivated without reducing weed control activity.

Refer to "Application By Chemigation" in the "General Information" section of this label for use directions for Chemigation. Apply Trifluralin 4EC Herbicide only through the

kinds of sprinkler irrigation systems specified in that section of the label.

Broadcast Application Rates/Acre For Chemigation

Soil Texture	Trifluralin 4EC Herbicide	
	Conventional Tillage	Minimum Tillage †
	(pints)	(pints)
Coarse	1.0	1.0 - 3.0
Medium	1.5	1.5 - 4.0
Fine	2.0	2.0 - 4.0

† In minimum tillage situations, use the lower rate in the rate range when additional sequential applications of Trifluralin 4EC Herbicide are anticipated. Use the higher rate in the rate range when a large amount of crop residue is present, where dense weed populations are anticipated, or when additional sequential applications will not be made.

Rotational Crop Restrictions After Chemigation:

- **Conventional Tillage:** Refer to the rotational crop restrictions in the "General Use Precautions" section of this label.
- **Minimum Tillage:** In addition to the rotational crop restrictions listed in the General use Precautions section of this label, do not plant grain sorghum in the year following the application of Trifluralin 4EC Herbicide.

Layby Application

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

Layby Broadcast Application Rates/Acre

Soil Texture	Trifluralin 4EC Herbicide
	(pints)
Coarse	1.0
Medium	1.5
Fine	2.0

Special Use Programs

1. **Cotton - Fall Panicum Control**
   Apply as a preplant incorporated treatment at a broadcast rate of 2.0 pints per acre on both coarse and medium soils.

2. **Cotton - Pigweed and Seedling Johnsongrass Control**
   Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, South Carolina, Tennessee, and southern Virginia.

Broadcast Application Rates/Acre For Pigweed and Seedling Johnsongrass Control

Soil Texture	Trifluralin 4EC Herbicide
	(pints)
Coarse	1.0 - 1.5
Medium	1.5 - 2.0
Fine	2.0

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

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

3. **Cotton - Additional Weed and Grass Control In Gulf Coast Counties of Texas**
   Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment up to 2 weeks before planting in Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller, and Wharton counties of the Texas Gulf Coast.

Broadcast Application Rates/Acre In Gulf Coast Counties of Texas

Soil Texture	Trifluralin 4EC Herbicide
	(pints)
Coarse	1.5
Medium	2.0
Fine	3.0

4. **Cotton - Rhizome Johnsongrass Control (For use in all cotton producing states except Arizona and California):**
   Rhizome Johnsongrass control with Trifluralin 4EC Herbicide requires maximum application rates for 2 consecutive years (see Broadcast Application Rates/Acer for Rhizome Johnsongrass Control below). Commercially acceptable control cannot be obtained with only 1 year of applying the maximum use rate of Trifluralin 4EC Herbicide. 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 - 3 inch) pieces and destroy any recently emerged johnsongrass plants.

Broadcast Application Rates/Acre For Rhizome Johnsongrass Control

Soil Texture	Trifluralin 4EC Herbicide
	(pints)
Coarse	2.0
Medium	3.0
Fine	4.0

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

Fall Application: Apply Trifluralin 4EC Herbicide 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 maximum rate treatment, plant only rice or crops for which Trifluralin 4EC Herbicide is labeled as a preplant incorporated treatment, or crop injury may occur.

Restrictions And Use Precautions

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

Maximum Crop Year Use Rates: For full season weed control, Trifluralin 4EC Herbicide may be applied one or more times sequentially during the crop year observing the rates, methods of application, and a 90-day preharvest interval. The maximum dosage must not exceed the rates given, and the **maximum cumulative amount of Trifluralin 4EC Herbicide that may be applied *within* the same crop year (includes fall application or spring application plus layby application) must not exceed 4.0 pints per acre (2 pounds active ingredient per acre).**

Rotation Crop Restrictions: Refer to "Rotation Crop Restrictions" section under "General Information" for specific rotational crop restrictions. When the cumulative amount of Trifluralin 4EC Herbicide in one crop year (fall or spring plus layby) exceeds the rates in the table below, plant only those crops for which Trifluralin 4EC Herbicide is labeled as a preplant incorporated treatment in the season following the application of Trifluralin 4EC Herbicide, or crop injury may result.

Soil Texture	Cumulative Amount of Trifluralin 4EC Herbicide/Acre In One Crop Year
	(pints)
Coarse	1.5
Medium	1.5
Fine	2.0

A small grain cover crop such as barley, rye, or wheat that is intended for prevention of wind erosion in Minimum Tillage Cotton may be planted in the fall following a maximum crop year use rate of 4 pints per acre of Trifluralin 4EC Herbicide; however, reduced stand and delayed emergence and development of the cover crop may result. The cover crop must not be grazed or harvested.

Restrictions And Use Precautions

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

Maximum Crop Year Use Rates: For full season weed control, Trifluralin 4EC Herbicide may be applied one or more times sequentially during the crop year observing the rates, methods of application, and a 90-day preharvest interval. The maximum dosage must not exceed the rates given, and the **maximum cumulative amount of Trifluralin 4EC Herbicide that may be applied *within* the same crop year (includes fall application or spring application plus layby application) must not exceed 4.0 pints per acre (2 pounds active ingredient per acre).**

Rotation Crop Restrictions: Refer to "Rotation Crop Restrictions" section under "General Information" for specific rotational crop restrictions. When the cumulative amount of Trifluralin 4EC Herbicide in one crop year (fall or spring plus layby) exceeds the rates in the table below, plant only those crops for which Trifluralin 4EC Herbicide is labeled as a preplant incorporated treatment in the season following the application of Trifluralin 4EC Herbicide, or crop injury may result.

COTTONWOOD TREES GROWN FOR PULP

Apply as a soil incorporated treatment to control weeds susceptible to Trifluralin 4EC Herbicide in new and established plantings of cottonwood trees grown for pulp.

Application Before Planting
Apply and incorporate Trifluralin 4EC Herbicide before planting.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

Application to Established Plantings
In established plantings, apply Trifluralin 4EC Herbicide as a directed spray to the soil and use incorporation methods not injurious to the crop.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
All Soil Textures	2.0 - 4.0

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

Johnsongrass Suppression in Established Plantings
Proper soil preparation before application is necessary for satisfactory results. Use a chisel plow or similar implement to bring rhizomes to the soil surface. Then work the soil twice using a tandem disc to cut rhizomes into small (2-3 inch) pieces and to destroy emerged johnsongrass.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
All Soil Textures	4.0

Incorporation: Incorporate twice with tandem disc set to cut 4 to 6 inches deep and operated at 4 to 6 mph.

Cultivation: Some johnsongrass plants will escape. Timely cultivation with tillage implements or spot spraying with effective postemergence herbicides will improve the level of johnsongrass control.

CUCURBITS

Apply Trifluralin 4EC Herbicide 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 plants.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

Restrictions: Do not apply within 30 days of harvest, except for Watermelon which has a 60 day pre-harvest interval.

