

68156-4

12/10/2003

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Steve A. McMaster  
Regulatory Manager  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

DEC 10 2003

Dear Mr. McMaster:

Subject: HFP Trifluralin  
EPA Registration No. 68156-4 ✓  
Your Letter Dated August 6, 2003, Request To Amend  
Registration by Revising the Labeling as Described in  
Your Letter and Indicated by the High Lighted Copy of  
the Proposed Labeling Dated July 1, 2003;  
Proposed Amended Labeling in Response To This Agency's  
Letters Dated: July 27, 2001, December 4, 2001 and  
October 3, 2002 Identifying Labeling Required by the  
Trifluralin RED Dated April 30, 1996

The proposed labeling amendments have been reviewed  
and found acceptable under the Federal Insecticide, Fungicide and  
Rodenticide Act (FIFRA), as amended, provided that you:

1. Revise the labeling on pages 36 and 37 under "Rotation  
Crop Restrictions" that refer to Treflan HFP to refer  
to HFP Trifluralin, the subject product.
2. Submit one (1) copy of the final printed label prior to  
your shipment of this pesticide product under the  
enclosed revised stamped label.

If these conditions are not complied with, the registration  
will be subject to cancellation in accordance with FIFRA, section  
6(e). Your release for shipment under this labeling constitutes  
acceptance of these conditions. A stamped copy of the label is  
enclosed for your records.

Sincerely yours,

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

Enclosure

2157

ACCEPTED  
with COMMENTS  
in EPA Letter Dated  
DEC 10 2003

(Base Label):

(Logo) Dintec Agrichemicals

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

# HFP Trifluralin

68156-4

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

**Active Ingredient:**

trifluralin: $\alpha, \alpha, \alpha$ -trifluoro-2,6-dinitro- <i>N</i> , N-dipropyl- <i>p</i> -toluidine.....	43%
Inert Ingredients.....	57%
Total .....	100%

Contains petroleum distillates.  
Contains 4 pounds active ingredient per gallon.

## Keep Out of Reach of Children **CAUTION                      PRECAUCION**

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

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### Precautionary Statements

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#### Hazards to Humans and Domestic Animals

**Causes Moderate Eye Irritation • Harmful If Swallowed • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reaction In Some Individuals**

**Avoid contact with eyes, skin, or clothing.**

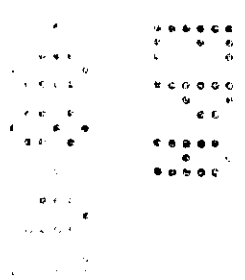
#### Personal Protective Equipment (PPE)

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

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Nitrile, Butyl, Neoprene, or Barrier Laminate
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such 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 [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

Users should:

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

### First Aid

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**If swallowed:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.

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

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

### Environmental Hazards

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

### Agricultural Use Requirements

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

Refer to label booklet for Directions for Use including Storage and Disposal.

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

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

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

**Avoid Freezing – Store Above 40°F**

EPA Reg. No. 68156-4

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

**Dintec Agrichemicals Indianapolis, IN 46268 U.S.A.**

# Herbicide

**Net Contents \_\_ gal**

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(Datapack cover):

(logo) Dintec Agrichemicals

# HFP Trifluralin

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

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Inert Ingredients.....	57%
Total .....	100%

Contains petroleum distillates.  
Contains 4 pounds active ingredient per gallon.

**Keep Out of Reach of Children**

## CAUTION                      PRECAUCION

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

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

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

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

Dintec Agrichemicals Indianapolis, IN 46268 U.S.A.

## Herbicide

Net Contents      gal



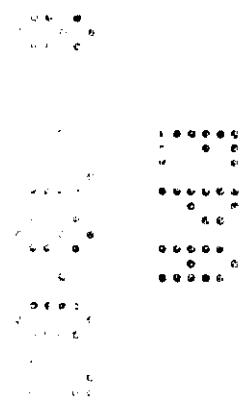
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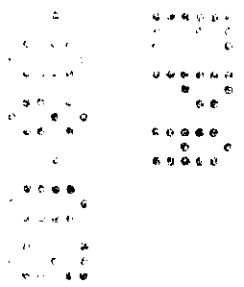
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**Precautionary Statements**

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**Hazards to Humans and Domestic Animals****CAUTION**

**Causes Moderate Eye Irritation • Harmful If Swallowed • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reaction In Some Individuals**

**Avoid contact with eyes, skin, or clothing.**

**Personal Protective Equipment (PPE)**

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

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Nitrile, Butyl, Neoprene, or Barrier Laminate
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such 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 [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations**

Users should:

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

**First Aid**

**If In eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**If swallowed:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.

