

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

November 5, 2015

Chris Mason, Ph.D. Manager of Registrations Loveland Products, Inc. P.O. Box 1286 Greeley, CO 80632-1286

Subject: Notification per PRN 98-10 – Updating Directions for First Aid Information

Product Name: Trifluralin 10G

EPA Registration Number: 34704-790 Application Date: August 11, 2015

Decision Number: 508408

Dear Dr. Mason:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you have any questions regarding this letter, please feel free to contact Terri Stowe at (703) 305-6117 or via e-mail at <a href="mailto:stowe.terri@epa.gov">stowe.terri@epa.gov</a>.

Sincerely,

Kathryn V. Montague Product Manager 23

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Herbicide Branch

Registration Division (7505P)

Office of Pesticide Programs

#### NOTIFICATION



34704-790

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

11/05/2015

GROUP 3 HERBICIDE

# **TRIFLURALIN 10G**

A Selective Herbicide for the Preemergence control of **Annual Grasses and Broadleaf Weeds** 

**ACTIVE INGREDIENT:** 

Trifluralin: a,a,a-trifluro-2,6-dinitro-

OTHER INGREDIENTS ..... 90.0%

Contain 5 pounds active ingredient per 50 lb bag.

# **KEEP OUT OF REACH OF CHILDREN** CAUTION

#### **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:	<del>                                     </del>	
	Have a person sip a glass of water if able to swallow.	
	Do not induce vomiting unless told to do so by the poison control center or doctor.	
	Do not give anything by mouth to an unconscious person.	
If Inhaled:	Move person to fresh air.	
	If person is not breathing, call 911 or an ambulance, then give	
	artificial respiration, preferably by mouth-to-mouth, if possible.	
	Call a poison control center or doctor for further treatment advice.	
If on skin	Take off contaminated clothing.	
or clothing:	Rinse skin immediately with plenty of water for 15-20 minutes.	
	Call a poison control center or doctor for treatment advice.	

#### FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

For Additional Precautionary Statements, Complete First Aid, Directions for Use, Storage and Disposal and Other Use Information See Inside This Label Booklet.

> EPA REG. NO. 34704-790 EPA EST. NO. \_\_\_

**POUNDS** NET WEIGHT \_\_\_\_ 061306 V6D 08Y15

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

# **CAUTION**

Causes eye irritation. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing dust and contact with skin, eyes or clothing. This product may cause skin sensitization reactions in some people.

### Personal Protective Equipment:

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category F, on the EPA chemical resistance category selection chart. Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves, such as barrier laminate, butyl rubber  $\geq$  14 mls, nitrile rubber  $\geq$  14 mls, or viton  $\geq$  14 mls, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washable, 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.

### **USE SAFETY RECOMMENDATIONS**

Users should:

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

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

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its

Do not apply this product in a way that will contact workers or other persons. either directly or though 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 requirement for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statement 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 worker 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, soils, or water, is: coveralls, chemical-resistant gloves, such as barrier laminate, butyl rubber  $\geq$  14 mls, nitrile rubber  $\geq$  14 mls, or viton  $\geq$ 14 mls, shoes plus socks

### **WEEDS AND GRASSES CONTROLLED BY TRIFLURALIN 10G**

#### Grasses

Annual bluegrass Barnyardgrass (Watergrass) Bromegrass (Cheatgrass) (Downy brome)

Poa annua Echinochloa sp.

Bromus tectorum

Crabgrass Digitaria spp.

(Large crabgrass) (Smooth crabgrass)

Foxtail Setaria spp.

(Bristlegrass)
(Giant foxtail)
(Green foxtail)
(Foxtail millet)
(Pigeongrass)
(Robust foxtail)
(Yellow foxtail)

Johnsongrass (from seed)

Junglerice

Ryegrass, annual

Sandbur

Sandbur

Sorghum halepense
Echinochloa colonum
Lolioum multiflorum
Cenchrus incertus

Sandbur (Burgrass)

Signalgrass, broadleaf Brachiaria platyphylla

(brachiaria)Leptochloa filiformisStrinkgrassEragrostis cilianensis

Sorghum bicolor

(Lovegrass) Shattercane

(Wild cane)
Oat, wild\*

Wooly cupgrass

Avena fatua

Eriochloa villosa

**Broadleaf Weeds** 

Carpetweed Mollugo verticillata
Chickweed, common Stellaria media

Goosefoot Chenopodium hybridum
Henbit Lamium amplexicaule
Knotweed Polygonum aviculare
Lambsquarters, common Chenopodium album
Pigweed Amaranthus spp.