FLAX (FALL APPLICATION ONLY)

Apply and incorporate Trifluralin 4EC Herbicide 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 1/2 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
Coarse	(pints) 1.0
Medium	1.5
Fine	2.0

GRAIN SORGHUM (MILO)

Postemergence Incorporated Treatment

Apply Trifluralin 4EC Herbicide as a directed or over-the-top spray when grain sorghum is 8 to 24 inches tall. Drop nozzles should be used if foliage prevents uniform soil coverage.

Soil Preparation: Cultivate before application of Trifluralin 4EC Herbicide 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: Applications of Trifluralin 4EC Herbicide must be mechanically incorporated within 24 hours after application. Mechanical incorporation may be accomplished with 1 pass of a sweep-type cultivator or properly adjusted rolling cultivator. Sweep-type cultivators 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
Coarse	(pints) 0.75 - 1.0
Medium	1.0 - 1.5
Fine	1.5 - 2.0

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

Precautions:

- Do not apply Trifluralin 4EC Herbicide to grain sorghum as a preplant or preemergence treatment or crop injury will occur.
- Over-application may result in injury to grain sorghum.

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

Chemigation

Trifluralin 4EC Herbicide may be applied through properly equipped chemigation systems for weed control in grain sorghum 8 to 24 inches tall. Refer to "Application by Chemigation" section in the "General Information" section of this label for chemigation use directions. Do not apply Trifluralin 4EC Herbicide through any irrigation system unless these directions are carefully followed.

Soil Preparation: Cultivate before application of Trifluralin 4EC Herbicide 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.

Application Timing: Apply Trifluralin 4EC Herbicide to grain sorghum in 1/2 to 1 acre inch of overhead sprinkler irrigation as soon as possible after a cultivation when grain sorghum is 8 to 24 inches tall. Trifluralin 4EC Herbicide must be applied prior to weed emergence or after existing weeds are controlled. Trifluralin 4EC Herbicide does not control established weeds.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 0.75 - 1.0
Medium	1.0 - 1.5
Fine	Do not apply Trifluralin 4EC by chemigation to fine textured soils.

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

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

Apply Trifluralin 4EC Herbicide to greens as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 1.0
Medium	1.5
Fine	1.5

- Soils with 2% to 10% organic matter - 1.5 pints

HOPS

Apply and incorporate Trifluralin 4EC Herbicide 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
Coarse	(pints) 1.0
Medium	1.25 - 1.5
Fine	1.5

- Soils with 2% to 10% organic matter - 1.5 pints

KENAF

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse†	(pints) 1
Medium	1 - 1.5
Fine	1.5

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

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

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

MUSTARD – GROWN FOR SEED OR PROCESSED FOR FOOD

Apply Trifluralin 4EC Herbicide to mustard as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 1.0
Medium	1.5
Fine	1.5

- Soils with 2% to 10% organic matter - 1.5 pints

OKRA

Apply Trifluralin 4EC Herbicide 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
Coarse	(pints) 1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

ONIONS (DRY BULBS ONLY)

Postemergence Layby Application: Apply at layby to the soil between onion rows. Avoid applying directly to the tops or exposed bulbs of onion plants. Emerged weeds should be removed prior to application of Trifluralin 4EC Herbicide. Trifluralin 4EC Herbicide will not control established weeds.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 0.75 - 1.0
Medium	1.0 - 1.25

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

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

Precautions

- **Preharvest Interval:** Do not apply within 60 days of harvest.
- Do not apply as a preplant or preemergence treatment.
- Do not apply to muck soils.
- **Note:** Reduced yields may result from use of Trifluralin 4EC Herbicide on onion crops weakened by diseases, improper incorporation depth, excessive moisture, high salt concentration, or drought may weaken the crop and increase the possibility of damage from Trifluralin 4EC Herbicide. Under these conditions reduced yields may result.

PEAS – DRY PEAS AND ENGLISH PEAS

Trifluralin 4EC Herbicide – Alone

Apply and incorporate Trifluralin 4EC Herbicide in the spring before planting or in the fall in advance of spring planting. Refer to instructions for fall application under "Application Timing" in the "General Information" section of this label.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC	
	Spring Application	Fall Application†
Course	(pints) 1.0	(pints) 1.0
Medium	1.0 - 1.5††	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 Herbicide may be fall applied to dry and English peas in the states of Idaho, Oregon and Washington.

††Medium soils with 3% or greater organic matter - 1.5 pints

TANK MIXING OR SEQUENTIAL TREATMENTS

For broader spectrum weed control, other products registered for use in dry and English peas may be applied in tank mix combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

PEAS – SOUTHERN PEAS

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

PEANUTS

Trifluralin 4EC Herbicide – Alone

(For Use in Texas, Oklahoma, and New Mexico Only).

Apply and incorporate Trifluralin 4EC Herbicide before planting, at planting or immediately after planting. When incorporating after planting, adjust equipment so as to not disturb planted seed.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5

Tank Mixing or Sequential Treatments

For broader spectrum weed control, other products registered for use in peanuts may be applied in tank mix combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

Trifluralin 4EC Herbicide Plus Pursuit Combinations for Weed Control in Peanuts

Trifluralin 4EC Herbicide may be tank-mixed with Pursuit and applied as a preplant incorporated treatment to control additional weeds. Follow application and incorporation directions provided in the label for Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre†:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5

† Refer to the labeling for use of Pursuit on peanuts for application rates.

Pursuit may also be used as a preemergence, "at cracking," postemergence or sequential (split) application following preplant soil incorporated application of Trifluralin 4EC Herbicide. Refer to the labeling for use of Pursuit on peanuts for application rates, use directions, cautions and limitations before use.

PEPPER (TRANSPLANT ONLY)

Apply and incorporate Trifluralin 4EC Herbicide prior to transplanting.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

POTATOES

(Not for Use in the State of Maine)

Application After Planting

Apply and incorporate Trifluralin 4EC Herbicide after planting but before emergence, immediately following dragoff, or after potato plants have fully emerged.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

Incorporation Directions: Set incorporation equipment so that the bed and furrow will be 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 Herbicide after potato plants have fully emerged, do not completely cover the foliage with treated soil. Likewise, do not completely cover foliage at subsequent cultivations. Be careful that incorporation machinery does not damage potato seed pieces or elongating sprouts.

Split Applications Before and After Planting

(For use in Idaho, Oregon and Washington)

On all soils apply and incorporate Trifluralin 4EC Herbicide at the rates shown below as split applications before planting and after planting when potato plants have fully emerged. Do not apply to soils containing 2% or more organic matter. Follow incorporation directions provided above for application to potatoes after planting.

Broadcast Application Rates/Acre:

	Trifluralin 4EC
	(pints)
Before Planting	.075
After Planting	.075

Trifluralin 4EC Herbicide Plus Eptam Herbicide Tank-Mix – Post Plant Preemergence Treatment (For Use in Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, South Dakota and Texas)

Trifluralin 4EC Herbicide may be tank-mixed with Eptam herbicide 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 rates for Trifluralin 4EC Herbicide recommended for "Applications After Planting", above. Incorporate immediately.