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

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

### Environmental Hazards

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

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

### Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. **Exception:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as Nitrile, Butyl, Neoprene, or Barrier Laminate
- Shoes plus socks
- Protective eyewear

### Storage and Disposal

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

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

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

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

**Bulk/Mini-bulk Tank Cleaning:** Triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

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## General Information

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

### General Use Precautions

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

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

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

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

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

### Rotation Crop Restrictions

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

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

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

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

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

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

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

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

#### **Rotation Crops other than those Specifically Addressed Above**

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

### **Soil Texture Guide for Application Rates**

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

<b>Soil Texture Class</b>	<b>Soil Texture to be Treated</b>
Coarse (Light) Soils	Sand, loamy sand, sandy loam
Medium Soils	Loam, silty clay loam <sup>†</sup> , silt loam, silt, sandy clay loam <sup>†</sup>
Fine (Heavy) Soils	Clay, clay loam, silty clay loam <sup>†</sup> , silty clay, sandy clay, sandy clay loam <sup>†</sup>

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

### **Mixing Directions**

#### **HFP Trifluralin - Alone**

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

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

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

#### **HFP Trifluralin in Tank Mix**

For broader spectrum weed control, HFP Trifluralin may be applied in tank mix combination with other products registered for use on crops listed in this label unless tank mixing with Treflan (trifluralin) is prohibited by the manufacturer's label. When tank mixing, use the recommended rate of Treflan HFP. Follow the label "Directions for Use" of each tank mix partner for applicable use instructions including

application rate, application timing, weeds controlled, and specific precautions and restrictions of product use.

HFP Trifluralin may be tank mixed with other products and applied with water or most liquid fertilizer materials. Prior to mixing HFP Trifluralin with other pesticides or liquid fertilizers, refer to the "Compatibility Testing for Tank Mix Partners Including Liquid Fertilizers" section below.

#### **Compatibility Testing for Tank Mix Partners Including Liquid Fertilizers**

A jar test is recommended prior to tank mixing this product with other pesticides or liquid fertilizer to ensure compatibility. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions and in the order indicated in the tank mixing section above. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If components of the mixture separate readily, a compatibility agent may be helpful in maintaining the stability of the spray mixture. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, the components of the mixture are not compatible and full-scale tank mixing should not be attempted.

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

### **Application Methods**

#### **General**

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

#### **Ground Broadcast Application**

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

#### **Aerial Broadcast Application**

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

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

The following spray drift management practices are recommended to avoid off-target movement of sprays:

- The distance from the outer most nozzles on the spray boom must not exceed 3/4 the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturers recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid 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 downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

**Wind:** Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray 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 local, low-level 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 the 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 upward and rapidly dissipates indicates good vertical air mixing.

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

#### **Application with Dry Bulk Fertilizer**

Dry bulk fertilizers impregnated or coated with HFP Trifluralin may be applied as a preplant incorporated treatment on approved crops. All label recommendations for HFP Trifluralin regarding application rates, incorporation directions, special instructions, and precautions should be followed. Read and follow all

label instructions below concerning use of HFP Trifluralin with dry bulk fertilizer. Properly applied dry bulk fertilizers impregnated with HFP Trifluralin provides weed and grass control equal to water sprays.

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

$$\begin{array}{l} \text{Pints HFP Trifluralin} \\ \text{Per Acre} \end{array} \times \frac{1000}{\text{Pounds Fertilizer per Acre}} = \begin{array}{l} \text{Quarts HFP Trifluralin} \\ \text{Per Ton of Fertilizer} \end{array}$$

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

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

**Application and Incorporation:** Spread the fertilizer/chemical mixture with properly calibrated application equipment. Be certain the material is applied uniformly to the soil surface. Dry bulk fertilizer impregnated with HFP Trifluralin must be incorporated 2 times. The first incorporation should occur within 24 hours after application. The second incorporation should be delayed a minimum of 5 days after the first and be completed prior to planting.

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

#### **Application by Chemigation**

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

#### **General Chemigation Directions:**

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

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

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

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

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

#### **Sprinkler Chemigation Directions:**

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

1. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back-flow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to

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

#### **Chemigation System Calibration:**

Sample calculation for use of HFP Trifluralin in a chemigation system:

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

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

- $25 \text{ gal} \div 20 \text{ hr} = 1.25 \text{ gal/hr}$
- $1.25 \text{ gal/hr} = 160 \text{ fl oz/hr}$

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

- $160 \text{ fl oz/hr} \div 60 \text{ min./hr} = 2.7 \text{ fl oz per min.}$

#### **Chemigation Mixing Directions:**

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

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

### **Application Timing**

#### **Preplant Incorporated Application**



HFP Trifluralin may be applied and incorporated prior to planting when soil can be worked and is in a condition that allows thorough mixing to insure uniform incorporation. See "Approved Crops" section for application timing recommendations for specific crops.

#### **Preemergence Application Immediately After Planting**

Apply and incorporate HFP Trifluralin immediately after planting and prior to crop germination. Adjust incorporation equipment so as to avoid disturbance of planted seed. Refer to the "Approved Crops" section of this label for crop specific instructions.

#### **Postemergence and Layby Application**

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

#### **Fall Application**

HFP Trifluralin may be applied in the fall for weed control in the crop of the following growing season in all crops for which HFP Trifluralin is recommended as a preplant incorporated treatment. Refer to "Approved Crops" section for any crop specific fall application instructions. In the states of California, North Dakota, South Dakota and Minnesota, apply and incorporate HFP Trifluralin any time between September 1 and December 31. In all other states, fall apply HFP Trifluralin between October 15 and December 31.