(Carelessweed) (Prostrate pigweed) (Redroot pigweed) (Rough pigweed) (Spiny pigweed)

Puncturevine (Western U.S. only) Tribulus terrestris

(Caltrop) (Goathead)

Purslane, common Portulaca oleracea
Pusley, Florida Richardia scabara

(Florida purslane) (Mexican clover) (pusley)

Stinging nettle Urtica dioica (Nettle)

\*When applied as a preplant incorporated (PPI) treatment, Trifluralin 10G will provide partial control of wild oats. This claim is for all PPI uses except for fall application for spring seeded cereals at foxtail (pigeongrass) control rates.

### **GENERAL PRECAUTIONS**

Applied according to directions and under normal growing conditions, Trifluralin 10G will not harm the treated crop. Over-applications may result in crop injury or rotational crop damage from soil residue. Uneven application or improper incorporation 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. Under these conditions, delayed crop development or reduced yields may result. Avoid applying Trifluralin 10G to soils that are wet or are subject to prolonged periods of flooding as poor weed control may result.

Do not use this product on any crop grown in Pecos county or Reeves county, Texas or Montana.

In Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming: To avoid crop injury, do not plant sugarbeets, redbeets, spinach, proso millet, corn, sorghum (milo), oats, and annual or perennial grass crops or grass mixtures for 12 months after a spring application or 14 months after a fall application of Trifluralin 10G. 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. The possibility of injury to these crops can be reduced with mold-board plowing to a depth of 12 inches before planting.

**All Other Areas:** Sugarbeets, redbeets, and spinach should not be planted for 12 months after a spring application or 14 months after a fall application. Moldboard plow to a depth of 12 inches before planing sugarbeets to reduce the possibility of crop injury.

In Minnesota, North Dakota and South Dakota: Proso millet, sorghum (milo), oats and annual or perennials grass crops or grass mixtures should not be planted for 18 months after a spring application or 21 months after a fall application of Trifluralin 10G

In Portions of Kansas, Nebraska, Oklahoma, and Texas receiving less than 20 inches of rainfall and irrigation: Do not plant proso millet, sorghum (milo), oats and annual or perennial grass crops or grass mixtures for 18 months after an application of Trifluralin 10G. The possibility of crop injury may increase in sorghum with cool wet weather conditions during early growth stages. Crops should not be planted for 12 months after a spring application or 14 months after a fall application of Trifluralin 10G in areas receiving more than 20 inches of rainfall or irrigation.

#### **VEGETABLE CROPS**

Vegetable crops other than those listed on this label for use with preplant soil incorporated application of Trifluralin 10G should not be planted within 5 months after an application of Trifluralin 10G.

#### **APPLICATION DIRECTIONS**

#### Application

Apply Trifluralin 10G with ground or aerial broadcast applicator properly calibrated to apply the granules uniformly. Apply at the recommended rate for soil texture to be treated. Follow calibration directions provided by the equipment manufacture. Avoid concentration of material in narrow bands.

Freezing will not adversely affect this product. If product is frozen at time of application, agitate or thaw to restore free- flowing granules.

#### Soil Preparation

Trifluralin 10G may be applied to standing stubble or soil that has been pretilled. The soil surface should be smooth enough to allow for uniform application and efficient incorporation. Existing weeds and crop residues should be reduced to a manageable level using tillage so that this product can be uniformly incorporated into the top 2 or 3 inches of the final seed bed. Soil surface conditions and soil moisture should be sufficient to allow breakup of large clods and uniform mixing of Trifluralin 10G into the top 2 or 3 inches of soil. If this is not possible the soil should be tilled prior to application. Soil compaction and/or nonuniform incorporation may occur where soil is excessively moist.

#### Soil Texture

Trifluralin 10G rate recommendations for incorporated treatments are based on soil texture and organic matter content. A fine texture soil will require a higher application rate than a coarse textured soil. Choose the proper rate for each application based on the soil texture. Refer to the table below to determine your soil texture.