Precautions: Refer to the label for Eptam for application rates, additional use directions, precautions and limitations before use. Do not graze for feed forage to livestock from fields treated with the Trifluralin 4EC Herbicide plus Eptam tank mix.

Trifluralin 4EC Herbicide Plus Eptam Tank-Mix – Preplant Treatment (For Use in Idaho, Oregon and Washington)
Trifluralin 4EC Herbicide may be tank-mixed with Eptam and applied as a soil incorporated treatment to control additional weeds. Apply before planting and incorporate immediately.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
All Soil Textures	.075

Precautions: Do not use this tank mix both before and after planting in the same season. Do not graze for feed forage to livestock from fields treated with the Trifluralin 4EC Herbicide plus Eptam tank mix. Refer to the label for Eptam for application rates, additional use directions, precautions and limitations before use.

Chemigation (Trifluralin 4EC Herbicide Only)
Trifluralin 4EC Herbicide may be applied through properly equipped chemigation systems for weed control in potatoes. Refer to "Chemigation" section in the "General Information" section of the label for Trifluralin 4EC Herbicide. Do not apply Trifluralin 4EC Herbicide through any type of irrigation system unless these directions are carefully followed.

Apply Trifluralin 4EC Herbicide 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 Herbicide. Trifluralin 4EC Herbicide does not control established weeds. Incorporation is not necessary when Trifluralin 4EC Herbicide is applied by chemigation.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5

- Do not apply by chemigation to fine textured soils.

Precautions: If cultivation is required after treatment with Trifluralin 4EC Herbicide, avoid completely covering potato plants with treated soil. Erratic weed control may result if cultivation exposes untreated soil between rows.

RADISH

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5
Fine	1.5

RAPESEED (CANOLA) AND CRAMBE

Apply as a soil incorporated treatment in the spring before planting, or in late summer or early fall before a fall planting. Follow soil preparation, application, and incorporation directions for Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5
Fine	2.0

Precautions
- Do not apply to rapeseed (canola) grown in the state of Alaska.
- Where applications are made in late summer or fall, plant as rotation crops in the season following application only those crops to which Trifluralin 4EC Herbicide may be applied as a preplant incorporated treatment or crop injury may occur.
- Do not graze or harvest crambe for livestock forage.

Trifluralin 4EC Herbicide for Weed Control in Rapeseed (Canola) and Crambe (For Use Only in the State of Montana)

Apply and incorporate Trifluralin 4EC Herbicide in the fall after September 1 or in the spring before planting. Make only one application of Trifluralin 4EC Herbicide per crop cycle. Follow soil preparation, application and incorporation instructions in the product label for Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5
Fine	2.0

Use 1.5 to 2.0 pints of Trifluralin 4EC Herbicide per acre on coarse and medium soils with 2 to 5% organic matter.

Precautions:
- **Rotational Crop Planting Restriction:** Plant only spring seeded barley (grown under irrigated conditions), rapeseed, safflower or sunflower as rotational crops in the crop year following the crop treated with Trifluralin 4EC Herbicide. If one of these specified crops is not planted, the land should be left idle or fallow for the entire crop year following the crop treated with Trifluralin 4EC Herbicide.
- Do not graze or harvest crambe for livestock forage.

SAFFLOWER

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

Broadcast Application Rates/Acre:

	Trifluralin 4EC	
Soil Texture	Spring Application	Fall Application
	(pints)	(pints)
Course	1.0	1.5
Medium	1.25 - 1.5	2.0
Fine	1.5 - 2.0	2.5

- Course 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 Herbicide for Weed Control in Safflower (For Use Only in the State of Montana)
Apply and incorporate Trifluralin 4EC herbicide in the fall after September 1 or in the spring before planting. Make only one application of Trifluralin 4EC Herbicide per crop cycle. Follow soil preparation, application and incorporation instructions in the product label for Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5
Fine	2.0

Use 1.5 to 2.0 pints of Trifluralin 4EC Herbicide per acre on coarse and medium soils with 2 to 5% organic matter.

Precautions:

- **Rotational Crop Planting Restriction:** Plant only spring seeded barley (grown under irrigated conditions), or sunflower as rotational crops in the crop year following the crop treated with Trifluralin 4EC Herbicide. If one of these specified crops is not planted, the land should be left idle or fallow for the entire crop year following the crop treated with Trifluralin 4EC Herbicide.

SMALL GRAINS – BARLEY, DURUM, AND WHEAT

Special Precautions for Use of Trifluralin 4EC Herbicide on Small Grains
Carefully follow directions for use of Trifluralin 4EC Herbicide on small grains to minimize potential crop stress. Under certain conditions, delayed crop emergence and or stand reduction may occur when Trifluralin 4EC Herbicide 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 possibly reduced yield. **For best results, observe the following cultural practices or precautions:**

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

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

Do not exceed recommended application rates for Trifluralin 4EC Herbicide. This is particularly important on coarse textured or low organic matter soils.

Carefully follow incorporation directions. When applying preplant incorporated treatments, operate equipment at recommended depth and speed to place Trifluralin 4EC Herbicide into the upper 1 to 1 1/2 inches of soil. If applied after planting, set equipment so as to not disturb planted seed.

Set drills to place seed at the depth specified in use directions. A planting depth greater than 2 1/2 inches for **spring wheat or durum** will result in increased seedling stress and decreased emergence.

Use only high quality seed where Trifluralin 4EC Herbicide is to be applied (avoid use of small seed with low starch reserves).

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

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

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

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

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

Note: Do not apply Trifluralin 4EC Herbicide on small grains where a dinitroaniline herbicide such as Treflan or Sonalan® herbicide was applied at a rate greater than 0.5 lb ai per acre the previous growing season.

APPLICATION DIRECTIONS FOR SMALL GRAINS

Barley, Spring Seeded – Spring Application Preplant Incorporated for Foxtail (Pigeongrass) Control (For Use in Minnesota, North Dakota, and South Dakota)
Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment prior to planting spring seeded barley. Trifluralin 4EC Herbicide may be applied to ground that has a manageable level of crop residue or has been fallowed or pre-tilled. The first incorporation is required within 24 hours after application. The second incorporation is required prior to planting to destroy emerged weeds and to insure even distribution of Trifluralin 4EC Herbicide 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" in "General Information" section of this label for details on operation of incorporation equipment.

Planting Directions: Barley should be seeded approximately 1 1/2 inches deep.

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

Barley, Spring Seeded – Spring Applied Trifluralin 4EC Herbicide for Foxtail (Pigeongrass) Control in Spring Seeded Barley Grown Under Irrigation (For Use Only in the State of Montana)
Trifluralin 4EC Herbicide may be spring applied as a preplant incorporated treatment for foxtail (pigeongrass) control in spring seeded barley grown under irrigated conditions in Montana. Trifluralin 4EC Herbicide may be applied to ground that has a manageable trash level or has been fallowed or pretilled. The first incorporation is required within 24 hours after application. The second incorporation is required prior to planting to destroy emerged weeds and to ensure even distribution of Trifluralin 4EC Herbicide in treated soil.

