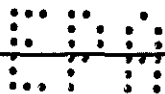




# Trifluralin 50W



A SELECTIVE HERBICIDE FOR THE PREEMERGENCE CONTROL OF ANNUAL GRASSES AND BROADLEAF WEEDS.

**ACTIVE INGREDIENT:**

Trifluralin: $\alpha,\alpha,\alpha$ -trifluoro-2,6-dinitro-N, N-dipropyl-p-toluidine .....	50.0%
<b>INERT INGREDIENTS</b> .....	<b>50.0%</b>
<b>TOTAL</b> .....	<b>100.0%</b>

Each 5-pound water soluble packet contains 2.5 pounds of active ingredient (0.5 lb trifluralin per pound of product)

## KEEP OUT OF REACH OF CHILDREN CAUTION

See Below For Additional Precautionary Statements

NOTE: Do not puncture or break water soluble packet. This packet is designed to be added directly to the partially filled spray tank, in order to avoid direct exposure to the concentrated product.

EPA REG. NO. 35935-1

EPA EST. NO. \_\_\_\_\_

11/02

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. May be harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**Personal Protective Equipment (PPE):**

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material, and shoes plus socks.

Follow manufacturers instructions for cleaning/maintaining PPE. If no such instructions for washables use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls Statements:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 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

<b>If in Eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on Skin or Clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of soap and water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

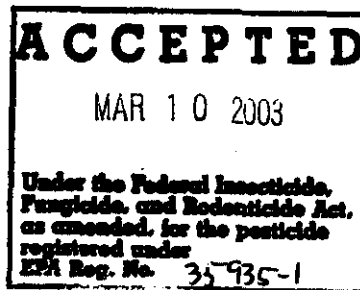
### ENVIRONMENTAL HAZARDS

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

### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read all directions for use before applying this product.

Do not apply this product in a way that will contact workers or other persons either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.



### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Exception: If the product is soil injected or soil incorporated, the Worker Protection Standard under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water is coveralls, shoes plus socks, and chemical-resistant gloves made of any waterproof material.

### STORAGE AND DISPOSAL

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

**STORAGE:** Store in original container only. In case of spill, sweep up material and dispose as waste. Water soluble bags are brittle when stored below 32°F. To avoid breakage, handle carefully when frozen or allow to warm before handling. Store in a cool, dry place. Avoid prolonged storage above 115°F. Do not store in direct sunlight.

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

**CONTAINER DISPOSAL:** This product is packaged in water soluble packets. The entire packet is designed to be placed in the partially filled spray tank. Boxes in which packets are shipped and stored should be disposed of in a sanitary landfill or by incineration in accordance with, and if allowed by, state and local regulations. If burned, stay out of smoke.

### PRECAUTIONS

When applied according to label directions, and under normal growing conditions, Trifluralin 50W will not harm the crops approved for treatment under this label. 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 50W. Under these conditions, stand reduction, delayed crop development or reduced yields may occur.

Application at higher rates than directed on the label may cause crop injury or rotational crop damage from residual trifluralin in the soil. Such over application can also result in residues in the crop which exceed legal tolerances for trifluralin.

Do not apply Trifluralin 50W to soils that are wet or are subject to prolonged periods of flooding, as poor weed control may result.

Do not use Trifluralin 50W on any crop in Pecos or Reeves counties in Texas.

In Montana, Trifluralin 50W can only be used as described in supplemental labeling for that state.

### ROTATION CROP RESTRICTIONS

1) Sugarbeets, Redbeets and Spinach should not be planted for 12 months after a spring application or 14 months after a fall application of Trifluralin 50W. Moldboard plow to a depth of 12 inches prior to planting these crops, in addition to the above waiting periods, to reduce the possibility of crop injury. Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming: If treated 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 50W.

2) Proso Millet, Corn, Sorghum (Milo), Oats and Annual or Perennial Crops or Grass Mixtures should not be planted for 14 months after a spring application or 16 months after a fall application of Trifluralin 50W in the following states: Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. In addition, 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 in the above states.

Trifluralin is an agricultural pesticide: Keep away from food, feedstuffs and water supplies. Do not ship or store with food, feeds, drugs or clothing.

### GENERAL INFORMATION

Trifluralin 50W is a selective herbicide for preemergence control of annual grasses and broadleaf weeds. Trifluralin 50W may be applied in a water spray or in liquid fertilizer. This herbicide must be incorporated into the soil within 24 hours after application to avoid loss of herbicidal activity. Trifluralin 50W may be tank mixed with other herbicides, or applied alone and followed by overlay or postemergence treatments of other herbicides to control a broader spectrum of weeds. Trifluralin 50W controls weeds by disrupting growth processes as the weeds germinate. It does not control established weeds.

In Minnesota, North Dakota and South Dakota, wait 18 months after a spring application or 21 months after a fall application of Trifluralin 50W before planting any of the crops listed above.

In those areas of Kansas, Nebraska, Oklahoma and Texas receiving less than 20 inches of rainfall and irrigation in growing the treated crop, wait 18 months after applying Trifluralin 50W before planting the crops listed above. In sorghum (milo), cool, wet weather during the early growth stages may increase the chances of crop injury.

In areas of these four states that receive more than 20 inches of rainfall and irrigation, the above crops should not be planted for 12 months after a spring application or 14 months after a fall application of Trifluralin 50W.

Note, in all the above cases, ~~preplant~~ ~~soil~~ ~~plowing~~ to a depth of 12 inches before planting the crops, ~~instead~~ will further reduce the possibility of crop injury.

3) Vegetable crops, other than those recommended on this label for preplant soil incorporated application of Trifluralin 50W, should not be planted within 5 months after an application of Trifluralin 50W.

**SOIL TEXTURE GUIDE FOR APPLICATION RATES**

Recommendations for Trifluralin 50W rates are based primarily on soil texture class (coarse, medium and fine) and soil organic matter content. A fine textured soil, such as a clay loam, will require higher application rate for effective weed control than a coarse soil, such as a sandy loam. Use the following table to determine the soil texture class of the soil to be treated with Trifluralin 50W. The use rates recommended throughout this label are based on these soil texture classes:

Soil Texture Class	Soil Texture to be Treated
Coarse (Light) Soils	Sand, loamy sand, sandy loam
Medium Soils	Loam, silty clay loam†, silt loam, 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 can 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 50W alone:

Trifluralin 50W may be mixed with water or most liquid fertilizers. Before mixing this product in liquid fertilizer, refer to the section on this label entitled "Testing for Compatibility in Liquid Fertilizers" for directions on testing compatibility with the fertilizer to be used. The combination of Trifluralin 50W with solution and suspension-type fertilizers provides weed and grass control equal to sprays of Trifluralin 50W in water.

Fill the spray tank 1/3 to 1/2 full with clean water or liquid fertilizer. Start agitation. Add correct amount of Trifluralin 50W and continue agitation while filling tank to required spray volume, and until water soluble bags dissolve.

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

Trifluralin 50W in Tank Mix: Trifluralin 50W may be tank mixed with other products and applied in water or most liquid fertilizers. Before tank mixing Trifluralin 50W with other products in fertilizer, refer to the label section entitled "Testing for Compatibility in Liquid Fertilizers" for directions. Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. The best agitation is generally obtained from sparger pipe agitators. To prevent foaming during filling, keep the end of the 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 of water or fertilizer required. Start agitation and allow time after addition of each product for complete mixing and dispersion. Add different formulations in the following order:

Dry flowables (DF); Trifluralin 50W and other Wettable Powders (WP); Aqueous Suspensions (AS); Flowables (F). Maintain agitation and fill the spray tank to 3/4 of the total spray volume, then add Liquids (L); Emulsifiable Concentrates (EC) and Solutions (S). *Note:* For dry flowable products, allow extra mixing and dispersion time. Finish filling the spray tank and continue vigorous agitation throughout application. If spraying and agitation must be stopped before the spray tank is empty, suspended materials may settle to the bottom of the tank. Settled materials must be resuspended before spraying is resumed. A sparger agitator is one of the more effective ways to do this. Resuspension may be more difficult than when originally mixed.

*Note:* Depending on water temperature and degree of agitation, bags should dissolve in about 5 minutes. Bags dissolve more slowly in cold water and with less active agitation. Make sure that bags are completely dissolved before spraying

Premixing: Dry and flowable formulations are better dispersed in the tank mix if premixed (slurried) with water and added to the spray tank through a 20-35 mesh screen. This procedure assures good initial dispersion of these formulations in either water or fertilizer. Line screens in the spray tank should be no finer than 50 mesh (the larger the number, the finer the mesh).

Precautions: Read and follow all label instructions for each material added to the tank mix. Do not allow water or spray mix to back siphon into the water source.

**TESTING FOR COMPATIBILITY IN LIQUID FERTILIZERS**

Trifluralin 50W, alone or in tank mix combinations, may not be compatible with some liquid fertilizers. Small quantities of each product should always be mixed to test compatibility before full scale mixing. Follow the procedures below to determine if all the products desired in the tank mix are compatible and to determine whether a compatibility agent is needed.

Compatibility Testing Method

- 1) Add 1 pint of liquid fertilizer to a quart jar.
- 2) Add 1 to 4 teaspoon(s) of the DF, WP, AS, F or L formulation(s) as desired (depending on the mixing ratio desired) to the liquid fertilizer. Add 3 to 4 teaspoons of Trifluralin 50W at the time the wettable powder(s) (WP) should be added. Close the jar and agitate until the materials are evenly dispersed in the liquid fertilizer. If the chemical(s) do not disperse well, try slurring the chemicals in water before adding to the fertilizer.
- 3) After dispersing the materials in step 2, add solution herbicides to the mixture last and agitate. Observe the jar after about 10 minutes. If materials rise to the surface and form a thick layer that will not redispense when agitated, a compatibility agent should be added. If the mixture is easily redispersed with slight agitation, a compatibility agent is not

needed. Good agitation must be provided in the spray tank to maintain good dispersion during mixing and application.