Soil Texture	Soil Content
Coarse (Light) Soils	Sand, loamy sand, sandy loam
Medium Soils	Loam, silty clay loam*, silt loam, silt, sandy clay loam*
Fine (Heavy) Soils	Clay, clay loam, silty clay loam*, silty clay, sandy clay, sandy clay loam*

\*Silty clay loam and sandy clay loam soils are transitional soils that 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.

### **Drift Advisory**

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

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

#### **APPLICATION TIMING**

#### **Spring Application**

Apply Trifluralin 10G any time after January 1 when soil can be worked and is suitable condition for good incorporation. See Approved Crops section for recommendations on specific crops.

# Fall Application

In California, Minnesota, North Dakota and South Dakota, apply Trifluralin 10G any time between September 1 and December 31. In all other states, fall apply anytime between October 15 and December 31. Refer to the Approved Crops section of this label for specific rate recommendations. Increased rates for fall application are recommended for certain crops growing in certain geographic areas. For crops for which there are no specific fall application instructions, and for which Trifluralin 10G is recommend as a preplant incorporated treatment, use other rates listed for spring applications. In areas receiving greater than 20" total average annual rainfall

and irrigation, use the higher rate in the recommend rate range. Do not fall apply Trifluralin 10G prior to planting sugar beets, potatoes and direct seeded tomatoes the following spring. Ground may be left flat or bedded- up over winter. On bedded ground, knock beds down to desired height before planting, moving some treated soil from beds into furrow. Where soil is left flat over winter, be careful not to turn up untreated soil during spring bedding operations. Destroy established weeds during seed bed preparation. Prior to planting, destroy any weeds which have become established in furrow due to uncovering of untreated soil. Do not apply this product in the fall to soils that are wet or subject to prolonged periods of flooding, or where rice was grown the previous year.

### INCORPORATIONS DIRECTIONS

#### Incorporation Before Planting

Trifluralin 10G must be incorporated the first time within 24 hours after application. A second incorporation is required for best results and should be made 3-5 days of the first and be completed prior to planting. A minimum delay of 7 days after the first incorporation is recommended for certain uses in small grains. Incorporation should place the Trifluralin 10G into the top 2 to 3 inches of the final seedbed or erratic weed control and/or crop injury may result. Generally, incorporation equipment will place the chemical approximately half as deep as the equipment is run. For example, a disc running 4 inches deep will incorporate Trifluralin 10G approximately 2 inches deep.

#### Incorporation in Established Crops

Check crop list for those crops approved for incorporation in certain established crops.

#### Incorporation in Bedded Culture

For effective weed control, Trifluralin 10G should be incorporated into the top 2 to 3 inches of the final seedbed.

#### Application prior to Bedding

Apply and make first incorporation with recommended equipment. The bedding operation serves as the second incorporation. Do not expose untreated soil during post-bedding operations\*.

#### Application after Bedding

Knock off beds to planting height before applying. Apply Trifluralin 10G and incorporate with recommended equipment that will conform to the bed shape. Do not leave the untreated soil exposed\*.

\*Avoid removal of treated soil from the seed bed before or during the planting operation. Exposure of untreated soil, will allow weeds to germinate in the drill row.

### Incorporation Equipment

Any recommended incorporation implement may be used alone or in combination with any other recommended implement. Two incorporation passes are necessary unless otherwise specified. The second incorporation should not be deeper than the first

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

**Field Cultivator:** Set equipment to cut 3 to 4 inches deep and operate at 5 or more mph. A field cultivator is an implement with 3 to 4 row of sweeps, spaced at intervals of 7 inches or less and staggered so that no soil is left unturned. Chisel points should not be used.

Chisel Plow (for use in Northern Great Plains): The chisel plow may be used for the first incorporation pass only. Any other recommended incorporation implement may be used for the second pass for row crops. The chisel plow maybe used for any tillage or incorporation pass in the Summer Fallow program. Operate chisel plow 4 to 5 inches deep at 4 to 6 mph.