Broadcast Application Rate: Apply Trifluralin 4EC Herbicide at a rate of 1 pint per acre regardless of soil texture or soil organic matter content. Do not exceed this application rate as crop injury may occur.

Incorporation Directions
The following tools are recommended for soil incorporation:

1. **Chisel Plow alone or Chisel Plow with a Rod Weeder attached:** A chisel plow alone should be used for the first incorporation pass only. With rod weeder attached, the chisel plow may be used for both incorporation passes. Operate 4 to 5 inches deep and at 4 to 6 mph. A chisel plow is defined as having three rows of up to 18 inch sweeps on no greater than 12 inch centers. Stagger successive rows of sweeps to ensure that no soil is left unturned.
2. **Tandem Disc:** Operate 3 to 4 inches deep and at 4 to 6 mph.
3. **Field Cultivator:** Operate 3 to 4 inches deep and at 5 or more mph. A field cultivator is defined as having 3 to 4 rows of sweeps with "C" or "S" shaped shanks spaced at intervals of 7 inches or less. Stagger successive rows of sweeps to ensure that no soil is left unturned.

Planting Directions
Plant barley 1 to 2 inches deep. Planting greater than 2 inches deep will result in increased seedling stress and decreased emergence.

Irrigation Directions
Irrigate prior to planting, or after crop emergence only. Irrigation between planting and emergence may cause reduced crop stands or delayed emergence because of soil crusting, especially on loose friable seedbeds.

Use Precautions: Carefully follow Special Use Precautions for Small Grains.

Rotational Crop Planting Restrictions
Plant only barley (grown under irrigated conditions), rapeseed, safflower or sunflower as a rotational crop in the year following the crop treated with Trifluralin 4EC Herbicide. If one of the specified rotational crops is not planted, the land should be left idle or fallow for the entire crop year following the crop treated with Trifluralin 4EC Herbicide.

Barley, Spring Seeded – Spring Application Preplant Incorporated for Foxtail (Pigeongrass) Control in Barley Used as a Cover Crop or in the Conservation Reserve Program
Apply Trifluralin 4EC Herbicide as a preplant 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 Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC (pints)
Coarse	1.0
Medium	1.5
Fine	1.5

Planting Directions: Barley should be seeded approximately 1 1/2 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 Herbicide 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 – Preplant Incorporated for Control of Cheatgrass and Other Annual Grasses and Broadleafs (For Use in Idaho, Oregon, and Washington)
Apply Trifluralin 4EC Herbicide as a preplant 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 Herbicide. Trifluralin 4EC Herbicide may be applied for up to 3 weeks before planting.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC (pints)
Coarse	1.5
Medium	1.5
Fine	2.0

Incorporation Directions: Incorporate Trifluralin 4EC Herbicide 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 Herbicide 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 Herbicide.

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

Winter Wheat – Trifluralin 4EC Herbicide for Partial Control or Suppression of Annual Brome Species (Cheatgrass, Downy Brome, Japanese Brome, Hairy Chess) and Jointed Goatgrass in Winter Wheat in Colorado, Kansas, Nebraska and Wyoming
Trifluralin 4EC Herbicide may be applied as a preplant incorporated treatment for partial control or suppression of annual Brome species (cheatgrass, downy brome, Japanese brome, hairy chess) and jointed goatgrass in winter wheat in Colorado, Kansas, Nebraska, and Wyoming. Apply Trifluralin 4EC Herbicide anytime during a period from three (3) weeks before planting up to immediately prior to planting.

Broadcast Application Rates/Acre[1]

Soil Texture	Trifluralin 4EC (pints)
Coarse	1.0 – 1.5
Medium	1.0 – 1.5
Fine	1.5

[1] Use the higher rate in the rate range where heavy weed populations are anticipated or where medium to high crop residues are present.

Incorporation and Planting Directions: Trifluralin 4EC Herbicide should be incorporated with tillage equipment such as a flexible tine-tooth harrow or springtooth harrow that mixes the soil no more than 1 – 2 inches deep. The grain drill (disc drill or hoe drill) can serve as the incorporation implement. Do not use discs, undercutters or field cultivators for incorporation. Incorporate one time within 24 hours after application. Use a grain drill that will place the seed below the zone of soil into which Trifluralin 4EC Herbicide has been incorporated. One pass incorporation is adequate; however, where the grain drill is used as the incorporation tool, mounting a springtooth harrow in front of the drill can enhance performance. Where a tillage tool is used to incorporate prior to planting, the wheat must be seeded below the soil treated with Trifluralin 4EC Herbicide or crop injury may result. The wheat seed should be placed at least 1 1/2 - 2 inches deep.

Precautions:

- Crop injury in the form of delayed emergence and development may result from planting wheat in direct contact with treated soil.
- Do not incorporate with undercutters, field cultivators, chisel plows or discs. Any implement that incorporates Trifluralin 4EC Herbicide deeper than the planting depth of wheat will contribute to crop injury.
- Use of seeding equipment that does not place the seed below the Trifluralin 4EC Herbicide treated soil layer will result in crop injury.
- Use of Trifluralin 4EC Herbicide in accordance with this label may result in stand reduction.
- Heavy rainfall prior to wheat emergence can cause soil compaction and soil crusting resulting in delayed emergence, stand reduction, stunting and yield loss.

Winter Wheat – Post Plant Incorporated Treatment
Apply and incorporate Trifluralin 4EC Herbicide after planting, but before emergence, to control the following weeds susceptible to Trifluralin 4EC Herbicide in winter wheat: annual ryegrass, annual bluegrass, downy brome (cheatgrass), pacific meadow foxtail (blackgrass), fiddleneck (tarweed), and henbit.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
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 Herbicide 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 incorporations must be done within 24 hours.

Precautions:

- Carefully read and follow "Special Precautions for Use of Trifluralin 4EC Herbicide in Small Grains" before application of Trifluralin 4EC Herbicide.
- 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 – Fall Postplant Soil Incorporated Application for Suppression of Common Windgrass (For Use Only in the State of Michigan)
Trifluralin 4EC Herbicide may be applied as a postplant soil incorporated treatment for suppression of common windgrass in winter wheat. Apply within 2 days after planting and incorporate one time within 24 hours. Use tillage equipment to destroy existing weeds prior to planting. Soil should be relatively free of plant residue, in good tilth and free from clods.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.5
Fine	2.0

Incorporation Directions: Use a rotary hoe or other suitable equipment to incorporate Trifluralin 4EC Herbicide into the upper one-inch of soil. Best results are obtained when the soil is not crusted. Operate the equipment at a speed necessary to achieve uniform soil mixing (rotary hoe, 8 to 10 mph). Set equipment so as to not disturb planted seed or mix the herbicide into the seed zone as crop injury may result if wheat seed is in direct contact with treated soil.

Planting Directions: Set planting equipment to place seed at least 1.5 inches deep.

Precautions: Under certain conditions, delayed crop emergence and or stand reduction may occur when Trifluralin 4EC Herbicide is applied to 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 possibly reduced yield. Carefully follow Special Precautions for Use of Trifluralin 4EC Herbicide in Small Grains to minimize potential crop stress.