4) If it is determined that a compatibility agent is needed (step 3) the following is recommended: Use a clean quart jar repeat step one of this procedure, and add 1/2 teaspoon of a compatibility agent to the liquid fertilizer. Mix well and then repeat steps 2 and 3 above.

An effective compatibility agent will keep the mixture uniformly dispersed for at least 1/2 hour. If slight separation occurs, the mixture should readily redispense with 2 to 3 inversions of the jar. If the mixture will not redispense, additional amount of the 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 disperse with gentle agitation.

The phosphate-ester type surfactants\* which are designed for use with fertilizers at low rates, are often most effective.

**Precaution:** Do not use compatibility agents designed for use with fertilizers in mixtures with plain water. Read the compatibility agent label for use directions and precautions.

The individual and/or company offering the fertilizer or chemical mixture for sale is responsible for complying with state regulations for mixing, registration or labeling and application.

\* Phosphate-ester type surfactants for use with fertilizer include products such as E-Z Mix (Loveland Industries, Inc., Greeley, CO), Combine (Riverside/Terra Corp., Sioux City, IA) Blendex (Setre Chemical Co., Memphis, TN) Unite (Hopkins Ag Chemical, Madison WI); and Sponto 168D (Witco Chemicals Co., Chicago, IL).

## APPLICATION METHODS

### General

Weed control results are greatly impacted by accurate rates, and uniformity of application of the herbicide spray mix.

Calibrate sprayer and check for uniformity of application before treating fields with Trifluralin 50W. In commercial operations, or in situations where treatment will extend over several days, calibrate and check uniformity of application daily.

### Broadcast Application

**Ground:** Apply Trifluralin 50W in 5 to 40 gallons of water or liquid fertilizer per acre. Use a calibrated, low pressure sprayer equipped with fan or other nozzles recommended for herbicide use, and which give uniform broadcast application.

Do not apply when wind exceeds 15 mph, or is gusting.

**Aerial:** Apply Trifluralin 50W in 5 to 10 gallons of water per acre. 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.

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.

**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:** 1. *Volume:* Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. 2. *Pressure:* Do not exceed the nozzle manufacturer'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. 3. *Number of nozzles:* Use the minimum number of nozzles that provide uniform coverage. 4. *Nozzle Orientation:* Orienting nozzles so that the spray is released backwards, parallel to the air stream will produce larger droplets than other orientations and is the recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential. 5. *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 stream 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 crosswind, 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 to 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 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).

**Chemigation:** Trifluralin 50W may be applied through irrigation systems at the rates and stages of growth recommended for specific crops on this label, except as noted below. Apply in 1/2 to 1 acre inch of irrigation water. Mechanical incorporation is not necessary when Trifluralin 50W is applied through the irrigation system; however, except for established alfalfa, soil preparation must be done according to label instruction. Treat the following crops only at the stage named:

**Alfalfa:** Apply during dormancy, semi-dormancy or immediately following a cutting. Destroy existing weeds before application.

**Potatoes:** (Columbia River Basin of Washington and Oregon only): Apply after potato plants have fully emerged on coarse and medium soils.

**Beans:** (all types named in the "Approved Crops" section of this label) Preplant except no fall application.

**Soybeans:** Preplant except no fall application.

**Field Corn:** Two-leaf to 30 inches tall. Use 0.75 to 1.0 lb a.i. per acre.

Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation system(s). Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. 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.

**CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS:** *Note: Nufarm, Ltd. does not encourage connecting chemigation systems to public water supplies. The following information is provided for users who have diligently considered all other application and water supply options before electing to make such a connection.*

Public water system means a system for the provision of public piped water for human consumption, if such a system has at least 15 service connections, or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional reduced-pressure zone backflow preventer (RPZ) or the functional equivalent in the water supply line, upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public supply system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must 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.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the pressure decreases to the point where pesticide distribution is adversely affected. 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. Do not apply when wind speed favors drift beyond the area intended for treatment.

**SPRINKLER CHEMIGATION:** The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. 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. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. 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.

Do not apply when windspeed favors drift beyond the area intended for

treatment.

Mix, in a clean supply tank, the recommended amount of this product for the acreage to be covered, and the needed quantity of water.

This product should not be tank-mixed with other pesticides surfactants or fertilizers for chemigation application unless chemigation is permitted by the other product's label, and unless prior use has shown the combination non-injurious under your conditions of use. Follow precautionary statements and directions for all tank-mix products.

Meter Trifluralin 50W into the irrigation water uniformly during the period of operation. Do not overlap application. Follow recommended label rates, application timing and other directions and precautions for the crop being treated. Continuous agitation is needed.

### Band Application

For band application, select appropriate nozzles and direct to treat the desired area. Adjust herbicide rate and spray volume in proportion to the band width and row width to be treated, using the following formulae:

$$\frac{\text{Band width (inches)} \times \text{Broadcast rate/A}}{\text{Row width (inches)}} = \text{Band Rate/A}$$

$$\frac{\text{Band width (inches)} \times \text{Broadcast vol/A}}{\text{Row width (inches)}} = \text{Band vol/A}$$

### APPLICATION TIMING

**Spring application:** Trifluralin 50W can be applied anytime after January 1, when soil can be worked and is in condition which allows uniform incorporation of herbicide. For recommended application timing for specific crops and weeds, see directions under "Approved Crops" section.

**Fall application:** Trifluralin 50W can be applied in the fall for all crops for which it is approved as a preplant incorporated treatment. See "Approved Crops" section for specific fall application recommendations.

In California, Minnesota, North Dakota and South Dakota, apply and incorporate Trifluralin 50W any time between September 1, and December 31. In all other states, fall application should be made between October 15 and December 31.

On bedded ground, reduce beds to desired height before planting, by moving some of the treated soil into furrows. Where soil is left flat over winter, care should be taken not to turn up untreated soil during spring bedding. Destroy established weeds during seedbed preparation. Weeds growing in furrows as a result of exposing untreated soil should be destroyed before planting. Fall application of Trifluralin 50W should not be made to fields which remain wet or are subject to periods of flooding.

**Preemergence Application Immediately After Planting:** Apply and incorporate Trifluralin 50W immediately after planting and prior to crop germination. Adjust incorporation equipment so as not to disturb planted seed. Refer to the "Approved Crops" section of this label for specific crop instructions.

**Postemergence and Layby Application:** Apply and incorporate Trifluralin 50W at the recommended rate to the established crop at or before the last cultivation. Required pre-harvest intervals for treatments with Trifluralin 50W are specified in the "Approved Crops" section of this label. Crop cover may prevent uniform soil coverage from over-the-top sprays. To avoid this problem, use drop nozzles or directed

sprays to achieve uniform soil coverage.

### INCORPORATION DIRECTIONS

Trifluralin 50W is a pre-emergence herbicide which disrupts the growth processes of the germinating seedlings of susceptible weeds. Satisfactory weed control depends on placement of a uniform barrier of Trifluralin in the top 2 to 3 inches of the soil. The following general guidelines for soil preparation and incorporation are important for effective weed control.

**Soil Preparation and Incorporation:** Trifluralin 50W should be uniformly incorporated into the top 2 to 3 inches of soil. Heavy ground cover, such as crop residues and weeds, or soil clods can interfere with uniform soil incorporation. In situations where ground cover is excessive, or soil is cloddy, appropriate soil tillage prior to application of Trifluralin 50W will improve soil coverage and give more uniform incorporation. Trifluralin 50W must be incorporated within 24 hours of application. After initial incorporation, a second pass with the tillage equipment is required. The second pass should be in a different direction, and should be deeper than the first pass.

**General Soil Conditions:** The soil surface should be smooth enough to allow uniform application and incorporation of Trifluralin 50W. Apply when soil moisture is adequate for break up of large clods and uniform mixing during incorporation. Soil compaction and poor incorporation may occur if soil is excessively moist.

**Incorporation in Bedded Culture:** In bedded culture, incorporate Trifluralin 50W in the top 2 to 3 inches of the final seedbed.

**Application Prior to Bedding:** Apply Trifluralin 50W and incorporate once, within 24 hours, before bedding. The bedding operation serves as the second incorporation and can be done later. During post-bedding operations, such as planting, be careful not to bring untreated soil to the surface, since removing treated soil from the soil surface can allow weed germination and establishment in the row.

**Application After Bedding:** Level off beds to planting height before applying Trifluralin 50W. Incorporate Trifluralin with the equipment recommended in the section "Incorporation Equipment" and which conforms to the shape of the bed. Do not bring untreated soil to the surface.

**Cultivation After Planting:** Treated crops may be cultivated without affecting herbicide performance, provided that cultivation is only as deep as the zone of treated soil (2 to 3 inches). If this zone is disrupted and untreated soil is exposed, the level of weed control will be reduced.

### INCORPORATION EQUIPMENT

Incorporation equipment should be capable of uniformly mixing Trifluralin 50W into the top 2 to 3 inches of the final seedbed. Poor incorporation may result from the use of inadequate equipment or improper use of recommended equipment. This could reduce weed control and possibly cause crop injury. The equipment recommended below may be used alone or in combination with any other recommended implement. Two incorporation passes are needed unless otherwise specified.

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

**Field Cultivator:** Set cultivator to cut 3 to 4 inches deep and operate at a minimum speed of 5 mph. (A field cultivator is defined as an

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

**Combination Seedbed Conditioners:** Combination Implements should be set to cut 3 to 4 inches deep and operated at a minimum of 6 mph. Combination Implements are defined as three or more tillage devices combined to operate as a single tillage implement. An example of a combination implement would be: 2 to 3 rows of field cultivator C- or S- shaped shanks with a spacing of 6 to 9 inches, and staggered so that no soil is left unturned. This would be followed by a spike tooth or flexline harrow and finally a ground driven reel or basket. Trifluralin 50W may be incorporated with a single pass when using a combination implement. However if the soil surface is cloddy or has excessive trash, or if the soil has high clay content or is wet, then a second incorporation pass is required.