Combination Seedbed Conditioners: Combination implements should be set to cut 3 to 4 inches deep and operate at a speed of at least 6 mph. These implements are devined as three or more tillage devices combined and used as a single tool. For example, 2 to 3 rows of field cultivator c- or s-shaped shanks with an effective sweep spacing of 6 to 9 inches (staggered so that no soil is left unturned), followed by a spike-tooth or flextine harrow, followed by a ground-driven reel or basket.

**Rolling Cultivator:** Set to cut 2 to 4 inches deep and operate at 6 to 8 mph. Rolling cultivators are adequate for use on coarse and medium textured soils only.

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

P.T.O Driven Equipment (tillers, cultivators, hoes): Adjust to incorporate Trifluralin 10G into the top 2 to 3 inches of the seedbed with rators spaced to provide a clean sweep of the soil. Only one incorporation is necessary. P.T.O. driven equipment should be operated at a speed greater than 4 mph.

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

#### **Cultivation after Planting**

Treated soil may be shallowly cultivated without loss of weed control activity. Avoid deep cultivation since this could bring untreated soil to the soil surface and loss of weed control may result.

#### **APPROVED CROPS**

#### **ALFALFA-ESTABLISHED**

To control Barnyard grass, bromegrass (cheatgrass, downy brome) canarygrass, cheat (chess), crabgrass, wooly cupgrass, foxtail, junglerice, sandbur, and wild barley, apply 20 lbs/acre of Trifluralin 10G to established alfalfa prior to weed emergence with ground or aerial equipment. Trifluralin 10G may be applied during dormancy or throughout the growing season immediately after a cutting. A single rainfall or overhead sprinkler irrigation of .5 inches or more, flood irrigation or furrow irrigation after application is required to activate Trifluralin 10G. If activated using furrow irrigation, the surface of beds between furrows should be thoroughly wetted. If activating does not occur within 3 days after application, Trifluralin 10G should be activated using incorporation equipment that will insure thorough soil mixing with minimum damage to the established alfalfa. Because Trifluralin 10G does not control established weeds, application must be made prior to the expected time of weed germination.

#### **Fall Application**

Trifluralin 10G controls bromegrass and cheat, in addition to other weeds listed above that germinate after application. Apply immediately after a cutting between August 1 and October 1.

**Precaution:** Where the alfalfa is to be rotated to another crop in the season following a 20 lbs/acre treatment, plant only crops for which Trifluralin 10G can be applied as preplant incorporated treatment or crop injury may result. Apply no more than 20 lbs. of product during any growing season. Do not cut or graze alfalfa within 21 days after application of this product.

#### ASPARAGUS-ESTABLISHED

Apply Trifluralin 10G as single or split application in winter or early spring after mature ferns have been removed but before new spears begin to emerge in order to suppress volunteer seedling asparagus and field bindweed. Apply post-harvest applications immediately after harvest in late spring or early summer just before ferns are allowed to develoo.

#### **Broadcast Application Rate/Acre:**

	Trifluralin 10G	
Soil Texture	Split Application Before and After Harvest	Single Application Before or After Harvest
Coarse	5 lbs + 5 lbs.	10 lbs
Medium	7.5 lbs + 7.5 lbs.	15 lbs
Fine	10 lbs + 10 lbs.	20 lbs

\*Do not apply more than 10 lbs/acre on coarse soils, 15 lbs/acre on medium soils or 20 lbs/acre on fine soils during the calendar year.

### **BEANS-GUAR AND MUNGBEAN**

Apply and incorporate Trifluralin 10G before planting at a rate of 5 lbs on coarse soils and 7.5 lbs on medium and fine soils. Use 7.5 lbs on soils with 2-5% organic matter

# BEANS - LIMA BEAN AND SNAP BEAN

Apply and incorporate Trifluralin 10G before planting at a rate of 5 lbs. on coarse and medium soils, and 7.5 lbs. on fine soils. Use 7.5 lbs. on soils with 2-5% organic matter.

#### **BEANS- DRY BEANS\***

Apply and incorporate Trifluralin 10G in the spring before planting or in the fall. See instructions for "Fall Application" under "Application Timing"

#### CARROTS\*

Apply and soil incorporate Trifluralin 10G before planting.

#### **CASTOR BEAN\***

Apply and soil incorporate Trifluralin 10G before planting.