Note: Risk of crop injury from Trifluralin 4EC Herbicide applied to winter wheat may be increased if Trifluralin 4EC Herbicide, Sonalan, or Prowl herbicides were applied during the current growing season to the preceding crop.

Winter Wheat – Fallow Soil Application Prior to Planting (For Use in Idaho, Oregon, and Washington)
Trifluralin 4EC Herbicide 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 Herbicide any time from May to September prior to fall planting of 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 Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.5
Medium	1.5
Fine	2.0

Incorporation Directions: Incorporate Trifluralin 4EC Herbicide 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 Herbicide 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 Herbicide.

Precautions:

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

Wheat, Durum and Barley, Spring Seeded – Fall Applied Preplant Soil Incorporated for Foxtail (Pigeongrass) Control (For Use in Minnesota, North Dakota and South Dakota)

Apply Trifluralin 4EC Herbicide herbicide in the fall for foxtail (pigeongrass) control during the following growing season. Incorporate 1 time within 24 hours. Incorporate a second time before planting to destroy existing weeds and insure a uniform distribution of Trifluralin 4EC Herbicide in treated soil. Trifluralin 4EC Herbicide may be applied to ground that has a manageable level of crop residue, or has been fallowed or pre-tilled.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse and Medium	1.0
Fine	1.5

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

Planting Directions

Set equipment to place seed approximately 1 1/2 inches deep.

Precautions

Carefully read and follow "Special Precautions for Use of Trifluralin 4EC Herbicide in Small Grains" before application of Trifluralin 4EC Herbicide.

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

Spring Wheat, Durum, and Barley — Postplant Incorporated for Foxtail (Pigeongrass) Control

Apply and incorporate Trifluralin 4EC Herbicide after planting, but before emergence, to control foxtail (pigeongrass) in spring wheat, durum, and barley.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
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 Herbicide 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 1/2 inches deep and avoid disturbing seed. Application and first incorporation should be done in the same operation if possible. Both incorporations must be done within 24 hours.

Precautions:

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

SOYBEANS

Trifluralin 4EC Herbicide – Alone

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

Broadcast Application Rates/Acre:

	Trifluralin 4EC	
Soil Texture	Spring Application	Fall Application†
	(pints)	(pints)
Course	1.0	2.0
Medium	1.5	2.0
Fine	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 - 2.0 to 2.5 pints

†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 Herbicide at broadcast rates recommended for spring preplant 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 soybean plants which may result in reduced stand, delayed maturity and reduced yield.

Tank Mix Overlay and Postemergence Recommendations

For broader spectrum weed control, other products registered for use in soybeans may be applied in tank mix combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

Special Use Programs

1. Soybeans – Chemigation

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

Apply Trifluralin 4EC Herbicide in 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 Herbicide must be applied within 2 days after planting and prior to crop emergence. Trifluralin 4EC Herbicide does not control established weeds. Soil incorporation is not required when Trifluralin 4EC Herbicide is applied through chemigation systems.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.5 - 2.0
Medium	1.5 - 2.0
Fine	2.0 - 2.5

- Soils with 2% to 5% organic matter - 2.0 pints
- Soils with 5% to 10% organic matter - 2.0 to 2.5 pints

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

2. Soybeans – Weed Control Under Reduced or Conservation Tillage

Trifluralin 4EC Herbicide can be applied either in the fall or in the spring as a preplant incorporated treatment for weed control in soybeans grown under reduced or conservation tillage conditions. Make only 1 application per crop cycle.

Apply to tilled land or standing or chopped stubble from the previous season's crop. The first incorporation of Trifluralin 4EC Herbicide must occur within 24 hours. For the first incorporation, a tandem disc or combination tool that can thoroughly mix Trifluralin 4EC Herbicide into the top 2 to 3 inches of the final seedbed while leaving the desired amount of plant residue on the soil surface is recommended. For fall or spring application, the second incorporation can occur anytime prior to planting or at planting with tillage equipment that provides uniform soil mixing used in conjunction with no-till planters.

The Coulter Caddy as an Option for the Second Incorporation Pass in Soybeans Grown Under Reduced or Conservation Tillage Conditions

Trifluralin 4EC Herbicide can be applied either in the fall or in the spring as a preplant incorporated treatment for weed control in soybeans grown under reduced or conservation tillage conditions. Make only one application per crop cycle.

Apply to tilled land, standing or chopped stubble from the previous season's crop. The first incorporation of Trifluralin 4EC Herbicide must occur within 24 hours. For the first incorporation, a tandem disc or combination tool is recommended that can thoroughly mix Trifluralin 4EC Herbicide into the top 2 to 3 inches of the final seedbed while leaving the desired amount of plant residue on the soil surface. For fall or spring applications, the second incorporation can occur any time prior to planting or at planting with tillage equipment that provides uniform soil mixing used in conjunction with no-till planters.

The second incorporation can be accomplished with an aggressive Coulter Caddy system used in combination with the grain drill used for broadcast planting of soybeans. This method can be employed on soils that are in good tilth and have moderate soil moisture. For best results, the Coulter Caddy should be equipped and operated as follows.

1. Drills should be spaced no more than 8 inches apart.
2. Use fluted coulters that are 3/4 to 1 1/4 inches wide.
3. Set coulters to penetrate the soil to a depth of 1 1/2 to 2 inches.
4. Operate drill a minimum of 6 mph.
5. The drill should be followed by a Furst Harrow or Two-bar tine harrow to aid in leveling of the soil and crop residue.

Note: The Coulter Caddy system is not recommended for the second incorporation pass for spring applied Trifluralin 10G herbicide or dry bulk fertilizer impregnated with liquid formulations of Trifluralin 4EC Herbicide.

Application With Dry Bulk Fertilizers

Dry bulk fertilizers impregnated or coated with Trifluralin 4EC Herbicide may be applied as a preplant incorporated treatment. See instructions for "Application with Dry Bulk Fertilizer" in the "General Information" section of this label. Under reduced or conservation tillage conditions, uniformly applied dry bulk fertilizers impregnated with Trifluralin 4EC Herbicide provide weed and grass control equal to or better than Trifluralin 4EC Herbicide applied in liquid sprays. Two incorporation passes are required when Trifluralin 4EC Herbicide is applied with dry bulk fertilizer. For best results with spring applications, incorporate once within 24 hours after application and a second time at least 5 days later.

Application Rates/Acre:

Soil Texture	Trifluralin 4EC	
	Spring Applied	Fall Applied
	(pints)	(pints)
Course	1.0 - 1.5	1.5 - 2.0
Medium	1.5 - 2.0	2.0 - 2.5
Fine	2.0 - 2.5	2.5 - 3.0

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

Precautions

To be effective, Trifluralin 4EC Herbicide must be mixed thoroughly in the top 2 to 3 inches of soil in the final seedbed. Weed control may be poor or erratic where soil conditions or heavy crop residues do not permit thorough soil mixing.