**Rolling Cultivator:** Set equipment to cut 2 to 4 inches deep and operate at 6 to 8 mph. Generally, rolling cultivators are recommended only on coarse and medium soils. For treating sugarcane fields, a rolling cultivator may be used on fine textured soils.

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

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

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

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

(giant foxtail)	
(green foxtail)*	
(foxtail millet)	
(pigeongrass)*	
(robust foxtail)	
(yellow foxtail)	
guineagrass**	<i>Panicum maximum</i>
itchgrass**	<i>Rottboellia exaltata</i>
(raoulgrass)	
johnsongrass†	<i>Sorghum halepense</i>
jungerlice	<i>Echinochloa colonum</i>
oats, wild††	<i>Avena fatua</i>
panicum	<i>Panicum</i>
fall panicum	<i>dichotomiflorum</i>
(Spreading panicgrass - see special instructions for control in cotton and soybeans in the "Approved Crops" section)	
ryegrass, Italian	<i>Lolium multiflorum</i>
(annual ryegrass)	
red rice‡	<i>Oryza sativa</i>
sandbur	<i>Cenchrus incertus</i>
(burgrass)	
sprangletop	<i>Leptochloa</i>
	<i>filliformis</i>
shattercane‡	<i>Sorghum bicolor</i>
(wildcane)	
stinkgrass	<i>Eragrostis</i>
(lovegrass)	<i>cillianensis</i>
Texas panicum	<i>Panicum texanum</i>
(buffalograss)	
(Coloradograss)	
woolly cupgrass	<i>Eriochloa villosa</i>

\* Certain populations of green foxtail/pigeongrass in spring cereal grain production areas of North Dakota have been identified as resistant to dinitroaniline type herbicides such as trifluralin. Alternative herbicides that are not dinitroanilines should be used

\*\* See special instructions for control in sugarcane.

† Johnsongrass from seed. For control of rhizome Johnsongrass, see special instructions in cotton, soybeans, fruit and nut crops and vineyards.

†† When applied as a preplant incorporated treatment, Trifluralin 50W controls wild oats that germinate in the treated zone. Wild oat control is not claimed for incorporated uses in small grains.

‡ See special instructions for control in soybeans.

**WEEDS CONTROLLED BY TRIFLURALIN 50W**

**Grass Weeds**

Common Name	Scientific Name
annual bluegrass	<i>Poa annua</i>
barnyardgrass	<i>Echinochloa</i>
(watergrass)	<i>crus-gallium</i>
brachiaria	<i>Brachiaria spp.</i>
(signalgrass)	
bromegrass	<i>Bromus tectorum</i>
(cheatgrass)	
(downybrome)	
cheat	<i>Bromus secalinus</i>
(chess)	
crabgrass	<i>Digitaria spp.</i>
(large crabgrass)	
(smooth crabgrass)	
foxtail	<i>Setaria spp.</i>
(bottlegrass)	
(bristlegrass)	

**Broadleaf Weeds**

Common Name	Scientific Name
carpetweed	<i>Mollug verticillata</i>
chickweed	<i>Stellaria media</i>
field bindweed*	<i>Convolvulus</i>
	<i>arvensis</i>
goosefoot	<i>Chenopodium</i>
	<i>hybridium</i>
henbit	<i>Lamium</i>
	<i>amplexicaule</i>
knotweed	<i>Polygonum</i>
	<i>aviculare</i>

- kochia *Kochia scoparia*
- (fireweed)
- (Mexican fireweed)
- lambsquarters, common
- pigweed\*\* *Chenopodium album*
- (carelessweed) *Amaranthus spp.*
- (prostrate pigweed)
- (redroot pigweed)
- (rough pigweed)
- (spiny pigweed)
- puncturevine‡ *Tribulus terrestris*
- (caltrop)
- (goatweed)
- purslane, common *Portulaca oleracea*
- pusley, Florida *Richardia scabra*
- (Florida purslane)
- (Mexican clover)
- (pusley)
- Russian thistle *Salsola iberica*
- (tumbleweed)
- stinging nettle *Urtica dioica*
- (nettle)

\* See special instructions for control in fruit and nut crops and vineyards.  
 \*\*See special instruction for control in soybeans.  
 ‡ Western U.S. only

**Special Use Programs**

Commercially acceptable control of certain difficult to control weeds can be obtained by using Trifluralin 50W in specially designed programs. For more details on controlling difficult weeds in specific crops, see directions for the crop under the section "Approved Crops".

**Cotton**

- Fall panicum control
- Pigweed and seedling Johnsongrass control
- Additional weed and grass control (Gulf Coast counties of Texas)
- Rhizome Johnsongrass

**Soybean**

- Fall panicum control
- Pigweed and seedling Johnsongrass control
- Additional weed and grass control (Gulf Coast Counties of Texas)
- Rhizome Johnsongrass control
- Charcoal soils in Arkansas, Louisiana and Mississippi
- Red rice control in Arkansas, Louisiana, Mississippi and Texas
- Wild cane (shattercane) control
- Rhizome Johnsongrass control with Trifluralin 50W and metribuzin

**Fruit and Nut Crops and Vineyards**

- Rhizome Johnsongrass control
- Field bindweed control

**TRIFLURALIN 50W RATE CONVERSION CHART**

Trifluralin 50W is a water dispersible powder containing 0.5 lb active ingredient (a.i.) per pound of product. Trifluralin 50W is packaged in

5-pound water soluble packets. Each 5-pound packet contains 2.5 lb of active ingredient. Use the chart below to determine the number of 5-pound packets to add to the spray tank.

lb. a.i.	lb. Trifluralin 50W	No. Acres Treated per 5-pound bag of Trifluralin 50W
0.375	0.75	6.66
0.5	1	5
0.625	1.25	4
0.75	1.5	3.33
0.875	1.75	2.85
1	2	2.5
1.25	2.5	2
1.5	3	1.66
2	4	1.25
3	6	0.83
4	8	0.625

The crop recommendations on this label are based on average rainfall conditions. When the annual rainfall amount in your area is radically different than normal, the use recommendations on this label may not be appropriate. For example, below normal rainfall in the Eastern U.S. may result in abnormally long trifluralin carryover. Planting of susceptible rotational crops may then result in crop loss or injury. In the western U.S., abnormally high rainfall may reduce the period of effective weed control. For all areas, use rates and rotational crops should be determined based on both local factors and crop recommendations on this label.

**CROPS**

**ALFALFA - ESTABLISHED**

**General weed control using Mechanical Incorporation of Trifluralin 50W:** Trifluralin 50W will control the weeds listed in the "General Information" section when applied to established alfalfa before weeds emerge. Apply at the rate of 1 lbs. a.i./ A. Broadcast Trifluralin 50W, using ground or aerial equipment, at the rates given below:

Broadcast Application Rates Per Acre	
Soil Texture	lb a.i. Trifluralin
Coarse	0.75
Medium	1.00
Fine	1.00



Use mechanical incorporation equipment that will provide thorough soil mixing with minimal damage to the crop stand.

**Annual Grass Control in Established Alfalfa, Using Water Incorporation:** Broadcast Trifluralin 50W at 1 lbs a.i./A and incorporate by irrigation or rainfall, to control the following weeds:

- |               |           |             |
|---------------|-----------|-------------|
| barnyardgrass | crabgrass | jungerice   |
| bromegrass*   | cupgrass  | sandbur     |
| canarygrass   | foxtail   | wild barley |
- \* (cheat, chess, cheatgrass, downybrome)

Bromegrass germinates at the onset of cooler weather in the fall. To control these weeds, apply Trifluralin 50W after a cutting, between August 1 and October 1, before weed germination.

Rainfall or a single overhead irrigation of at least 0.5 acre inch is required to activate Trifluralin 50W. If furrow irrigation is used, the beds between the furrows should be thoroughly wet. If rainfall or irrigation has not occurred within 3 days after application of trifluralin, mechanical incorporation as described above may be used.

**Precautions**

- Trifluralin 50W application should be made during dormancy, semi-dormancy or immediately after a cutting.
- Do not apply within 21 days before harvest of forage, or 20 days before harvest of hay.
- Apply no more than 2lbs a.i. per year. In the growing season following application of 2 lb a.i. of trifluralin to alfalfa, plant only crops for which Trifluralin is registered as preplant treatment.

**Tank Mix Combinations for Established Alfalfa:** Other products, which are registered for use in established alfalfa, may be applied in tank mix with Trifluralin 50W, or as sequential treatments following application of trifluralin.

Tank mixes with Trifluralin 50W should be broadcast with ground equipment and applied only when alfalfa is dormant or semi-dormant, or immediately after a cutting.

**Precaution:** Refer to the label (s) of the product(s) being tank mixed with Trifluralin 50W for application rates, weeds controlled, use directions and precautions.

**ASPARGUS - ESTABLISHED**

Apply Trifluralin 50W to established asparagus as a single or split application. Trifluralin 50W will suppress volunteer seedling asparagus and field bindweed when applied as directed. Follow recommended soil preparation, application and incorporation procedures for Trifluralin 50W.

**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 per Acre		
Soil Texture	Trifluralin 50W	
	Split Application	Single Application
	Before and After Harvest	Before or After Harvest
	(lb a.i./acre)	(lb a.i./acre)
Coarse	0.5 + 0.5	1.0
Medium	0.75 + 0.75	1.5
Fine	1.0 + 1.0	2.0

Do not apply more than 1.0 lb a.i./acre on coarse soils, 1.5 lb a.i./acre on medium soils or 2.0 lb a.i./acre on fine soils during any calendar year.

**BEANS - DRY BEANS**

**Trifluralin 50W Alone:** Trifluralin 50W can be applied in the fall, or in the spring before planting. Fall applications should be made as directed in the "Application Timing" section of the General Information.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

\*O.M. = Organic Matter  
Use the lower recommended rate in areas receiving less than 20 inches of annual rainfall and irrigation.