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

### **Incorporation Directions**

#### **Soil Preparation and Incorporation**

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

HFP Trifluralin must be incorporated within 24 hours after application unless otherwise specified on supplemental labeling. Non-uniform application may result in erratic weed control or crop injury. With most equipment and methods of application, a second incorporation is required and may occur any time before planting. The second incorporation should be in a different direction, and to avoid bringing untreated soil to the surface should not be deeper than the first. **Note: Two-pass incorporation is required for all special use programs unless otherwise specified.**

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

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

**Application Prior to Bedding:** Apply HFP Trifluralin and incorporate 1 time with recommended equipment. The bedding operation serves as the second incorporation. Do not expose untreated soil during post-bedding operations such as planting since removal of treated soil during planting can allow weed germination and establishment in the drill row.

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

**Cultivation After Planting:** Treated crops may be shallowly cultivated without reducing the weed control activity of HFP Trifluralin. Limit depth of cultivation to the zone of treated soil to avoid moving untreated soil to the surface. Exposure of untreated soil may cause loss of weed control.

#### **Incorporation Equipment**

Use incorporation equipment capable of mixing HFP Trifluralin uniformly into the top 2 to 3 inches of the final seedbed. Use of inappropriate equipment or improper use of recommended equipment may result in erratic weed control and/or crop injury. Incorporation equipment such as a tandem disc will mix HFP Trifluralin approximately half as deep as the equipment is set to operate. For example, a disc set to cut 4 inches deep will mix most of the HFP Trifluralin within the top 2 inches of soil. Any recommended incorporation implement may be used alone or in combination with any other recommended implement. Two incorporation passes are required when using the following incorporation implements (for single pass incorporation, refer to soil conditions and equipment listed under Single Pass Incorporation Option below):

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

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

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

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

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

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

#### **Single Pass Incorporation Option**

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

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

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

**Combination Implements:** These implements are defined as 2 or more tillage devices combined to operate as a single tillage unit. For example, 2 to 3 rows of field cultivator C- or S-shaped shanks with successive rows of sweeps staggered so that no soil is left unturned, followed by a spike-tooth or flextine harrow, followed by ground driven reel, basket or incorporator wheels. Combination implements should

be set to cut 3 to 4 inches deep and operated at a minimum of 6 mph. Two incorporations are recommended under conditions which prevent optimum soil mixing such as excessive surface residue, roughness, high clay content or soil is too wet or too dry. Combination tools can also be composed of 2 rows of wide crown sweeps that overlap so that the roots of all weeds and plants are severed. This should be followed by 2 gangs of rotating spoked wheels that thoroughly mix HFP Trifluralin into the top 2 to 3 inches of the final seedbed.

**P.T.O.-Driven Equipment (tillers, cultivators, hoes):** Adjust equipment to incorporate HFP Trifluralin into the top 2 to 3 inches of the final seedbed with rotors spaced to provide a clean sweep of the soil. P.T.O. equipment should not be operated more than 4 mph.

## Weeds Controlled by HFP Trifluralin

### Grass Weeds

<b>Common Name</b>	<b>Scientific Name</b>
annual bluegrass	<i>Poa annua</i>
barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
brachiaria (signalgrass)	<i>Brachiaria</i> spp.
bromegrass (cheatgrass) (downy brome)	<i>Bromus tectorum</i>
cheat (chess)	<i>Bromus secalinus</i>
crabgrass (large crabgrass) (smooth crabgrass)	<i>Digitaria</i> spp.
foxtail (bottlegrass) (bristlegrass) (giant foxtail) (green foxtail) (foxtail millet) (pigeongrass) (robust foxtail) (yellow foxtail)	<i>Setaria</i> spp.
guineagrass (See special instructions for control in sugarcane in the "Approved Crops" section.)	<i>Panicum maximum</i>
itchgrass (raoulgrass) (See special instructions for control in sugarcane in the "Approved Crops" section.)	<i>Rottboellia exaltata</i>
johnsongrass (from seed) (rhizome - see special instructions for control in cotton, soybeans, fruit and nut crops and vineyards in the "Approved Crops" section.)	<i>Sorghum halepense</i>
junclerice	<i>Echinochloa colonum</i>
panicum fall panicum (spreading panicgrass - see special instructions for control in cotton and soybeans in the "Approved Crops" section.)	<i>Panicum dichotomiflorum</i>
ryegrass, Italian (annual ryegrass)	<i>Lolium multiflorum</i>
Texas panicum (buffalograss) (Coloradograss)	<i>Panicum texanum</i>

red rice	<i>Oryza sativa</i>
(See special instructions for suppression or partial control in soybeans in the "Approved Crops" section.)	
sandbur	<i>Cenchrus incertus</i>
(burgrass)	
sprangletop	<i>Leptochloa filiformis</i>
stinkgrass	<i>Eragrostis ciliaris</i>
(lovegrass)	
shattercane	<i>Sorghum bicolor</i>
(wild cane)	
(See special instructions for control in soybeans in the "Approved Crops" section.)	
woolly cupgrass	<i>Eriochloa villosa</i>

**Broadleaf Weeds**

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

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

**Special Use Programs**

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

#### **Cotton**

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

#### **Soybeans**

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

#### **Citrus, Stone Fruit and Nut Crops and Vineyards**

- Rhizome Johnsongrass Control
- Field Bindweed Control

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### **Labeled Crops**

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#### **ALFALFA - ESTABLISHED**

#### **Mechanically Incorporated**

Apply HFP Trifluralin with ground or aerial equipment and mechanically incorporate prior to weed emergence to control weeds listed in the "General Information" section of this label. Use mechanical incorporation equipment that will insure thorough soil mixing with minimal damage to crop stand.