Soybeans – Trifluralin 4EC Herbicide Plus Canopy and Crop Oil Concentrate Early Preplant Application for Weed Control in No-Till Soybeans (Not For use In California)

Apply Trifluralin 4EC Herbicide plus Canopy herbicide and crop oil concentrate as an early preplant surface applied treatment to control existing weeds and provide preemergence control of susceptible weeds during the cropping season in full season, narrow-row no-till soybeans. The tank mix of Trifluralin 4EC Herbicide plus Canopy with crop oil concentrate should be surface applied as a broadcast spray at least three weeks before planting. For best results, soybean row spacing should be 15 inches or less and planting should occur before May 15. Rainfall of at least 0.5 inches is required within 3 to 5 days after application to activate Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC	Canopy 75DF[1]
	(pints/A)	(ounces/A)
Coarse	2	6
Medium	3	8
Fine	4	10

[1] Use crop oil concentrate at a rate of 1 quart per acre regardless of application rate.

Use of Additional Postemergence Herbicides:

In addition to Canopy plus crop oil concentrate, other postemergence herbicides may be added to the tank mix to enhance control of existing weeds. These include 2,4-D, Gramoxone Extra and Roundup. Refer to the labels of these additional tank-mix products for use rates.

Precautions:

- The user must comply with all applicable use directions, precautions and limitations imposed by the labels for Trifluralin 4EC Herbicide and the tank mix product.
- Read and understand these additional use directions, precautions and limitations before use.

Soybeans – Trifluralin 4EC Herbicide Plus Scepter Combinations for Weed Control in Soybeans (Not For Use In California)

Trifluralin 4EC Herbicide plus Scepter herbicide may be applied as a preplant incorporated tank mix treatment.

Scepter may also be applied as a preemergence overlay treatment or as an early postemergence treatment following a preplant incorporated application of Trifluralin 4EC Herbicide.

Special Use Precautions

- Use of Scepter in combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide is subject to a number of special precautions and limitations required by the label for Scepter. Carefully read, understand and follow all use precautions, rotational crop restrictions and other limitations in the label for Scepter.
- Use of Scepter is limited to certain states. The following additional restriction in imposed: Do not use the Trifluralin 4EC Herbicide plus Scepter tank mix applied preplant incorporated, or Scepter applied as a preemergence overlay or postemergence treatment following Trifluralin 4EC Herbicide preplant incorporated, in the "Northern Use Area" as defined by the Scepter product label.
- The user must comply with all applicable use direction, precautions and limitations imposed by the Trifluralin 4EC Herbicide and Scepter product labels.

Tank Mix of Trifluralin 4EC Herbicide Plus Scepter – Preplant Incorporated

Apply the tank mix of Trifluralin 4EC Herbicide plus Scepter as a preplant incorporated treatment up to 45 days before planting soybeans. Apply and shallowly incorporate into the soil within 24 hours. Follow soil preparation, mixing and application procedures described in the label for Trifluralin 4EC Herbicide. Use incorporation equipment that provides uniform incorporation into the top 2 inches of soil. When using a disc, field cultivator, or rolling cultivator, a second pass must be made at an angle to the first pass to ensure thorough incorporation. If soybeans are planted on beds, apply and incorporate after bed formation.

Trifluralin 4EC Herbicide Preplant Incorporated Followed by Scepter Preemergence Overlay Application

Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment. Follow soil preparation, application and incorporation procedures described in the label for Trifluralin 4EC Herbicide. Apply Scepter to the soil surface after planting but before the crop emerges. Rainfall or overhead sprinkler irrigation is necessary to move the Scepter overlay treatment into the weed germination zone. The amount of rainfall or sprinkler irrigation required depends on existing soil moisture, soil texture and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is normally adequate. If adequate moisture is not received within 7 days after a surface applied treatment, a cultivation is recommended to control escaped weeds.

Weeds Controlled (Tank Mix or Overlay)

The tank mix of Trifluralin 4EC Herbicide plus Scepter or Trifluralin 4EC Herbicide followed by overlay treatments of Scepter control the weeds listed on the label for Trifluralin 4EC Herbicide alone plus these additional weeds:

cocklebur, common	pigweed	ragweed
jimsonweed	(Palmer)	(common)
mallow, Venice	(smooth)	(giant)[1]
morning-glory	(tall waterhemp)	smartweed
(pitted)	poinsettia, wild	(ladysthumb)
(smallflower)	prickly sida	(Pennsylvania)
mustard species	(Teaweed)	sunflower, common
nightshade, eastern black[1]		velvetleaf[1]

[1] Eastern black nightshade, giant ragweed, and velvetleaf are controlled by preplant incorporated treatments only.

Trifluralin 4EC Herbicide plus Scepter tank mix or Scepter overlay treatments will aid in the control and reduce competition from weeds in the following list. Control of these weeds may be erratic, ranging from poor to excellent, depending upon soil temperature, time of weed germination, depth of weed seed in soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

morning-glory[2]	nutsedge, yellow[3]
(entireleaf)	panicum, fall[4]
(ivyleaf)	shattercane[4]
(tall)	

[2] For best activity on morning-glory species, use tank mix preplant incorporated treatments.

[3] Use tank mix preplant incorporated treatments only to aid in control of yellow nutsedge.

[4] Trifluralin 4EC Herbicide alone control fall panicum and shattercane at increased rates. See the label for Trifluralin 4EC Herbicide for special instructions.

Broadcast Application Rates For Preplant Incorporated or Preemergence Overlay Treatments:

Broadcast Application Rates/Acre

Soil Texture	Trifluralin 4EC	Scepter Tank Mix or Overlay
	(pints)	(pints)
Coarse	1.0	0.67
Medium	1.5	0.67
Fine	2.0	0.67

Trifluralin 4EC Herbicide Preplant Incorporated Followed by Scepter Postemergence Application

Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment. Additional weeds tolerant to Trifluralin 4EC Herbicide may be controlled using a postemergence application of Scepter. Consult the Scepter product label for application rates, additional weeds controlled, application directions and precautions before use.

3. **Soybeans – Fall Panicum Control**
Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment at a broadcast rate of 2.0 pt/acre on coarse and medium soils.

Soybeans – Trifluralin 4EC Herbicide Plus Tri-Scept Tank Mix for Control of Fall Panicum, Seedling Johnsongrass and Shattercane in Soybeans
Trifluralin 4EC Herbicide should be tank mixed with Tri-Scept herbicide and applied as a preplant incorporated treatment where infestations of fall panicum, shattercane and seedling johnsongrass are anticipated. Use application and incorporation methods for Trifluralin 4EC Herbicide applied as a preplant incorporated treatment.

Broadcast Application Rates per Acre: In addition to the recommended rate per acre of Tri-Scept (2.33 pt/acre), add the indicated amount of Trifluralin 4EC Herbicide to control the weed species indicated.