**Trifluralin 50W plus EPTC Tank-Mix:** Trifluralin 50W tank-mixed with EPTC can be applied as a preplant incorporated treatment for control of the following additional weeds in dry beans:

- |                   |                         |
|-------------------|-------------------------|
| henbit            | oat, wild               |
| nightshade, black | ragweed, common         |
| nightshade, hairy | smartweed,              |
| Nutsedge          | Pennsylvania velvetleaf |

Use application rates recommended for Trifluralin 50W alone in dry beans, tank mixed with labeled rates of EPTC. Refer to the EPTC label for additional use directions and precautions before use.

**BEANS - GUAR AND MUNGBEAN**

Apply Trifluralin 50W as a preplant soil incorporated treatment at the rates recommended below. See the General Use section for application method, timing and incorporation.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.75
Fine	0.75

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

### CELERY

Trifluralin 50W may be applied to direct seeded or transplant celery preplant, at planting, or immediately after planting. Use the rates recommended below and incorporate as directed in the General Use section.

### BEANS - LIMA BEAN AND SNAP BEAN

Apply Trifluralin 50W as a preplant soil incorporated treatment at the rates recommended below. See the General Use section for application method, timing and incorporation.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	1.0
Medium	1.0
Fine	1.5

\*O.M. = Organic Matter

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

### CARROT

Apply Trifluralin 50W as a preplant soil incorporated treatment at the rates recommended below. See the General Use section for application method, timing and incorporation.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

\*O.M. = Organic Matter

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

### CHICORY /ENDIVE

Apply Trifluralin 50W as a preplant soil incorporated treatment at the rates recommended in the following table. See the General Use section for application methods, timing and incorporation directions.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0 - 1.25

\*O.M. = Organic Matter

### CASTOR BEANS

Apply Trifluralin 50W as a preplant incorporated treatment, or immediately after planting with incorporation equipment set so as not to disturb the seed. Use the rates recommended below. See the General Use section for application method, timing and incorporation.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

\*O.M. = Organic Matter

### COLE CROPS -

**Broccoli, Brussels Sprouts, Cabbage and Cauliflower**  
**Direct Seeded Cole Crops:** Apply Trifluralin 50W as a preplant soil incorporated treatment at the rates in the following table. See the General Use section for directions on application methods, timing and incorporation.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W

	(lb a.i./acre)
Coarse	0.5
Medium	0.5
Fine	0.75

On soils with 2 - 5 % organic matter, use 0.75 lb a.i

**Precaution:** Direct seeded cole crops may be stunted or stands reduced if higher than recommended rates are used.

**Transplanted Cole Crops**

Apply and incorporate Trifluralin 50W, prior to transplanting, at the rates in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

\*O.M. = Organic Matter

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

**CORN - FIELD CORN ONLY**

**Postemergence Incorporated Treatment:** Apply Trifluralin 50W, postemergence to the crop, as a follow-up treatment to cultivation or a preemergence herbicide. Treatment should be made when the crop is established (at least 2 true leaves). Apply trifluralin as a broadcast spray, over the top, as long as uniform coverage of the soil surface is possible. Use a directed spray with drop nozzles if foliage prevents uniform soil coverage.

**Incorporation Directions:** Trifluralin 50W must be mechanically incorporated into the soil within 24 hours after application. One pass of a sweep type cultivator, with 3 to 5 sweeps per row middle is recommended. A rolling type cultivator will also provide adequate incorporation. Avoid bringing untreated soil to the surface and adjust equipment to avoid mechanical injury to the crop. See the General Use section, Incorporation Equipment, for speed and operating depth recommendations.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.375 - 0.5†
Medium	0.5 - 0.75
Fine	0.75 - 1.0

† Apply 0.5 - 0.75 lb a.i. on coarse soils in Alabama, Florida, Georgia, North Carolina, South Carolina and Virginia to control fall panicum and Texas panicum.

Apply lower recommended rate in areas receiving less than 20 inches of annual rainfall and irrigation.

**Precautions**

- Do not apply to sweet corn or corn grown for seed.
- Do not apply Trifluralin 50W to corn as a preplant or preemergence treatment or crop injury may occur.
- Where corn is planted in a furrow, Trifluralin 50W should be applied only after a cultivation to move soil into the row.

**Trifluralin 50W plus Atrazine Tank Mix:** Trifluralin 50W may be applied with atrazine and an emulsifiable oil or oil concentrate, to control weeds which are already established, as well as provide pre-emergence weed control. The corn should be at least at the 2-leaf stage and weeds no more than 1-1/2 inches tall. Twenty-four to forty-eight hours are needed to obtain postemergence activity from atrazine. After this period, 0.5 acre inch of water or mechanical incorporation will activate the pre-emergence weed protection from both the trifluralin and the atrazine.

Use the rates and mechanical incorporation methods given above for Trifluralin 50W alone, applied as a postemergence incorporated corn treatment. Refer to the atrazine label for rates, precautions and additional use directions for atrazine.

**Precaution**

- Where corn is planted in a furrow, Trifluralin 50W should be applied only after a cultivation to move the soil into the row.

**COTTON**

**Trifluralin 50W - Alone:** Trifluralin 50W may be applied at the following times: preplant, after planting (before crop emergence) up to and at lay-by, and in the fall.

Postemergence treatment with Trifluralin 50W may be made from the 4 true leaf stage up to layby (but not less than 90 days before harvest). Apply as a directed spray beneath cotton plants to soil between rows. Use the rates of Trifluralin 50W in the following table, regardless of application timing.

Broadcast Application Rates/Acre	
Trifluralin 50W	
Soil Texture	Spring Application*
	(lb a.i.)
Coarse	0.5
Medium	0.625 - 0.75
Fine	0.75 - 1.0

\*Spring Application Adjustments:

- Coarse and Medium soils with 2-5% organic matter, use 0.75 lb a.i./acre
- Fine soils with 2-5% organic matter- use 1.0 lb a.i./acre
- Soils with 5-10% organic matter- use 1.0 - 1.25 lb a.i./acre
- Use the lower recommended rates for areas receiving less than 20 inches of annual rainfall and irrigation.

**Precautions:** Cotton grown on land treated with Trifluralin 50W should be planted after early season adverse weather is over, especially

when using higher rates. Cool wet weather early in the growth cycle stresses the cotton plant. Reduced stands, delayed maturity and reduced yields can result from planting under adverse conditions.

**Layby Treatment:** Apply Trifluralin 50W in established cotton when the crop is in the 4 true leaf stage to layby (but not less than 90 days preharvest). Apply at the rates in the table above for cotton, using drop nozzles if necessary to get uniform soil coverage.

Incorporate using one pass of a sweep type cultivator, or a rolling cultivator set to give thorough incorporation without damaging the crop. For guidance on depth and speed of operation refer to the "General Information" section on soil incorporation.

**SPECIAL USE PROGRAMS**

**Control of Fall Panicum\*, Pigweed and Seedling Johnsongrass:** Apply at the rates recommended in the table below, and in the following states: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, South Carolina, Tennessee and southern Virginia.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.5 - 0.75
Medium	0.75 - 1.0
Fine	1.0†

- \* For fall panicum apply at broadcast rate of 1.0 lb a.i. per acre on both coarse and medium soils.
- † Exception: 1.5 lb a.i./acre can be applied to fine soils in Louisiana.
- Use higher recommended rates where heavy weed infestations are expected.

**Texas Gulf Coast Counties for Additional Weed Control:** For cotton grown in Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller and Wharton counties, apply as a preplant incorporated treatment up to 2 weeks before planting at the following rates:

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.75
Medium	1.0
Fine	1.0*

\*Incomplete weed control may occur with fine soil textures

**TANK MIXES, OVERLAY AND POSTEMERGENCE TREATMENTS**

**Trifluralin 50W Tank Mixes:** Products registered for preplant incorporation in cotton such as fluometuron, prometryn and norflurazon can be tank mixed with Trifluralin 50W for control of additional weeds. Use the application rates for "Trifluralin 50W Alone" in cotton on the previous page.

**Precaution:** See the label(s) for the product(s) being tank mixed with Trifluralin 50W for additional weeds controlled, application rates, additional use directions and precautions.

**Preplant Incorporated Trifluralin 50W followed by Overlay Treatment of other Herbicide(s):** Weeds not susceptible to Trifluralin 50W, may be controlled by following preplant incorporated treatment of Trifluralin 50W with overlay, preemergence applications of herbicides registered in cotton. These include herbicides such as fluometuron, prometryn and norflurazon, unless prohibited on the product label.

See the label(s) of the herbicide(s) to be overlaid for additional weeds, application rates, use directions and precautions, prior to using.

**Preplant Incorporated Trifluralin 50W followed by Postemergence Treatments of other Herbicides:** Weeds which are not controlled by Trifluralin 50W may be controlled by postemergence treatments of registered cotton herbicides, as long as such use following Trifluralin 50W is not prohibited on the product label. Check the product label for a list of weeds controlled, application rates and other use directions and precautions.

**Cotton Restrictions for Use**

Do not apply within 90 days of harvest. Do not apply more than 2.0 lb/A a.i. per application and do not apply more than 2 lbs a.i. per crop year (either fall application thru lay-by application or pre-plant plus post-plant thru lay-by.)