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

<b>Soil Texture</b>	<b>HFP Trifluralin</b>
	(pints)
Coarse	1.5
Medium	2.0
Fine	2.0

#### **Surface Applications (Chemigation or Water Incorporated)**

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

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

<b>Soil Texture</b>	<b>HFP Trifluralin</b>
	(pints)
All Soil Textures	4.0

#### **Chemigation**

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

#### **Surface Applications Activated by Rainfall or Irrigation**

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

#### **Application Timing and Weeds Controlled**

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

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

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

#### **Precautions:**

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

#### **Tank Mixing**

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

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

## **ASPARAGUS - ESTABLISHED**

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

### **Application Timing**

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin	
	Split Application	Single Application
	Before and After Harvest	Before or After Harvest
	(pints)	(pints)
Coarse	1.0 + 1.0	2.0
Medium	1.5 + 1.5	3.0
Fine	2.0 + 2.0	4.0

- Do not apply more than 2.0 pt/acre on coarse soils, 3.0 pt/acre on medium soils or 4.0 pt/acre on fine soils during any calendar year.

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

### HFP Trifluralin - Alone

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

#### Broadcast Application Rates/Acre:

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

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

### Tank Mixing or Sequential Treatments

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

## BEANS - GUAR AND MUNGBEAN

Apply HFP Trifluralin as a preplant soil incorporated treatment.

#### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	1.5
Fine	1.5

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

## BEANS - LIMA BEAN AND SNAP BEAN

Apply HFP Trifluralin as a preplant soil incorporated treatment.

#### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	1.0
Fine	1.5

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



**CARROT**

Apply HFP Trifluralin as a preplant soil incorporated treatment.

**Broadcast Application Rates/Acre:**

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

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

**CASTOR BEAN**

Apply HFP Trifluralin as a soil incorporated treatment, before or immediately after planting. If applied and incorporated after planting, set incorporation equipment so as to avoid disturbance of seed.

**Broadcast Application Rates/Acre:**

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

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

**CELERY**

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

**Broadcast Application Rates/Acre:**

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

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

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

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

*Cichorium intybus*, considered to be a root crop, may yield the following:

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

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

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

Apply HFP Trifluralin as a soil incorporated treatment in spring or early summer prior to planting.

### Broadcast Application Rates per Acre:

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

- Coarse and medium soils with 2% to 5% organic matter - 1.5 pints
- Fine soils with 2% to 5% organic matter - 2.0 pints
- Soils with 5% to 10% organic matter - 2.0 pints

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

### Direct Seeded Cole Crops

Apply HFP Trifluralin as a preplant soil incorporated treatment.

### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	1.0
Fine	1.5

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

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

### Transplanted Cole Crops

Apply and incorporate HFP Trifluralin prior to transplanting.

### Broadcast Application Rates/Acre:

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

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

## CORN - FIELD CORN ONLY

### Postemergence Incorporated Treatment

Apply HFP Trifluralin as a postemergence treatment following cultivation and/or use of a preemergence herbicide. HFP Trifluralin does not control established weeds. Apply when crop is well established (2 true leaf stage or taller). Apply as an over-the-top spray or as a directed spray using drop nozzles if foliage prevents uniform coverage of the soil surface.

### Incorporation Directions

Applications of HFP Trifluralin must be mechanically incorporated within 24 hours. Mechanical incorporation may be accomplished with 1 pass of a sweep-type cultivator or properly adjusted rolling cultivator. The sweep-type cultivator should have 3 to 5 sweeps per row middle and be operated at a speed that will provide vigorous soil mixing. Set middle sweeps so as to avoid exposing untreated soil. Adjust incorporation equipment so as to avoid mechanical injury to the crop.

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

### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin (pints)
Coarse	0.75 - 1.0 <sup>†</sup>
Medium	1.25 - 1.5
Fine	1.5 - 2.0

<sup>†</sup> Apply 1.0 to 1.5 pt/acre on coarse soils in Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia to control fall panicum and Texas panicum.

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

### Precautions:

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

**Restriction:** Do not apply HFP Trifluralin within 6 weeks prior to harvesting forage, fodder, or silage, or after corn is 30 inches tall.

### Chemigation

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

### Application Timing

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.5 - 2.0
Medium	1.5 - 2.0
Fine	Do not apply HFP Trifluralin by chemigation to fine textured soils.

**Precautions:**

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

**Restriction:** Do not apply HFP Trifluralin within 6 weeks prior to harvesting forage, fodder, or silage, or after corn is 30 inches tall.

## COTTON

### Application Timing

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

### How to Apply

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

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

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

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

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

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**Conventional Tillage Cotton**

**Broadcast Application Rates/Acre**

Soil Texture	Treflan HFP		
	Spring Application †	Fall Application	
		Eastern U.S. ††	Western U.S. †††
	(pints)	(pints)	(pints)
Coarse	1.0	2.0	1.5
Medium	1.25 – 1.5	2.0	2.0
Fine	1.5 – 2.0	2.5	2.5

† Spring Application:

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

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

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

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

**Minimum Tillage Cotton (Conservation Tillage Cotton)**

**Fall Application Prior to Establishing a Cover Crop**

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

**Spring Application Before or After Planting**

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

**Broadcast Application Rates/Acre for Minimum Tillage**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0 – 2.0
Medium	1.5 – 2.0
Fine	2.0 – 4.0

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

**Chemigation**

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

**Cultivation:** Soil treated by chemigation with HFP Trifluralin may be shallow cultivated without reducing weed control activity.