Weed Species	Soil Textures	Trifluralin 4EC
		(pints)
Fall Panicum	All	0.5
Johnsongrass	Medium	0.5
(seedling only)	Fine	0.5
	Medium	0.5
Shattercane	Fine	1.0

General Use Precautions:
- The use of Tri-Scept is limited to those states or portions of states listed on the label for Tri-Scept. Do not use the tank mix of Trifluralin 4EC Herbicide plus Tri-Scept in the "Northern Use Area" as defined by the label for Tri-Scept.
- Do not graze or feed treated soybean forage, hay, or straw to livestock.
- Do not apply Tri-Scept postemergence to soybeans as crop injury may occur.
- Crops other than soybeans may be injured by spray, drift or other indirect contact with Tri-Scept.
- To avoid injury to sensitive crops, spray equipment used for applications of Tri-Scept must be drained and thoroughly cleaned with water before being used to apply other products to the following crops: cotton, corn, grain sorghum, rice and vegetables.
- A preharvest interval of 90 days is required between the last application of Tri-Scept and the soybean harvest.

Replanting: If replanting is necessary in a field previously treated with Tri-Scept, replant only soybeans. Rework soil no deeper than the treated zone. Do not reapply Tri-Scept.

All additional use directions, precautions and limitations applicable to the use of Tri-Scept, apply to the use of this tank-mix.

Rotational Crop Restrictions for Tri-Scept:
Use of Tri-Scept herbicide in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of Tri-Scept and therefore, rotational crop injury is always possible.

Certain severe restrictions apply to corn, wheat and other rotational crops following an application of Tri-Scept. Refer to the label for Tri-Scept for complete details of these and other restrictions.

1. Do not plant wheat within 4 months following an application of Tri-Scept in soybeans; and, do not plant rice until the spring of the year following an application of Tri-Scept.
2. Do not plant barley, field corn, edible beans, grain sorghum, oats, peanuts or tobacco within 11 months after an application of Tri-Scept.
3. Do not plant sugar beets for 26 months after an application of Tri-Scept.
4. Field corn planting restrictions: For the "Southern Use Area" as defined by the label for Tri-Scept; field corn may be planted as a rotational crop in the spring of the year following an application of Tri-Scept unless extreme drought conditions develop or less than 15 inches of rainfall or irrigation is received from the date of application through October of the year of application. For eastern Oklahoma, Arkansas, the Bootheel of Missouri, Tennessee, North Carolina and states south: field corn may be planted in the spring of the year following an application of Tri-Scept unless extreme drought conditions develop or less than 15 inches of rainfall or irrigation is received within 6 months following the date of application.
5. Do not plant cotton or rotational crops other than those listed above within 18 months following an application of Tri-Scept.
6. Do not apply products containing chlorimuron ethyl (e.g., Classic, Canopy, Gemini, Lorox Plus, Preview, etc.) or imazethapyr (e.g., Pursuit or Pursuit Plus) the same year as Tri-Scept or injury to following crops may occur.

Refer to the labels for Trifluralin 4EC Herbicide and Tri-Scept for additional use directions, precautions and limitations before use.

4. Soybeans – Pigweed and Seedling Johnsongrass Control
Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment.

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

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0 - 1.5
Medium	1.5 - 2.0
Fine	2.0 - 2.5

(Exception: Louisiana, 3.0 pt/acre on fine soils).

5. Soybeans – Additional Weed and Grass Control in Gulf Coast Counties of Texas

Apply Trifluralin 4EC Herbicide as a preplant 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 Herbicide at the following broadcast rates:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.5
Medium	2.0
Fine	3.0

6. Soybeans – Bichgrass (Ryegrass) Suppression

Apply Trifluralin 4EC Herbicide as a preplant incorporated treatment or at layby.

Layby Treatment: Cultivate to remove existing weeds and treat when soybeans are well established (10 inches tall). Apply as 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	Preplant Incorporated	Layby Application
	(pints)	(pints)
Medium	3.0	1.0
Fine	3.0	2.0

7. Soybeans – Charcoal Soils in Arkansas, Louisiana, and Mississippi

Newly cleared land often contains high organic matter (5-10%) and charcoal from burning debris. Charcoal and organic matter tends to bind Trifluralin 4EC Herbicide and reduce weed control activity. Under these conditions, higher rates of Trifluralin 4EC Herbicide 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 Herbicide. 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 Herbicide is used. Follow recommended application and incorporation procedures for Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.5 - 2.5
Medium	2.5
Fine	3.0

Soybeans - Use Rates for Fall Application Prior to Planting Soybeans in the Spring (For Use Only in Arkansas, Louisiana, and Mississippi)

Apply Trifluralin 4EC Herbicide as a preplant soil incorporated treatment. Trifluralin 4EC Herbicide may be applied in the fall prior to planting soybeans in the spring. For details on fall application, refer to instructions under "Application Timing" in the "General Information" section of the label for Trifluralin 4EC Herbicide. Follow recommended soil preparation, application and incorporation procedures in the label for Trifluralin 4EC Herbicide.

Broadcast application rates for fall application in soybean producing areas of Arkansas, Louisiana and Mississippi:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	2
Medium	2 - 3
Fine	2.5 - 4

Note: Use the higher rate in the rate range under conditions of abundant rainfall and mild winter temperatures.

In U.S. soybean producing areas other than Arkansas, Louisiana and Mississippi, use application rates specified in the label for Trifluralin 4EC Herbicide for fall application.

Restriction: In the season following this treatment, plant only those crops for which Trifluralin 4EC Herbicide can be applied as a preplant incorporated treatment.

8. Soybeans – 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 Herbicide in the spring before planting. Follow recommended soil preparation and incorporation procedures for Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC	
	Application Year 1	Application Year 2
	(pints)	(pints)
Coarse	2.0	1.0
Medium	3.0	1.5
Fine	4.0	2.0
Coarse Soils With 2-5% organic matter	3.0	1.5
Soils with 5-10% organic matter	4.0	2.0 - 2.5

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

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.5 - 2.5
Medium	2.5
Fine	3.0

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

Precautions: 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 Herbicide at the normal rate indicated for soil texture and charcoal level, plant only those crops for which Trifluralin 4EC Herbicide is registered as a preplant treatment or crop injury may result. Rice may be planted during the third year following application of normal use rates in year two.

9. Soybeans – Rhizome Johnsongrass Control in Eastern United States and the State of Texas

Rhizome johnsongrass control with Trifluralin 4EC Herbicide requires double rate application for 2 consecutive years. Commercially acceptable control cannot be obtained with only 1 year of double rate use of Trifluralin 4EC Herbicide. Carefully follow the special use directions which follow.

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

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	2.0
Medium	3.0
Fine	4.0

- Coarse soils with 2% to 5% organic matter - 3.0 pints
- Soils with 5% to 10% organic matter - 4.0 pints

Spring Application: Apply Trifluralin 4EC Herbicide any time before planting in the spring for 2 consecutive years.

Fall Application: Apply Trifluralin 4EC Herbicide after October 15 for 2 consecutive years.

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

Soil Texture	Trifluralin 4EC Spring & Fall
	(pints)
Coarse	1.0 + 1.0
Medium	1.5 + 1.5
Fine	2.0 + 2.0
Coarse Soils with 2-5% organic matter	1.5 + 1.5
Soils with 5-10% 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 Herbicide can be applied as a preplant treatment or crop injury may result.