#### **CELERY\***

Apply and soil incorporate Trifluralin 10G to direct seeded or transplanted celery before planting, at planting or immediately after planting.

### **CUCURBITS - CANTALOUPE, CUCUMBER, AND WATERMELON\***

Apply and incorporate Trifluralin 10G when plants have reached the 3 to 4 true leaf stage of growth. Set incorporation equipment to move treated soil around the base of plants during incorporation. Do not apply within 30 days of harvest, except for Watermelon which has a 60 day pre-harvest interval.

#### OKRA\*

Apply and incorporate Trifluralin 10G before planting.

#### **PEAS-SOUTHERN PEAS\***

Apply and incorporate Trifluralin 10G before planting.

#### PEPPER (Transplant Only)\*

Apply and incorporate Trifluralin 10G prior to transplanting. Do not apply after transplanting.

#### POTATOES\*

Apply and incorporate Trifluralin 10G after planting prior to crop emergence, immediately following dragoff, or after potato plants have fully emerged. Set incorporation equipment so that the bed and furrow are uniformly covered with a layer of treated soil or potato emergence may be retarded and some brittleness can occur. If applying and incorporating Trifluralin 10G to potato plants that have fully emerged, do not completely cover the foliage with treated soil and do not cover foliage during subsequent cultivations. Be careful not to damage seed pieces or elongated sprouts with incorporation equipment.

# \*Refer to table directly below for rates.

Broadcast Application Rates/Acre:

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	6.25 - 7.5 lbs
Fine	7.5 - 10 lbs.

\*Use 7.5 lbs on coarse and medium soils with 2-5% organic matter; 10 lbs. on fine soils with 2-5% organic matter and all soils with 5-10% organic matter. In areas receiving less than 20 inches total annual rain fall and irrigation, use lower rate in rate range.

#### PEAS-DRY PEA AND ENGLISH PEAS

Apply and incorporate Trifluralin 10G in the spring before planting or in the fall. Refer to instructions for "Fall Application" under "Application Timing" in the "General Information" section of this label.

#### **Broadcast Application Rate/Acre:**

	Trifluralin 10G	
Soil Texture	Spring Application	Fall* Application
Coarse	5 lbs	5 lbs.
Medium	5 lbs	6.25 - 7.5 lbs
Fine	7.5 lbs	7.5 lbs

<sup>\*</sup>Trifluralin 10G may be fall applied to Dry and English Peas in the states of Idaho, Oregon and Washington.

#### CHICORY/ENDIVE

Trifluralin 10G may be applied as a preplant soil incorporated treatment in spring or early summer prior to planting 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 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.

#### **Broadcast Application Rates per Acre:**

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	7.5 lbs
Fine	10 lbs

\*Use 7.5 lbs. on coarse and medium soils with 2-5% organic matter; 10 lbs. on fine soils with 2-5% organic matter and all soils with 5-10% organic matter.

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

### **Direct Seeded Cole Crops**

Trifluralin 10G may be applied and incorporated before planting at a rate of 5 lbs for coarse and medium soils and 7.5 lbs on fine soils. Use 7.5 lbs on all soils with 2-5% organic matter.

**Precaution:** Direct seeded cole crops exhibit marginal tolerance to higher than recommended rates of Trifluralin 10G. Stunting or reduced stands may occur.

#### **Transplanted Cole Crops**

Apply and incorporate Trifluralin 10G before transplanting.

Broadcast Application Rates/Acre:

broadcast Application riales/Acre.		
Soil Texture	Trifluralin 10G	
Coarse	5 lbs	
Medium	6.25 - 7.5 lbs	
Fine	7.5 - 10 lbs	

\*Use 7.5 lbs on coarse and medium soils with 2-5% organic matter and 10 lbs. on fine soils with 2-5% organic matter and all soils with 5-10% organic matter. In areas receiving less than 20 inches total annual rain fall and irrigation, use lower rate in rate range.

#### **CORN-FIELD CORN ONLY**

Uniformly apply Trifluralin 10G as a postemergence treatment following the use of preemergence herbicide to the soil surface when the crop is well established (2 true leaf stage or taller), or immediately after a cultivation, up to a height of 30 inches. Incorporation should take place within 24 hours after application with one pass of a sweep-type cultivator or properly adjusted rolling cultivator. Trifluralin 10G does not control established weeds.