**CUCURBITS - CANTALOUPE, CUCUMBER AND WATERMELON:**

Apply Trifluralin 50W after emergence when plants have reached the 3 to 4 true leaf stage. Apply as a directed spray to the soil between the rows. Avoid contacting the foliage with trifluralin as slight crop injury may occur. Set incorporation equipment to move soil around the base of the plants.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0 - 1.25

\* O.M. = Organic Matter  
Use lower recommended rate in areas receiving less than 20 inches total annual rainfall and irrigation

**FLAX (FALL APPLICATION ONLY):** Apply and incorporate Trifluralin 50W in the fall to control weeds in spring seeded flax. The first incorporation should be done within 24 hours of applying trifluralin. The second incorporation can be done in the spring before planting and this incorporation or other spring tillage operations should be relatively shallow in order to maintain a firm seedbed. The seedbed should also be

packed before seeding

**Precautions:**

- Plant into a moist seedbed, and no more than 1.5 inches deep, using a press drill or a hoe drill.
- Do not seed until the soil has warmed sufficiently for rapid germination and establishment.
- Planting under conditions which stress the crop in the early growth stages (see General Use Precautions in the General Information section) can make flax susceptible to further stress from the herbicide and can lead to crop injury and reduced yields.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.50
Medium	0.75
Fine	1.0

**GRAIN SORGHUM (MILO)**

**Postemergence Incorporated Treatment:** Apply Trifluralin 50W as a directed or over the top spray when grain sorghum is at least 8 inches tall. Use drop nozzles if crop foliage prevents good soil coverage. Before treatment with trifluralin, cultivate to remove established weeds and to cover the base of the sorghum plants with soil. Cultivation equipment should be set to add at least 1 inch of soil to the base of the crop plants.

**Directions for Incorporating:** Incorporate the Trifluralin 50W into the top 2 to 3 inches of soil within 24 hours of application, using mechanical incorporation. This can be accomplished with one pass of a sweep type, 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 that no untreated soil is exposed. Adjust incorporation equipment to avoid mechanical injury to the sorghum.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.375 - 0.50
Medium	0.50 - 0.75
Fine	0.75 - 1.0

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

**Precautions:**

- Do not apply Trifluralin 50W as preplant or preemergence treatment to grain sorghum or crop injury will occur.
- Use of rates higher than those recommended above, may injure the sorghum crop.

**TRIFLURALIN 50W TANK MIX WITH ATRAZINE IN GRAIN SORGHUM**

**Trifluralin 50W plus Atrazine Tank Mix:** Trifluralin 50W may be applied with Atrazine and an emulsifiable oil or oil concentrate, to control weeds which are already established, as well as provide pre-emergence weed control. The grain sorghum should be at least 8 inches tall and weeds no more than 1-1/2 inches tall. Twenty-four to forty-eight hours are needed to obtain postemergence activity from atrazine. After this period, 0.5 acre inch of water or mechanical incorporation will activate the pre-emergence weed protection from both the trifluralin and the atrazine.

Use the rates and mechanical incorporation methods given above for Trifluralin 50W alone, applied as a postemergence incorporated treatment to grain sorghum. Refer to the Atrazine label for rates, precautions and additional use directions for Atrazine.

**Precaution**

- Where grain sorghum is planted in a furrow, Trifluralin 50W should be applied only after a cultivation to move the soil into the row.

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

Apply Trifluralin 50W as a preplant incorporated treatment at the rates given in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.50
Medium	0.75
Fine	0.75

- On soils with 2-10% organic matter use 0.75 lb a.i.

**HOPS**

Apply Trifluralin 50W to the established crop during dormancy. Incorporate using equipment that will allow uniform mixing in the soil with minimum damage to the crop. Use the rates given in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.50
Medium	0.625 - 0.75
Fine	0.75

- On soils with 2-10% organic matter use 0.75 lb a.i.

**MINT - Established Peppermint and Spearmint (Idaho, Oregon, Washington Only)**

Apply Trifluralin 50W at a rate per acre of 0.5 lb a.i. on coarse soils, 0.625 lb a.i. on medium soils; and 0.75 lb a.i. on fine soils. Use incorporation equipment that will insure thorough soil mixing with a minimum of damage to the established, dormant mint.

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

For weed control in mustard, apply Trifluralin 50W as a preplant incorporated treatment at the rates recommended in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.75
Fine	0.75

- On soils with 2-10% organic matter use 0.75 lb a.i.

### OKRA

For weed control in okra, apply and incorporate Trifluralin 50W at the rates recommended in the following table, either before or immediately after planting. If incorporated after planting, set equipment so as not to disturb the seed.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0 - 1.25

\* O.M. = Organic Matter

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

### ESTABLISHED ONIONS - GROWN FOR DRY BULBS ONLY

Apply as a directed spray to soil between onion rows. Spray shields should be used to prevent injury to foliage or exposed bulbs. Do not apply within 60 days of harvest.

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

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.375 - 0.50
Medium	0.50 - 0.625

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

**Precautions:** Crop disease, improper incorporation depth, excessive moisture, high salt levels or drought, may weaken the crop and increase potential of herbicide damage. Under such conditions, delayed development or reduced yields may occur.

## PEAS

### DRY PEAS AND ENGLISH PEAS

**Preplant Incorporation of Trifluralin 50W Alone:** Apply and incorporate Trifluralin 50W in the spring or fall. Instructions for fall application are given in the Application Timing (General Information) section.

Broadcast Application Rates/Acre		
Soil Texture	Trifluralin 50W	
	Spring Application	Fall Application (Idaho, Oregon & Washington)
	(lb a.i.)	(lb a.i.)
Coarse	0.5	0.5
Medium	0.5	0.625 - 0.75
Fine	0.75	0.75

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

**Trifluralin 50W plus Avadex Tank Mix (For use in Idaho, Oregon and Washington):** For the control of wild oats in dry and English peas, Trifluralin 50W may be tank mixed with Avadex and applied as a preplant soil incorporation treatment. Use the rates given in the table immediately preceding. See the Avadex label for application rates, use directions and precautions before using this tank mix.

### SOUTHERN PEAS

Apply Trifluralin 50W as a preplant soil incorporated treatment. Use the rates recommended in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

\* O.M. = Organic Matter

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

### PEANUTS

**Spanish Peanuts, Florunner and Florigiant Varieties (for Use in New Mexico, Oklahoma, and Texas)**

**Weed control with Trifluralin Alone:** Apply and incorporate Trifluralin 50W before planting, at planting, or immediately after planting.

Broadcast Application Rates per Acre
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Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.75

**Weed Control with Trifluralin 50W Tank Mixed With Vernolate:** Trifluralin 50W may be tank mixed with vernolate and applied as a preplant incorporated treatment to control a broader spectrum of weeds. Use the Trifluralin 50W rates in the table immediately preceding. Use the rates and follow directions and precautions on the Vernolate label.

**PEPPERS (TRANSPLANTS ONLY)**

Apply Trifluralin 50W and incorporate before transplanting peppers, at the rates listed in the table immediately following.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

- \* O.M. = Organic Matter
- Use lower recommended rate in areas receiving less than 20 inches total annual rainfall and irrigation

**POPLAR AND COTTONWOOD TREES GROWN FOR PULPWOOD**

Trifluralin 50W may be used as a soil incorporated treatment to control susceptible weeds in new and established plantings of hybrid poplar and cottonwood trees grown for pulpwood.

**New Plantings:** Apply and incorporate Trifluralin 50W before planting.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.625 - 0.75
Fine	0.75 - 1.0

For soils with 2 - 5% organic matter, use 0.75 - 1.0 lb a.i./acre. On soils with 5 - 10% organic matter, use 1.0 lb a.i./acre. Use lower rate in areas receiving less than 20 inches total rainfall and irrigation.

**Established Plantings:** Apply as a directed spray to the soil and use incorporation methods not injurious to the crop.

Broadcast Application Rates per Acre
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Soil Texture	Trifluralin 50W
	(lb a.i./acre)
All Soil Textures	1.0 - 2.0

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

**Johnsongrass Suppression:** 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 to 3 inch) pieces and to destroy emerging Johnsongrass.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
All Soil Textures	2.0

**Incorporation:** Incorporate twice with a 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.

**POTATOES**

(Not For Use In The State of Maine)

**Trifluralin 50W Alone:** Treat potato fields with Trifluralin 50W after planting but prior to crop emergence, immediately following dragoff, or, after potato plants have fully emerged.

Incorporation equipment should be set so that the bed and furrow are uniformly covered with a layer of treated soil. Non-uniform incorporation can result in herbicide being concentrated over the bed. This can delay emergence and cause brittle stems. When applying and incorporating Trifluralin 50W after potato plants have fully emerged, do not completely cover plants with treated soil. Likewise, do not completely cover plants during subsequent cultivations. Be careful that incorporation equipment does not damage potato seed pieces or elongating sprouts.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

- \* O.M. = Organic Matter
- Use lower recommended rate in areas receiving less than 20 inches total annual rainfall and irrigation

**Split Application in Idaho, Oregon and Washington Only:** On all soils, apply and incorporate 0.375 lb a.i. per acre before planting and 0.375 lb a.i. per acre after planting when potato plants have

fully emerged. Do not apply to soils containing 2% or more organic matter. Follow incorporation directions listed above for application to potatoes after planting.

**Weed Control with Trifluralin 50W Tank Mixed with EPTC:** Trifluralin 50W may be tank-mixed with EPTC and applied as a soil incorporated treatment to control a broader spectrum of weeds. Apply after planting but before the potato crop emerges. In areas where potatoes are normally dragged off, apply and incorporate up to drag off or immediately following. Use the application rates for Trifluralin 50W Alone, recommended in the table immediately preceding. Use EPTC at the application rates recommended, and according to the directions and precautions on that product's label.

**RADISH**

To control weeds in radish crops apply and incorporate Trifluralin 50W at the rates given in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.75
Fine	0.75

**RAPESEED (CANOLA)**

Apply and incorporate Trifluralin 50W in the fall, or in the spring prior to planting. For fall application see the instructions for Application Timing in the General Information section.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.75
Fine	1.00

**Precaution:** Do not use Trifluralin 50W in rapeseed (canola) crops grown in the state of Alaska.

**SAFFLOWER**

Apply and incorporate Trifluralin 50W in the fall, or in the spring prior to planting. For fall application see the instructions for Application Timing in the General Information section.