Refer to "Application by Chemigation" in the "General Information" section of this label for use directions for chemigation. Apply HFP Trifluralin only through the kinds of sprinkler irrigation systems specified in that section of the label.

**Broadcast Application Rates/Acre for Chemigation**

Soil Texture	Treflan HFP	
	Conventional Tillage (pints)	Minimum Tillage <sup>†</sup> (pints)
Coarse	1.0	1.0 – 3.0
Medium	1.5	1.5 – 4.0
Fine	2.0	2.0 – 4.0

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

**Rotational Crop Restrictions after Chemigation:**

- **Conventional Tillage:** Refer to the rotational crop restrictions in the "General Use Precautions" section of this label.

- **Minimum Tillage:** In addition to the rotational crop restrictions listed in the General Use Precautions section of this label, do not plant grain sorghum in the year following the application of Treflan HFP.

### Layby Application

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

#### Layby Broadcast Application Rates/Acre

Soil Texture	Treflan HFP (pints)
Coarse	1.0
Medium	1.5
Fine	2.0

### Special Use Programs

#### 1. Cotton – Fall Panicum Control

Apply as a preplant incorporated treatment at a broadcast rate of 2.0 pints per acre on both coarse and medium soils.

#### 2. Cotton – Pigweed and Seedling Johnsongrass Control

Apply HFP Trifluralin as a preplant incorporated treatment in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, South Carolina, Tennessee, and southern Virginia.

#### Broadcast Application Rates/Acre for Pigweed and Seedling Johnsongrass Control

Soil Texture	Treflan HFP (pints)
Coarse	1.0 – 1.5
Medium	1.5 – 2.0
Fine	2.0

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

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

#### 3. Cotton – Additional Weed and Grass Control in Gulf Coast Counties of Texas

Apply HFP Trifluralin as a preplant incorporated treatment up to 2 weeks before planting in Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller, and Wharton counties of the Texas Gulf Coast.

#### Broadcast Application Rates/Acre in Gulf Coast Counties of Texas

Soil Texture	Treflan HFP (pints)
Coarse	1.5
Medium	2.0
Fine	3.0

#### 4. Cotton – Rhizome Johnsongrass Control):

**(For use in all cotton producing states except Arizona and California)**

Rhizome johnsongrass control with HFP Trifluralin requires maximum application rates for 2 consecutive years (see Broadcast Application Rates/Acre for Rhizome Johnsongrass Control below). Commercially acceptable control cannot be obtained with only 1 year of applying the maximum use rate of Treflan HFP. Carefully follow all special use directions.

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

**Broadcast Application Rates/Acre for Rhizome Johnsongrass Control**

Soil Texture	Treflan HFP (pints)
Coarse	2.0
Medium	3.0
Fine	4.0

**Spring Application:** Apply HFP Trifluralin any time before planting in the spring for 2 years in succession.

**Fall Application:** Apply HFP Trifluralin between October 15 and December 31 for 2 years in succession.

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

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

**Precautions:** In the season following a maximum rate treatment, plant only rice or crops for which HFP Trifluralin is labeled as a preplant incorporated treatment, or crop injury may occur.

**Restrictions and Use Precautions**

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

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

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

Soil Texture	Cumulative Amount of Treflan HFP/Acre in One Crop Year
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	(pints)
Coarse	1.5
Medium	1.5
Fine	2.0

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

### Restrictions and Use Precautions

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

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

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

### COTTONWOOD TREES GROWN FOR PULP

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

#### Application Before Planting

Apply and incorporate HFP Trifluralin before planting.

#### Broadcast Application Rates/Acre:

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

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

#### Application to Established Plantings

In established plantings, apply and incorporate HFP Trifluralin prior to periods of weed germination or immediately after existing weeds are controlled by tillage or herbicide treatment. Apply as a directed spray and use incorporation methods not injurious to the crop.

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin
	(pints)
All Soil Textures	2.0 - 4.0

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

**Johnsongrass Suppression In Established Plantings**

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin
	(pints)
All Soil Textures	4.0

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

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

**CUCURBITS**

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

**Broadcast Application Rates/Acre:**

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

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

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

## FLAX (Fall Application Only)

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

### Special Instructions for Flax

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

### Broadcast Application Rates/Acre:

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

## GRAIN SORGHUM (MILO)

### Postemergence Incorporated Treatment

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

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

**Incorporation Directions:** Applications of HFP Trifluralin must be mechanically incorporated within 24 hours after application. Mechanical incorporation may be accomplished with 1 pass of a sweep-type cultivator or properly adjusted rolling cultivator. Sweep-type cultivators should have 3 to 5 sweeps per row middle and be operated at a speed that will provide vigorous soil mixing. Set middle sweeps so as to avoid exposing untreated soil. Adjust incorporation equipment so as to avoid mechanical injury to the crop.

### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin (pints)
Coarse	0.75 - 1.0
Medium	1.0 - 1.5
Fine	1.5 - 2.0

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

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**Precautions:**

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

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

**Chemigation**

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

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

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

**Broadcast Application Rates/Acre:**

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

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

### **GREENS : COLLARD, KALE, MUSTARD AND TURNIP (Fresh, for Processing, or Grown for Seed)**

Apply HFP Trifluralin to greens as a preplant soil incorporated treatment.