Do not apply Trifluralin 10G within 6 weeks prior to harvesting forage, fodder or silage or after corn is 30 inches tall.

#### Precautions

Do not apply Trifluralin 10G to sweet corn, popcorn, or corn grown for seed. Also, do not apply as preplant or preemergence treatment or crop injury may occur.

Broadcast Application Rates/Acre:

Broadcast Application Hatco/Acros		
Soil Texture	Trifluralin 10G	
Coarse	3.75-5* lbs	
Medium	5 - 7.5 lbs	
Fine	7.5 - 10 lbs	

\*When used in Alabama, Florida, Georgia, North Carolina, South Carolina and Virginia on coarse soils to control fall panicum and Texas panicum, use 5 to 7.5 lbs/acre.

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

#### COTTON

Trifluralin 10G may be applied and incorporated before or at planting, immediately after planting, at layby, or in the fall. When incorporating Trifluralin 10G after planting, be careful not to disturb the seed.

**Broadcast Application Rate/Acre:** 

	Trifluralin 10G		
	Spring* Fall Application Application		
Soil Texture		Eastern U.S.**	Western U.S.***
Coarse	5 lbs	10 lbs	7.5 lbs
Medium	6.25-7.5 lbs	10 lbs	10 lbs
Fine	7.5-10 lbs	12.5 lbs	12.5 lbs

\*Spring Application: Use 7.5 lbs on coarse and medium soils with 2-5% organic matter; 10 lbs on fine soils with 2-5% organic matter and all soils with 5-10% organic matter.

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

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

\*\*\*Fall Application: Use rates for western cotton producing areas including Arizona, California, and Nevada.

For cotton grown in areas other than those listed above, fall apply Trifluralin 10G at broadcast rates recommended for areas receiving greater than 20 inches of annual rainfall and irrigation.

#### **Layby Treatment**

Trifluralin 10G may be applied and incorporated any time up to layby, but not less than 90 days before harvest. Apply so that there is uniform distribution of granules on the soil surface beneath cotton plants. Use the same rates as for preplant incorporated treatments. Soil incorporate using one pass of a sweep-type cultivator or properly adjusted rolling cultivator.

#### Preemergence Overlay Applications Following Trifluralin 10G

Apply Trifluralin 10G as a preplant incorporated treatment. Overlay applications of products registered for use on cotton may control additional weeds tolerant to Trifluralin 10G. Such applications may be made unless use following a Trifluralin 10G application is specifically prohibited by the product label. Refer to the overlay product label for additional weeds controlled, directions for use, cautions and limitations before use.

<sup>\*</sup>Use the lower rate in areas receiving less than 20 inches total annual rainfall and irrigation.

### Postemergence Applications Following Trifluralin 10G

Apply Trifluralin 10G as a preplant incorporated treatment. The use of postemergent applications of products registered for use on cotton may control additional weeds tolerant to Trifluralin 10G. Such treatments may be made unless use following a Trifluralin 10G application is specifically prohibited by the product label. Consult the postemergence product label for additional weeds controlled, directions for use, cautions and limitations before use.

#### FLAX (Fall Application Only)

Use Trifluralin 10G at a rate of 5 lbs/acre on coarse soils, 7.5 lbs/acre on medium soils, and 10 lbs/ acre on fine soils. Product should be applied and incorporated in the fall between September 1 to December 31 in California, Minnesota, North Dakota, and South Dakota and between October 15 and December 31 in all other states. Refer to instructions for "Fall Applications" under "Application Timing". Incorporation or other tillage performed in the spring prior to seeding should be relatively shallow in order to maintain a firm seedbed, which should be packed just prior to seeding. Seed into moist seedbed no more than 1.5 inches deep with a press or hoe drill. Flax should not be seeded until the seedbed has warmed up.

#### **GRAIN SORGHUM (Milo)**

Apply Trifluralin 10G uniformly to the soil surface when grain sorghum is 8 inches tall or taller. Apply as a postemergence treatment following the use of a preemergence herbicide. Cultivate before application to move established weeds and cover the base of plants with soil. Set cultivation equipment to add approximately one inch of soil to the base of sorghum plants. Trifluralin 10G should be incorporated within 24 hours after application with one pass of a sweep-type cultivator or properly adjusted rolling cultivator.