Broadcast Application Rates/Acre		
Soil Texture	Trifluralin 50W	
	Spring Application	Fall Application†
	(lb a.i.)	(lb a.i.)
Coarse	0.5	0.75
Medium	0.625 - 0.75	1.0
Fine	0.75 - 1.0	1.25

- Coarse and Medium soils with 2-5% organic matter, use 0.75 lb a.i./acre
- Fine soils with 2-5% organic matter- use 1.0 lb a.i./acre
- Soils with 5-10% organic matter- use 1.0 - 1.25 lb a.i./acre
- Use the lower recommended rates for areas receiving less than 20 inches of annual rainfall and irrigation.

†Trifluralin 50W may be fall applied to safflower in the states of Arizona, California, Idaho, Nevada, Oregon, Utah, Washington and Wyoming.

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

Trifluralin 50W controls weeds, such as foxtail in spring seeded small grain crops, and cheat and other annual grasses in winter wheat. However, THE OCCURRENCE OF UNFAVORABLE SOIL AND ENVIRONMENTAL CONDITIONS, IN COMBINATION WITH CERTAIN CULTURAL PRACTICES, CAN STRESS THE CROP AND DELAY EMERGENCE OR REDUCE THE STAND. TO AVOID OR MINIMIZE FURTHER CROP STRESS FROM USE OF TRIFLURALIN 50W, READ AND FOLLOW THE FOLLOWING SPECIAL USE PRECAUTIONS.

**Special Use Precautions for Trifluralin 50W in Small Grains:**

- Use tillage equipment and methods that provide a uniformly firm seedbed. Time the tillage operations to conserve moisture.
- If irrigation is used, irrigate before planting or after germination and emergence. Irrigation (or rainfall) between planting and emergence may cause soil crusting, especially on loose, friable soils. This could delay emergence or reduce stands.
- Do not exceed recommended application rates for Trifluralin 50W; especially on coarse textured or low organic matter soils.
- Carefully follow incorporation directions. When applying preplant incorporated treatments, operate equipment at the recommended depth and speed to place Trifluralin 50W into the upper 1 to 1.5 inches of soil. If applied after planting, set equipment so as not to disturb planted seed.
- Set drills to place seed at the depth recommended in the use directions for the specific crop. Planting spring wheat or durum at a depth greater than 2.5 inches, will cause increased seedling stress and decrease emergence.
- Use only high quality seed where Trifluralin 50W is to be applied. Avoid use of seed varieties known to have poor seedling (emergence) vigor.
- If crop seed is treated, be sure to apply the correct rate in a manner that gives uniform seed coverage. Misapplication may result in reduced germination and/or seedling vigor.
- Do not apply Trifluralin 50W in the fall in combination with any other preplant incorporated herbicide.



- THE FOLLOWING CONDITIONS MAY CONTRIBUTE TO CROP SEEDLING STRESS, WHICH MAY BE INTENSIFIED BY USE OF TRIFLURALIN 50W:

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.

- DO NOT APPLY TRIFLURALIN 50W WHERE SMALL GRAINS ARE BEING GROWN IN THE YEAR FOLLOWING A CROP THAT WAS TREATED WITH A DINITROANILINE HERBICIDE, AT RATES RECOMMENDED FOR ROW CROPS.

**APPLICATION DIRECTIONS FOR SMALL GRAINS  
(Minnesota, North Dakota and South Dakota only)**

**Spring Seeded Barley: Preplant Incorporated Spring Application for Control of Foxtail (Pigeongrass)**

Trifluralin 50W may be applied to ground that has a manageable level of wash, or has been fallowed or pre-tilled. The first incorporation must be made within 24 hours of application. The second incorporation must be done prior to planting, to destroy emerged weeds and to insure uniform distribution of Trifluralin 50W in the top 1 to 1.5 inches of soil.

**Broadcast Application Rates per Acre:** Apply at a rate of 0.5 lb a.i. of Trifluralin 50W for all soil textures, regardless of organic matter content.

**Incorporation:** Use a chisel plow (first incorporation pass only), a tandem disc, a field cultivator or similar implement. Refer to the Incorporation Equipment recommendations under the General Information section for details on setting and operating incorporation equipment.

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

**Precautions**

- Carefully read and follow "Special Use Precautions for Trifluralin 50W in Small Grains" above, before application of Trifluralin 50W.
- While use of this weed control practice may cause reduction in stand, slight stand reductions do not normally affect yield.

**Spring Seeded Barley, Used as a Cover Crop or in the Conservation Reserve Program: Preplant Incorporated Spring Application of Trifluralin 50W for Control of Foxtail (Pigeongrass)**

Apply Trifluralin 50W as a preplant incorporated treatment prior to planting spring seeded barley on land enrolled in the acreage conservation reserve programs. Follow recommended soil preparation, application and incorporation procedures for Trifluralin 50W.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.75
Fine	0.75

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

**Precautions:** Use of this weed control practice may result in slight stand reduction. Follow the most severe grazing restrictions imposed either by the label for Trifluralin 50W, or by the USDA Acreage Conservation Reserve Program, whichever is longest. Contact the local ASCS office or other state agency to obtain information on the USDA grazing restriction.

**WINTER WHEAT**

Use Trifluralin 50W **either preplant or postplant** for control of the following weeds:

- annual bluegrass
- annual ryegrass
- downy brome (cheatgrass)
- pacific meadow foxtail (blackgrass)
- henbit
- fiddleneck (tarweed)

**Preplant Incorporation:** Apply Trifluralin 50W as a preplant incorporated treatment. The growth, development and yield of winter wheat will not be adversely affected, provided that the seed is placed below the zone of soil treated with Trifluralin 50W. Trifluralin 50W may be applied up to 3 weeks before planting.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.75
Medium	0.75
Fine	1.00

**Incorporation Directions:** Incorporate Trifluralin 50W 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 of application. Incorporate a second time, in a different direction, prior to planting. Do not till the soil with a disc after Trifluralin 50W 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 50W.

**Precautions:**

- Carefully read and follow "Special Use Precautions for Trifluralin 50W in Small Grains" above, before application of Trifluralin 50W.
- Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and delayed development.

**Postplant Incorporation:** Apply and incorporate Trifluralin 50W after planting, but before emergence, to control the weeds listed above for wheat. Use the rates recommended in the table immediately following.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.5 - 0.75
Medium	0.75

**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 50W twice, using a Flexline or spike-tooth harrow, operated at a minimum of 5 mph. The second incorporation pass should be in a different direction from the first, and both should be done within 24 hours of applying Trifluralin 50W. Set equipment to cut 1 to 1.5 inches deep to avoid disturbing the wheat seed. Application and the first incorporation should be done in the same operation if possible.

**Precautions**

- Carefully read and follow "Special Use Precautions for Trifluralin 50W in Small Grains" above, before application of Trifluralin 50W.
- Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and delayed development.
- If less than 20 inches of rainfall plus irrigation were received between planting and harvest, refer to rotation crop restrictions before planting sorghum or oats.

**Winter Wheat - Application to Fallow land prior to planting:**

Trifluralin 50W can be shallowly incorporated into fallow soil up to 4 months before planting winter wheat, to control cheatgrass, certain other annual grasses and broadleaf weeds. Apply Trifluralin 50W anytime from May to September prior to planting of winter wheat in the fall. Wheat growth, development and yield will not be adversely affected, provided that the seed is planted below the zone of soil treated with Trifluralin 50W.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.75
Medium	0.75
Fine	1.00

**Incorporation Directions:** Incorporate Trifluralin 50W with a flexible tine-tooth harrow (Flexline or Melroe) set to cut 1 to 2 inches deep and operate at 3 to 6 mph. Incorporate once within 24 hours of application and a second time in a different direction from the first pass, prior to planting. Do not till the soil with a disc after Trifluralin 50W 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 50W.

**Precautions:**

- Carefully read and follow "Special Use Precautions for Trifluralin 50W in Small Grains" above, before application of Trifluralin 50W.
- Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and delayed development.

**Spring Wheat, Durum and Barley - Postplant Incorporated Treatment for Foxtail (Pigeongrass)**

**Control:** Apply and incorporate Trifluralin 50W after planting, but before emergence, to control foxtail (pigeongrass) in spring wheat, durum and barley. Trifluralin 50W may be tank mixed with Avadex to control wild oats. Refer to the Avadex label for application rates, additional use directions, precautions and limitations before use.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.50
Medium	0.50
Fine	0.75

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

**Incorporation Directions:** Incorporate Trifluralin 50W using 2 passes with a flexline or diamond harrow operated at least 5 mph. The second incorporation pass should be in a different direction from the first. Set the implement to cut at least 1 to 1.5 inches deep and avoid disturbing the seed. Application and first incorporation should be done in the same operation if possible. Both incorporations should be done within 24 hours.

**Precautions:**

- Carefully read and follow "Special Use Precautions for Trifluralin 50W in Small Grains" above, before application of Trifluralin 50W.
- Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and delayed development.

**SOYBEANS**

**Weed Control with Trifluralin 50W Alone:** Apply Trifluralin 50W as a preplant incorporated treatment in the spring, or in the fall, at the rates recommended in the following table.

(Directions for fall application can be found under "Application Timing" in the General Information section.)

Broadcast Application Rates/Acre		
Soil Texture	Trifluralin 50W	
	Spring Application	Fall Application†
	(lb a.i.)	(lb a.i.)
Coarse	0.5	1.0
Medium	0.75	1.0
Fine	1.0	1.25

- Coarse and Medium soils with 2-5% organic matter, use 0.75 lb a.i./acre
- Fine soils with 2-5% organic matter- use 1.0 lb a.i./acre
- Soils with 5-10% organic matter- use 1.0 - 1.25 lb a.i./acre

† Rates for the following states: 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, apply Trifluralin 50W in the fall at the broadcast rates for spring in the above table.