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	1.5
Fine	1.5

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

**HOPS**

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin
Coarse	(pints) 1.0
Medium	1.25 - 1.5
Fine	1.5

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

## KENAF

Apply HFP Trifluralin as a preplant soil incorporated treatment.

### Broadcast Application Rates/Acre:

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

- † Coarse soils with 2% to 5% organic matter - 1.5 pints
- Use higher rate in rate range where high weed populations are anticipated.

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

## MUSTARD - GROWN FOR SEED OR PROCESSED FOR FOOD (Refer to Greens Section)

## OKRA

Apply HFP Trifluralin as a soil-incorporated treatment, before or immediately after planting. If applied and incorporated after planting, set equipment so as to avoid disturbance of planted seed.

### Broadcast Application Rates/Acre:

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

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

## ONIONS (DRY BULBS ONLY)

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

**Broadcast Application Rates/Acre:**

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

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

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

**Precautions**

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

**PEAS - DRY PEAS AND ENGLISH PEAS****HFP Trifluralin - Alone**

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin	
	Spring Application (pints)	Fall Application <sup>†</sup> (pints)
Coarse	1.0	1.0
Medium	1.0 - 1.5 <sup>††</sup>	1.25 - 1.5
Fine	1.5	1.5

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

<sup>†</sup> HFP Trifluralin may be fall applied to dry and English peas in the states of Idaho, Oregon and Washington.

<sup>††</sup> Medium soils with 3% or greater organic matter - 1.5 pints

**Tank Mixing or Sequential Treatments**

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

**PEAS - SOUTHERN PEAS**

Apply HFP Trifluralin as a preplant soil incorporated treatment.

**Broadcast Application Rates/Acre:**

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

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

## PEANUTS

### HFP Trifluralin - Alone

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

Apply and incorporate HFP Trifluralin before planting, at planting or immediately after planting. When incorporating after planting, adjust equipment so as to avoid disturbance of planted seed.

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	1.5

### Tank Mixing or Sequential Treatments

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

### PEPPER (Transplant Only)

Apply and incorporate HFP Trifluralin prior to transplanting.

**Broadcast Application Rates/Acre:**

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

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

**POTATOES****(Not for Use in the State of Maine)****Application After Planting**

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

**Broadcast Application Rates/Acre:**

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

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

**Incorporation Directions:** Set incorporation equipment so that the bed and furrow will be uniformly covered with a layer of treated soil. If the layer of treated soil is not uniform and the herbicide is concentrated over the bed, potato emergence may be retarded and stem brittleness can occur. When applying and incorporating HFP Trifluralin after potato plants have fully emerged, do not completely cover the foliage with treated soil. Likewise, do not completely cover foliage at subsequent cultivations. Be careful that incorporation machinery does not damage potato seed pieces or elongating sprouts.

**Split Applications Before and After Planting (For use in Idaho, Oregon and Washington)**

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

**Broadcast Application Rates/Acre:**

	HFP Trifluralin (pints)
<b>Before Planting</b>	0.75
<b>After Planting</b>	0.75

**HFP Trifluralin Plus Eptam herbicide Tank-Mix - Post Plant Preemergence Treatment****(For Use in Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, South Dakota and Texas)**

HFP Trifluralin may be tank-mixed with Eptam herbicide and applied as a soil incorporated treatment to control additional weeds. Apply after planting, but before crop emergence. In areas where potatoes are



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normally dragged off, apply and incorporate up to or immediately following drag off. Use application rates for HFP Trifluralin recommended for "Applications After Planting", above. Incorporate immediately.

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

#### **HFP Trifluralin Plus Eptam Tank-Mix - Preplant Treatment (For Use in Idaho, Oregon and Washington)**

HFP Trifluralin may be tank-mixed with Eptam and applied as a soil incorporated treatment to control additional weeds. Apply before planting and incorporate immediately.

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

	<b>HFP Trifluralin</b>
	(pints)
<b>All soil textures</b>	0.75

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

#### **Chemigation (HFP Trifluralin Only)**

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

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

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

<b>Soil Texture</b>	<b>HFP Trifluralin</b>
	(pints)
Coarse	1.0
Medium	1.5

- Do not apply by chemigation to fine textured soils.

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

## **RADISH**

Apply HFP Trifluralin as a preplant soil incorporated treatment.

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

<b>Soil Texture</b>	<b>HFP Trifluralin</b>
	(pints)
Coarse	1.0
Medium	1.5
Fine	1.5

## **RAPESEED (CANOLA) AND CRAMBE**

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

**Broadcast Application Rates/Acre:**

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

**Precautions**

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

## SAFFLOWER

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin	
	Spring Application (pints)	Fall Application (pints)
Coarse	1.0	1.5
Medium	1.25 - 1.5	2.0
Fine	1.5 - 2.0	2.5

- Coarse and medium soils with 2% to 5% organic matter - 1.5 pints
- Fine soils with 2% to 5% organic matter - 2.0 pints
- Soils with 5% to 10% organic matter - 2.5 pints
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

## SMALL GRAINS - BARLEY, DURUM, AND WHEAT

**Special Precautions for Use of HFP Trifluralin on Small Grains**

Carefully follow directions for use of HFP Trifluralin on small grains to minimize potential crop stress. Under certain conditions, delayed crop emergence and or stand reduction may occur when HFP Trifluralin is applied to barley, durum, or wheat. The combined effect of certain cultural practices and unfavorable soil or environmental conditions may cause excessive crop seedling stress resulting in retarded crop growth, stand reduction, and possibly reduced yield. **For best results, observe the following cultural practices or precautions:**

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

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

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

Carefully follow incorporation directions. When applying preplant incorporated treatments, operate equipment at recommended depth and speed to place HFP Trifluralin into the upper 1 to 1 1/2 inches of soil. If applied after planting, set incorporation equipment so as to avoid disturbance of planted seed.