10. Soybeans – Wild Cane (Shattercane) Control

Follow recommended soil preparation and application procedures for Trifluralin 4EC Herbicide. 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 Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
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 Herbicide 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.

SUGAR BEETS

Trifluralin 4EC Herbicide – Alone

Apply Trifluralin 4EC Herbicide 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)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.25 - 1.5

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

Precautions: Exposed beet roots should be covered with soil before application of Trifluralin 4EC Herbicide 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 (Flexdine or Melroe) can be used to incorporate Trifluralin 4EC Herbicide 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 avoid damage to sugar beet tap root. Use application procedures and broadcast application rates recommended in preceding section.

Tank Mixing

For broader spectrum weed control, other products registered for use in sugar beets may be applied in tank mix combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

SUGARCANE

Trifluralin 4EC Herbicide – Alone

Apply and incorporate Trifluralin 4EC Herbicide twice a year. Make the first application of Trifluralin 4EC Herbicide in the fall on firmly packed beds immediately after the seed pieces are planted. Make the second application of Trifluralin 4EC Herbicide 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
All Textures	(pints) 2.0 - 4.0†

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

Postplant Application for Control of Most Annual Grasses, Including Guineagrass (For Use in Hawaii)
Surface apply Trifluralin 4EC Herbicide 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 Herbicide 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 Herbicide just before anticipated rainfall in non-irrigated and furrow-irrigated sugarcane. Apply 0.5 inch or more irrigation in drip-irrigated or sprinkler-irrigated sugarcane as soon as possible after applying Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
All Textures	(pints) 6.0 - 8.0

Repeat Applications:
Subsequent germination of grass weeds may occur prior to the development of a full dense canopy of sugarcane. If this occurs, additional grass weed establishment is strongly suppressed. One or two additional applications of Trifluralin 4EC Herbicide can be applied to maintain weed control during the early crop development period. For repeat applications, direct the spray to the soil surface to minimize interception of the herbicide by the crop.

Restrictions:
- Do not apply Trifluralin 4EC Herbicide as a postplant surface applied treatment within 180 days of harvest.

Applications Up to Layby for Plant Cane or Ratoon Cane (For Use in Louisiana and Texas)
Apply and incorporate Trifluralin 4EC Herbicide 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
All Textures	(pints) 2.0 - 4.0†

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

Ischgrass (Ravenglass) Control (For Use in Louisiana)
Apply and incorporate Trifluralin 4EC Herbicide on plant or ratoon cane. Follow use directions in preceding section for layby application.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
All Textures	(pints) 2.0 - 4.0

SUNFLOWERS

Trifluralin 4EC Herbicide – Alone
Apply and incorporate Trifluralin 4EC Herbicide in the spring before planting or in the fall in advance of spring planting. See instructions for fall application under "Application Timing" in the "General Information" section of this label.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

Tank Mixing
For broader spectrum weed control, other products registered for use in sunflowers may be applied in tank mix combination with Trifluralin 4EC Herbicide or as a sequential treatment following application of Trifluralin 4EC Herbicide. When tank mixing, use the recommended rate of Trifluralin 4EC Herbicide. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the "General Information" section of this label.

Trifluralin 4EC Herbicide for Weed Control in Sunflower (For Use only in the State of Montana)
Apply and incorporate Trifluralin 4EC Herbicide in the fall after September 1 or in the spring before planting. Make only one application of Trifluralin 4EC Herbicide per crop cycle. Follow soil preparation, application and incorporation instructions in the product label for Trifluralin 4EC Herbicide.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
Coarse	(pints) 1
Medium	1.5
Fine	2

Use 1.5 to 2 pints of Trifluralin 4EC Herbicide per acre on coarse and medium soils with 2 to 5% organic matter.

Precautions:
- **Rotational Crop Planting Restriction:** Plant only spring seeded barley (grown under irrigated conditions), or safflower as rotational crops in the crop year following the crop treated with Trifluralin 4EC Herbicide. If one of these specified crops is not planted, the land should be left idle or fallow for the entire crop year following the crop treated with Trifluralin 4EC Herbicide.

TOMATOES

Apply Trifluralin 4EC Herbicide to direct-seeded tomato as a directed spray between rows and beneath plants and incorporate at the time of blocking or thinning. For transplant tomatoes, apply and incorporate before transplanting or apply post-plant as a directed spray to the soil between the rows and beneath plants and incorporate.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

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

New Plantings of Citrus, Fruit, and Nut Trees

For new plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine, and walnut trees, apply and incorporate Trifluralin 4EC Herbicide before transplanting.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0
Medium	1.25 - 1.5
Fine	1.5 - 2.0

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

New Plantings of Vineyards

Apply and incorporate Trifluralin 4EC Herbicide before transplanting.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
Coarse	1.0 - 1.5
Medium	1.5 - 3.0
Fine	3.0 - 4.0

- Soils with 2% to 10% organic matter - 4.0 pints
- 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 pt/acre on mist propagated grape rootings.

Established Non-bearing and Bearing Citrus, Fruit, and Nut Trees and Vineyards

Trifluralin 4EC Herbicide 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 Herbicide as a directed spray to the soil and incorporate using methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 4EC
	(pints)
All Soil Textures	2.0 - 4.0

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

Trifluralin 4EC Herbicide Applied in Irrigation Water Rings for Weed Control in Non-bearing Citrus Trees (For Use Only in the State of Florida)

Trifluralin 4EC Herbicide may be applied to non-bearing citrus trees through irrigation water rings to provide preemergence control of labeled weeds.

Mixing: Mix at a rate of 12 fluid ounces of Trifluralin 4EC Herbicide per 500 gallons of water. Agitate until uniformly dispersed in tank.

Application: Apply 10 gallons of Trifluralin 4EC Herbicide mixture per four foot diameter water ring per tree. Application should be made at the second or third watering and should not be applied in combination with any other pesticide.

Rhizome Johnsongrass Control - Special Two-year Use Program

Trifluralin 4EC Herbicide may be applied for 2 consecutive years in a special use program to control rhizome johnsongrass in established vineyards and in plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, tangelo, plum, prune, 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:

The following application rate must be applied for 2 consecutive years:

Soil Texture	Trifluralin 4EC
	(pints)
All Soil Textures	4.0

Incorporation: Incorporate Trifluralin 4EC Herbicide 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 cultivations are necessary to obtain commercially acceptable control. Commercially acceptable control cannot be obtained with only a single year use of Trifluralin 4EC Herbicide.

Precautions: Do not use the 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 Herbicide has been registered as a preplant incorporated treatment.

Bindweed Control in California

Trifluralin 4EC Herbicide 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 applying Trifluralin 4EC Herbicide to prevent interference 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 Herbicide 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)
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 Herbicide. Prevent or eliminate cracks by shallow discing or other tillage. Avoid deep tillage which disturbs the subsurface layer. Cultivation or tillage also aids the control of germinating seeds.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or 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/Bilkl-bulk Tank Cleaning: Triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

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