**Precautions:** Soybeans should be planted after early season adverse weather conditions have passed, especially when using higher rates of Trifluralin 50W. Cool wet weather early in the growth cycle can cause additional stress on the crop, which may result in reduced stand, delayed maturity and reduced yield.

**Special Weed Control Programs**

**Fall Panicum:** Apply Trifluralin 50W as a preplant incorporated treatment, at a broadcast rate of 1 lb a.i./acre on coarse and medium soils.

**Pigweed and Seedling Johnsongrass Control:** Apply Trifluralin 50W as a preplant incorporated treatment in soybeans in the following states: Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Mississippi, Missouri, Nebraska, North Carolina, Oklahoma, South Carolina, Tennessee and southern Virginia.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.5 - 0.75
Medium	0.75 - 1.0
Fine*	1.0 - 1.25

\*Exception: In Louisiana, use 1.5 lb a.i./acre

**Additional Weed and Grass Control in soybeans in the Gulf Coast Counties of Texas:** Higher rates of Trifluralin 50W, applied as a preplant incorporated treatment, are permitted in soybeans for additional weed control in the following Texas counties: Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller and Wharton

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.75
Medium	1.0
Fine	1.5

**Soybean - Charcoal soils in Arkansas, Louisiana and Mississippi:** Newly cleared land often contains high organic matter (5-10%) and charcoal from burning debris. This charcoal and/or organic matter tends to bind Trifluralin and reduce its weed control activity. Under these conditions, higher rates of Trifluralin 50W are necessary for weed control. Increased rates, however, can cause crop injury if charcoal and organic matter is not present to bind some of the Trifluralin. In the burn row a high level of charcoal is present; consequently poor weed control may result even with an increased rate of Trifluralin.

Broadcast Trifluralin 50W at the rates recommended in the following table. Follow recommended soil preparation, application and incorporation procedures for Trifluralin 50W.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.75 - 1.25
Medium	1.25
Fine	1.5

**Soybean - Red rice control in Arkansas, Louisiana, Mississippi and Texas only:** Suppression or partial control of red rice in soybeans can be obtained when Trifluralin 50W is applied in a 2-year program. A double rate application is made the first year, followed by normal application rates in the second year, as outlined in the table below. Apply and incorporate Trifluralin 50W in the spring before planting, and follow recommended soil preparation and incorporation procedures for Trifluralin 50W.

Broadcast Application Rates/Acre		
Soil Texture	Trifluralin 50W	
	1st year application (lb a.i.)	2nd year application (lb a.i.)
Coarse	1.0	0.5
Medium	1.5	0.75
Fine	2.0	1.0
Coarse with 2-5% O.M.*	1.5	0.75
Soils with 5-10% O.M.*	2.0	1.0 - 1.25

In Arkansas, Louisiana and Mississippi, if a combination of high soil organic matter (5 - 10%) and charcoal are present, apply Trifluralin 50W at the following rates for the 2nd year application:

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.75 - 1.25
Medium	1.25
Fine	1.5

For more information on charcoal soils see the preceding section on that topic.

**Crop Rotation:** The program for red rice control in soybeans is a 2-year program. In the first year, following a double application rate, plant only soybeans. In the second year, after use of normal Trifluralin 50W rates listed for your soil type and charcoal level, plant only those crops for which Trifluralin 50W has been registered as a preplant treatment, or crop injury may result. Rice may be planted the third year, after the two year program is completed.

**Soybean - Rhizome Johnsongrass in the Eastern United States and the state of Texas:** Commercially acceptable control of Rhizome Johnsongrass with Trifluralin 50W can only be obtained with a double rate program of Trifluralin 50W, applied for 2 consecutive years, in accordance with the following directions.

**Soil Preparation** - Proper preparation of the soil before application is very important for satisfactory results. Use a chisel plow or similar implement to bring rhizomes to the soil surface. Follow by discing the soil twice, before application of Trifluralin 50W, to cut rhizomes into small (2-3 inch) pieces and to destroy any emerged Johnsongrass.

**Application** - Choose one of the following two application programs that best fits your cultural practices:

1) **Spring or Fall Application** - Apply Trifluralin 50W, any time

before planting in the spring, for 2 years in a row; or in the fall, between October 15 and December 31, for 2 years in a row. Use the rates in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	1.0
Coarse with 2-5% O.M.*	1.5
Medium	1.5
Fine	2.0
Soils with 5-10% O.M.	2.0

\*O.M. = Organic matter

2) **Split Application** - Apply Trifluralin 50W at the same rate in both the spring and the fall for 2 years in a row, as outlined in following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W Spring + Fall (lb a.i./acre)
Coarse	0.5 + 0.5
Coarse with 2-5% O.M.*	0.75 + 0.75
Medium	0.75 + 0.75
Fine	1.0 + 1.0
Soils with 5-10% O.M.	1.0 + 1.0

**Incorporation of Trifluralin 50W for Rhizome Johnsongrass** - Deep incorporation with a tandem disc is essential for good results. Set disc to cut at 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 application, plant only rice or other crops to which Trifluralin 50W can be applied as a preplant incorporated treatment, or crop injury may result.

**Soybean - Rhizome Johnsongrass with Trifluralin 50W and Metribuzin tank mixed:** Trifluralin 50W tank mixed with Metribuzin may be used for rhizome Johnsongrass control and for the control of those weeds listed for Trifluralin 50W alone in the general information section. For the additional weeds controlled by Metribuzin in tank mix, see the weeds listed on the metribuzin label.

**Soil Preparation** - Follow the procedures for soil preparation, incorporation, and cultivation recommended in the preceding section on rhizome Johnsongrass control.

**Application Rates** - Apply Trifluralin 50W and Metribuzin up to two weeks before planting, for two consecutive years. Use the broadcast rates per acre, given in the preceding section for Trifluralin 50W alone. Use the application rates for soybeans listed on the metribuzin label.

**Precaution** - Refer to the metribuzin label for additional use directions, precautions and limitations prior to applying Trifluralin 50W

plus metribuzin in tank mix. Carefully follow all use precautions for metribuzin.

**Wild cane (Shattercane) Control in Soybeans:** Follow the recommended soil preparation and application procedures for Trifluralin 50W in the General Information section. Wild cane (shattercane) can germinate throughout the growing season, and from greater depth than most other weed seeds. Commercially acceptable control can be obtained by using increased rates of Trifluralin 50W.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W (lb a.i./acre)
Coarse	0.5
Medium	1.0
Fine	1.25

**Incorporation:** - Deep incorporation with a tandem disc is essential for good wildcane control. Incorporate Trifluralin 50W 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 from the first pass.

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

**Tank Mix, Overlay and Postemergence Recommendations:** Trifluralin 50W may be tank mixed with metribuzin, metribuzin + chlorimuron premixed products, alachlor, vernolate or metolochlor and applied as a preplant soil incorporated treatment to control additional weeds in soybeans. For weeds controlled by Trifluralin 50W, see the weed lists in the General Information section. Refer to the label(s) for the product(s) to be tank mixed with Trifluralin 50W for weeds controlled, application rates, additional use directions and precautions.

**Trifluralin 50W plus Clomazone (reduced Rate) and Trifluralin 50W plus Clomazone and Metribuzin (Do not use in California):** Trifluralin 50W may be tank mixed with clomazone, or clomazone plus metribuzin. Apply the tank mix as a preplant incorporated treatment up to 3 weeks before planting.

**Note** - The use of agriculturally approved drift reducing additive is required at finished spray volumes of 10 to 15 gal/acre. Use nozzles suitable for broadcast boom application of herbicides. Coarse sprays are less likely to drift out of the target area than fine sprays. Application of these tank mixes to overly moist or wet soils will increase the potential for off site movement of clomazone vapors. This may result in poor soil incorporation and poor weed control, as well as potential injury to adjacent vegetation, including crops and other desirable plants.

**Incorporation** - TANK MIXES CONTAINING CLOMAZONE MUST BE INCORPORATED IMMEDIATELY after application. Follow other soil preparation and incorporation procedures in the General Information section of this Trifluralin 50W label.

**Trifluralin 50/w plus Clomazone** - Use the Trifluralin 50W plus clomazone to control velvetleaf, in addition to those weeds susceptible to

Trifluralin 50W. Control of jimsonweed, annual morningglory, prickly sida, common ragweed, smartweed and venice mallow may be erratic, ranging from poor to excellent, depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Broadcast Application Rates/Acre		
Soil Texture	Trifluralin 50W	clomazone
	(lb a.i.)	(lb a.i.)
Coarse	0.5	0.375
Medium	0.75	0.56
Fine	1.0	0.75

**Trifluralin 50W plus clomazone and metribuzin:** Use this tank mix to control weeds listed in the General Information section of this label, in addition to those weeds listed on the clomazone and metribuzin labels. Trifluralin 50W plus clomazone and metribuzin also provide partial control or suppression of cocklebur, annual morningglory and giant ragweed. 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 the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Broadcast Application Rates/Acre			
Soil Texture	Trifluralin 50W	clomazone	metribuzin
	(lb a.i.)	(lb a.i.)	(lb a.i.)
Coarse	0.5	0.25	0.165-0.25†
Medium	0.75	0.375	0.25-0.375
Fine	1.0	0.56	0.375-0.5

Use the higher rate in areas where weed populations are dense, for control of venice mallow and wild mustard, and for best control of cocklebur, annual morningglory and giant ragweed.

**Precautions:**

- Off-site movement of spray drift or vapors of clomazone can cause foliar whitening or yellowing of adjacent crops, trees and ornamental plants. This is usually temporary, but can result in permanent injury or death of plants if the exposure is excessive. Before applying this product, read and carefully follow all precautions, rotational crop guidelines and application instructions on the label for clomazone.
- Refer to the labels for metribuzin products for additional use directions precautions and limitations before applying Trifluralin 50W and metribuzin tank mixes.