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

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

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

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

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

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

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

**Note:** Do not apply HFP Trifluralin on small grains where a dinitroaniline herbicide such as Trellan\* or Sonalan\* herbicide was applied at a rate greater than 0.5 lb ai per acre the previous growing season.

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

#### **Barley, Spring Seeded -- Spring Application Preplant Incorporated for Foxtail (Pigeongrass) Control (For Use in Minnesota, North Dakota, and South Dakota)**

Apply HFP Trifluralin as a preplant incorporated treatment prior to planting spring seeded barley. HFP Trifluralin may be applied to ground that has a manageable level of crop residue or has been fallowed or pre-tilled. The first incorporation is required within 24 hours after application. The second incorporation is required prior to planting to destroy emerged weeds and to insure even distribution of HFP Trifluralin in the soil surface.

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

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

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

**Precautions:**

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

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

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	1.5
Fine	1.5

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

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

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

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.5
Medium	1.5
Fine	2.0

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

**Precautions:**

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

**Winter Wheat – Post Plant Incorporated Treatment**

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0 - 1.5
Medium	1.5

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

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

**Precautions:**

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

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

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.5
Medium	1.5
Fine	2.0

**Incorporation Directions:** Incorporate HFP Trifluralin 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 after application and a second time in a different direction from the first prior to planting. Do not till the soil with a disc after HFP Trifluralin 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 HFP Trifluralin.

**Precautions:**

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

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

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

**Broadcast Application Rates/Acre:**

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

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

**Planting Directions**

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

**Precautions**

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

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

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

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	1.0
Fine	1.5

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

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

**Precautions:**

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

## SOYBEANS

### HFP Trifluralin - Alone

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

#### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin	
	Spring Application (pints)	Fall Application <sup>†</sup> (pints)
Coarse	1.0	2.0
Medium	1.5	2.0
Fine	2.0	2.5

- Coarse and medium soils with 2% to 5% organic matter - 1.5 pints
- Fine soils with 2% to 5% organic matter - 2.0 pints
- Soils with 5% to 10% organic matter - 2.0 to 2.5 pints

<sup>†</sup> Fall Application Rates for States Including: Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, Oklahoma, South Carolina, Tennessee, and Texas.

For soybeans grown in states other than those listed above, fall apply HFP Trifluralin at broadcast rates recommended for spring preplant incorporated treatment.

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

### Tank Mix Overlay and Postemergence Recommendations

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

### Special Use Programs

#### 1. Soybeans - Chemigation

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

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

**Broadcast Application Rates/Acre:**

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

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

**Cultivation:** Soil treated by chemigation with HFP Trifluralin may be shallow cultivated without reducing weed control activity.

**2. Soybeans - Weed Control Under Reduced or Conservation Tillage**

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

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

**Application With Dry Bulk Fertilizers**

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

**Application Rates/Acre:**

Soil Texture	HFP Trifluralin	
	Spring Applied (pints)	Fall Applied (pints)
Coarse	1.0 - 1.5	1.5 - 2.0
Medium	1.5 - 2.0	2.0 - 2.5
Fine	2.0 - 2.5	2.5 - 3.0

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

**Precautions**

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

**3. Soybeans - Fall Panicum Control**

Apply HFP Trifluralin as a preplant incorporated treatment at a broadcast rate of 2.0 pt/acre on coarse and medium soils.



**4. Soybeans - Pigweed and Seedling Johnsongrass Control**

Apply HFP Trifluralin as a preplant incorporated treatment.

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

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

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

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

Apply HFP Trifluralin as a preplant incorporated treatment up to 2 weeks before planting.

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

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

**6. Soybeans - Itchgrass (Raoulgrass) Suppression**

Apply HFP Trifluralin as a preplant incorporated treatment or at layby.

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin	
	Preplant Incorporated (pints)	Layby Application (pints)
Medium	3.0	1.0
Fine	3.0	2.0

**7. Soybeans - Charcoal Soils in Arkansas, Louisiana, and Mississippi**

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

**Broadcast Application Rates/Acre:**

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

**8. Soybeans - Red Rice Control in Arkansas, Louisiana, Mississippi, and Texas Only**

Suppression or partial control of red rice can be obtained from a 2 year treatment program which consists of a maximum rate application the first year followed by application in the second year at normal rates indicated for soil texture, organic matter or charcoal content. Apply and incorporate HFP Trifluralin in the spring before planting. Follow recommended soil preparation and incorporation procedures for HFP Trifluralin.