Following application of clomazone, do not plant wheat, oats, barley, rye or alfalfa in the fall of the year of application, or in the spring of the year following application, as crop injury may occur. Other rotational crops may be planted 10 months after application. Do not allow livestock to graze on treated forage and do not feed treated forage or stubble to livestock. Do not use metribuzin on coarse soils with less than 1% organic matter.

**Preplant Incorporation to Trifluralin 50W, Followed by Overlay Treatments (Do not use in California):** Apply Trifluralin 50W as a preplant soil incorporated treatment, followed by

overlay preemergence applications of the following herbicides to control weeds not susceptible to Trifluralin 50W: Chlorimuron ethyl + metribuzin, chlorimuron ethyl + linuron, metolochlor, alachlor, metribuzin, linuron, imazethapyr\* and imazaquin\*\*. Other preemergence herbicides registered for use in soybeans may also be applied as overlay treatments, as long as the product label does not prohibit such use.

Consult the manufacturer's label for application rates, additional weeds controlled, additional use directions and precautions, before use.

\*The use of imazaquin is limited to certain states. Use imazaquin as an overlay treatment following Trifluralin 50W only in states specified on the imazaquin label.

\*\*The use of imazethapyr is limited to certain states. Do not use the overlay preemergence application with imazethapyr following a preplant incorporated treatment with Trifluralin 50W in the "Northern Use Area" as defined by the imazethapyr label.

**Preplant Incorporated Trifluralin 50W Followed by Postemergence Treatment in soybeans (Do not use in California):**

Apply Trifluralin 50W as a preplant soil incorporated treatment, followed by overlay postemergence applications of the following herbicides to control weeds not susceptible to Trifluralin 50W: Bentazon, acifluorfen, chlorimuron ethyl, lactofen, thifensulfuron, imazaquin\* imazethapyr,\*\* or fomesafen. Other postemergence herbicides registered for use in soybeans may also be applied as overlay treatments, as long as the product label does not prohibit such use.

Consult the manufacturer's label for application rates, additional weeds controlled, additional use directions and precautions, before use.

\*The use of imazaquin is limited to certain states. Use imazaquin as an overlay treatment following Trifluralin 50W only in states specified on the imazaquin label.

\*\*The use of imazethapyr is limited to certain states. Do not use the overlay postemergence applications with imazethapyr following a preplant incorporated treatment with Trifluralin 50W in the "Northern Use Area" as defined by the imazethapyr label.

**SUGAR BEETS**

**Trifluralin 50W Alone:** Apply Trifluralin 50W as an over the top spray and incorporate. Apply from the time the first true leaves appear until plants are 6 inches tall, and before weeds have emerged.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.5
Medium	0.625 - 0.75
Fine	0.625 - 0.75

**Incorporation** - Set incorporation equipment to move treated soil around the plants in the row. Avoid damaging the sugarbeet root with incorporation equipment.

**Precaution** - Exposed beet roots should be covered with soil before application of Trifluralin 50W to avoid the possibility of girdling.

**Incorporation - In California, Colorado, Idaho, Nebraska, Oregon, Texas, Utah, Washington, and Wyoming use a Tine-Tooth Harrow** A flexline or Melroe harrow can be used to

incorporate Trifluralin 50W in sugar beets. Incorporation with this type of equipment requires 2 passes, in opposite directions over the same set of rows. Set the harrow to cut to 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 methods and rates given above.

**Trifluralin 50W plus EPTC tank mix:** Trifluralin 50W may be tank mixed with EPTC as an over the top spray followed by incorporation to control a broader spectrum of weeds. Use the application rates of Trifluralin 50W given in the table for Trifluralin alone. Refer to the EPTC product label for weeds controlled, use rates, additional use directions, precautions and limitations, before using that product.

**SUGARCANE**

**Trifluralin 50W alone:** Apply and incorporate Trifluralin 50W twice a year. Make the first application of Trifluralin 50W in the fall on firmly packed beds immediately after the seed pieces are planted. Make the second application of Trifluralin 50W in the spring before or shortly after the cane emerges. Loosen rain-packed beds 2-3 inches deep before the spring application. Take care that incorporation equipment does not damage the seed pieces or emerging shoots. Use the following rate range for each application.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
All Textures	(lb a.i./acre) 1.0 - 2.0†

Application rate, within the recommended range, can be adjusted according to weed pressure.

**Postplant Application for Control of Most Annual Grasses, Including Guineagrass (For Use in Hawaii)**  
Surface apply Trifluralin 50W after planting (for plant cane) or after harvesting (for ratoon cane). For best weed control, the soil surface should be smooth and finely tilled. Apply Trifluralin 50W as soon as possible after tillage and planting, before germination and emergence of grass weeds. For optimum efficacy in ratoon cane, minimize surface residues from previous crop before applying. Apply Trifluralin 50W just before anticipated rainfall in non-irrigated and furrow-irrigated sugarcane. Irrigate as soon as possible after applying in drip-irrigated or sprinkler-irrigated sugarcane to activate the herbicide.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
All Textures	(lb a.i./acre) 3.0 - 4.0

**Applications Up to Layby for Plant Cane or Ratoon Cane (For Use in Louisiana and Texas):** Apply and incorporate Trifluralin 50W in spring 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 at 4 to 6 mph. Two incorporation passes are necessary.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
All Textures	(lb a.i./acre) 1.0 - 2.0†

† Application rate, within the recommended range, can be adjusted according to weed pressure.

**Itchgrass (Raouigrass) Control in Louisiana:** Apply and incorporate Trifluralin 50W in fields of plant or ratoon cane. Follow use directions in the preceding section for layby application.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
All Textures	(lb a.i./acre) 1.0 - 2.0

**SUNFLOWER**

**Trifluralin 50W - Alone:** Apply and incorporate Trifluralin 50W in the spring, before planting, or in the fall. See instructions for fall application under "Application Timing" in the General Information section of this label. Use the rates recommended in the following table.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75 - 1.0
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75 - 1.0
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

- \* O.M. = Organic matter
- Use the lower rates in the recommended range in areas receiving less than 20 inches total annual rainfall and irrigation.

**Trifluralin 50W plus EPTC Tank Mix:** Trifluralin 50W may be tank mixed with EPTC and applied as a preplant incorporated treatment to control additional weeds in sunflowers grown in Minnesota, North Dakota and South Dakota. See the EPTC label for application rates, additional use directions, precautions and limitations before use.

**TOMATO**

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

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

- \* O.M. = Organic matter
- Use the lower rates in the recommended range in areas receiving less than 20 inches total annual rainfall and irrigation.

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

**Application to New Plantings of Citrus, Fruit and Nut Crops:** For new plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune tangelo, tangerine and walnut trees, apply and incorporate Trifluralin 50W before planting.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse - less than 2% O.M.*	0.5
- 2 - 5% O.M.	0.75 - 1.0
Medium - less than 2% O.M.	0.625 - 0.75
- 2 - 5% O.M.	0.75 - 1.0
Fine - less than 2% O.M.	0.75 - 1.0
- 2 - 5% O.M.	1.0
Soils with 5-10% O.M.	1.0

- \* O.M. = Organic matter
- Use the lower rates in the recommended range in areas receiving less than 20 inches total annual rainfall and irrigation.

**Application to New Plantings of Vineyards:** For new plantings of vineyards, apply and incorporate Trifluralin 50W before planting.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
Coarse	0.5 - 0.75
Medium	0.75 - 1.5
Fine	1.5 - 2.0
Soils with 2-10% O.M.*	2.0

- \* O.M. = Organic matter
- Use the lower rates in the recommended range in areas receiving less than 20 inches total annual rainfall and irrigation.

**Note:** Do not use more than 1.0 lb a.i./acre on heat treated grape rootings.

**Application to Established Nonbearing and Bearing Citrus, Fruit and Nut Crops and Vineyards:** Trifluralin 50W may be used in established nonbearing 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 50W as a directed spray to the soil and use incorporation methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
All Textures	1.0 - 2.0

Application within the above range of recommended rates may be adjusted according to anticipated weed pressure.

**Rhizome Johnsongrass Control - Special 2 Year Use Program:** Trifluralin 50W may be applied for 2 consecutive years in a special use program to control rhizome Johnsongrass in established vineyards and plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine and walnut trees. In established plantings apply Trifluralin 50W as a directed spray to the soil and use incorporation methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

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

Broadcast Application Rates per Acre	
Soil Texture	Trifluralin 50W
	(lb a.i./acre)
All Textures	2.0

**Incorporation -** Incorporate Trifluralin 50W thoroughly with a disc set to cut 4 to 6 inches deep and operate at 4 to 6 mph. Two incorporation passes are needed, with the 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 a single year of use.

**Precautions -** Do not use the 2.0 lb a.i./acre 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 50W is registered as a preplant incorporated treatment.

**Bindweed Control in California Tree and Vine Crops:** Trifluralin 50W 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, plum, prune, tangelo, tangerine and walnut trees.

**Soil Preparation -** Destroy existing weeds with soil tillage before

applying Trifluralin 50W. Thorough tillage is necessary to prevent trash from interfering with operation of the spray blade.

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

**Application** - Apply Trifluralin 50W in 40 to 80 gallons of water per acre. Operate blade at a depth of 4 to 6 inches.

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**Manufactured by:**  
**Nufarm Limited**  
**St. Joseph, MO 64504**

<b>Broadcast Application Rates per Acre</b>	
<b>Soil Texture</b>	<b>Trifluralin 50W</b>
	(lb a.i./acre)
All Textures	2.0

**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 50W. These cracks can be prevented or removed by shallow tillage such as discing. Avoid deep tillage which disturbs the subsurface zone of weed protection. Cultivation or tillage will also give additional weed control.

**WARRANTY DISCLAIMER**

Nufarm Limited warrants that this product conforms to the chemical description on this label, and is reasonably fit for the purposes stated on the label when the directions for use are strictly followed. This warranty is subject to the inherent risks set forth below. NUFARM LIMITED MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESSED OR IMPLIED WARRANTY.

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