**Broadcast Application Rates/Acre:**

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

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

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

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

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

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

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

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

**Broadcast Application Rates/Acre:**

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

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

**Spring Application:** Apply HFP Trifluralin any time before planting in the spring for 2 consecutive years.

**Fall Application:** Apply HFP Trifluralin after October 15 for 2 consecutive years.

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

Soil Texture	HFP Trifluralin Spring + Fall (pints)
Coarse	1.0 + 1.0
Medium	1.5 + 1.5
Fine	2.0 + 2.0
Coarse Soils with 2-5% organic matter	1.5 + 1.5
Soils with 5-10% organic matter	2.0 + 2.0

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

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

**Precautions:** In the season following a maximum rate treatment, plant only rice and those crops to which HFP Trifluralin can be applied as a preplant treatment or crop injury may result.

#### 10. Soybeans - Wild Cane (Shattercane) Control

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

##### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0
Medium	2.0
Fine	2.5

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

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

## SUGAR BEETS

### HFP Trifluralin - Alone

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

##### Broadcast Application Rates/Acre:

Soil Texture	HFP Trifluralin (pints)
Coarse	1.0

Medium	1.25 - 1.5
Fine	1.25 - 1.5

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

**Precaution:** Exposed beet roots should be covered with soil before application of HFP Trifluralin to reduce the possibility of girdling.

**Incorporation with a Tine-Tooth Harrow (For Use in California, Colorado, Idaho, Nebraska, Oregon, Texas, Utah, Washington, and Wyoming)**

A tine-tooth harrow (Flextine or Melroe) can be used to incorporate HFP Trifluralin in sugar beets. Incorporation with tine-tooth harrow requires 2 passes in opposite directions over the same set of rows. Set the harrow to cut 1 to 2 inches deep and operate at 3 to 6 mph. Set incorporation equipment carefully to avoid damage to sugar beet tap root. Use application procedures and broadcast application rates recommended in preceding section.

### Tank Mixing

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

## SUGARCANE

### HFP Trifluralin - Alone

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
All Textures	2.0 - 4.0†

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

**Postplant Application for Control of Most Annual Grasses, Including Guineagrass (For Use in Hawaii)**

Surface apply HFP Trifluralin after planting (for plant cane) or after harvesting (for ratoon cane). For best results in plant cane, the soil surface should be smooth and finely tilled. Apply HFP Trifluralin as soon as possible after tillage and planting before germination and emergence of grass weeds. For optimum efficacy in ratoon cane, minimize surface residue from previous crop before applying. Apply HFP Trifluralin just before anticipated rainfall in non-irrigated and furrow-irrigated sugarcane. Apply 0.5 inch or more irrigation in drip-irrigated or sprinkler-irrigated sugarcane as soon as possible after applying HFP Trifluralin.

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
All Textures	6.0 - 8.0

**Repeat Applications:**

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

**Restrictions:**

- Do not apply HFP Trifluralin as a postplant surface applied treatment within 180 days of harvest.

**Applications Up to Layby for Plant Cane or Ratoon Cane  
(For Use in Louisiana and Texas)**

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
All Textures	2.0 - 4.0†

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

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

Apply and incorporate HFP Trifluralin on plant or ratoon cane. Follow use directions in preceding section for layby application.

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
All Textures	2.0 - 4.0

**SUNFLOWERS****HFP Trifluralin - Alone**

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

**Broadcast Application Rates/Acre:**

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

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

**Tank Mixing**

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

**TOMATOES**

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

**Broadcast Application Rates/Acre:**

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

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

**TREE AND VINE CROPS - CITRUS, STONE FRUIT, AND NUT TREES AND VINEYARDS****New Plantings of Citrus, Stone Fruit, and Nut Trees**

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

**Broadcast Application Rates/Acre:**

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

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

**New Plantings of Vineyards**

Apply and incorporate HFP Trifluralin before transplanting.

**Broadcast Application Rates/Acre:**

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

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

**Note:** Do not use more than 2.0 pt/acre on mist propagated grape rootings.

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

HFP Trifluralin may be applied in established non-bearing and bearing vineyards and plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine and walnut trees. In established plantings, apply and incorporate HFP Trifluralin prior to periods of weed germination or immediately after existing weeds are controlled by tillage or herbicide treatment. Apply as a soil directed spray and incorporate using methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin (pints)
All Soil Textures	2.0 - 4.0

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

**Rhizome Johnsongrass Control - Special Two-year Use Program**

HFP Trifluralin may be applied for 2 consecutive years in a special use program to control rhizome johnsongrass in established vineyards and in plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, tangelo, plum, prune, tangerine, and walnut trees. Do not apply to vineyards within 60 days of harvest.

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

**Broadcast Application Rates/Acre:**

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

Soil Texture	HFP Trifluralin
	(pints)
All Soil Textures	4.0

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

**Cultivation:** Some johnsongrass plants will escape. Timely cultivations are necessary to obtain commercially acceptable control. Commercially acceptable control cannot be obtained with only a single year use of HFP Trifluralin.

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

**Bindweed Control in California**

HFP Trifluralin can be applied using a specially equipped spray blade for the control of field bindweed in vineyards and in plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, tangelo, tangerine, and walnut trees.

**Soil Preparation:** Destroy existing weeds with soil tillage before applying HFP Trifluralin to prevent interference with operation of the spray blade.

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

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

**Broadcast Application Rates/Acre:**

Soil Texture	HFP Trifluralin
	(pints)
All Soil Textures	4.0

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

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