**Broadcast Application Rates/Acre:** 

Soil Texture	Trifluralin 10G
Coarse	4 - 5 lbs
Medium	5 - 7.5 lbs
Fine	7.5 - 10 lbs

<sup>\*</sup>In areas receiving less than 20 inches total annual rainfall and irrigation, lower rate in range should be applied.

# GREENS-TURNIP GREENS GROWN FOR PROCESSING (Collard, Kale, and Mustard Greens)

Apply product as a preplant incorporated treatment at a rate of 5 lbs/acre to coarse soils; 7.5 lbs/acre to medium and fine soils.

#### HOPS

Apply and incorporate Trifluralin 10G to established hops during dormancy at a rate of 5 lbs/acre for coarse soils, and 6.25 - 7.5 lbs/acre for medium and fine soils. Incorporate once using incorporation equipment that will insure thorough soil mixing with minimal damage to crop stand. Use 7.5 lbs/acre on coarse and medium soils with 2-5% organic matter.

#### **MUSTARD**

# (Grown for seed or processing for food in Minnesota, North Dakota, and South Dakota)

Apply and incorporate Trifluralin 10G before planting at a rate of 5 lbs/acre for coarse soils, and 7.5 lbs/acre for medium and fine soils.

#### **PEANUTS**

# Spanish Peanuts, Florunner and Florigiant Varieties (For Use in Texas, Oklahoma and New Mexico)

Apply and incorporate Trifluralin 10G before planting, at planting or immediately after planting at a rate of 5 lbs/acre on coarse soils and 7.5 lbs/acre on medium soils. When incorporating after planting, be careful not to disturb the seed.

#### RAPESEED (CANOLA)

Trifluralin 10G should be applied and incorporated in the spring or in the fall at a rate of 5 lbs/acre for coarse soils, 7.5 lbs/acre for medium soils, and 10 lbs/acre on fine soils. Refer to "Fall Application" under "Application Timing" instructions on this label.

### SAFFLOWER

Trifluralin 10G should be applied in the spring before planting, or in the fall. See instruction for "Fall Applications" under "Application Timing" instruction on this label.

Broadcast Application Rate/Acre:

	Trifluralin 10G		
Soil Texture	Spring* Application	Fall** Application	
Coarse	5 lbs	7.5 lbs	
Medium	6.25 - 7.5 lbs	10 lbs	
Fine	7.5 - 10 lbs	12.5 lbs	

\*Spring Application: Use 7.5 lbs on coarse and medium soils with 2-5% organic matter; 10 lbs on fine soils with 2-5% organic matter; and 10-12.5 lbs on all soils with 5-10% organic matter. Use lower rate in range in areas receiving less than 20 inches total annual rain fall and irrigation.

\*\*Trifluralin 10G may be fall applied to Safflower in Arizona, California, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming.

#### SMALL GRAIN - BARLEY, DURUM AND WHEAT

#### **General Information**

Use any of the following implements listed below in the manner described for the first incorporation of Trifluralin 10G. Use only a disc or field cultivator for the second incorporation pass and incorporate in a different direction. Poor weed control may result if untreated soil is moved to the surface during the second incorporation pass. To avoid this problem, the second incorporation should not be deeper than the first.

Chisel Plow: May be used for the first incorporation pass only. It should be operated at 4 to 6 mph and 4 to 5 inches deep. Stagger sweeps so that no soil is left unturned.

Tandem Disc: Operate at 3 to 4 inches deep and at 4 to 6 mph.

Field Cultivator: Operate at 5 or more mph and at 3 to 4 inches deep. Stagger sweeps so that no soil is left unturned.

#### Precautions

Under certain conditions, delayed crop emergence and/or stand reduction may occur when Trifluralin 10G 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 result, observe the following practices and precautions:

- Provide a uniformly firm seedbed and time tillage operation to conserve moisture. Irrigate prior to planting or after germination and emergence.
- When planting seed, set drills to place seed at the depth specified in use directions. A planting depth greater than 2.5 inches for spring wheat or durum will result in increased seedling stress and decreased emergence.
- If seed treatments are used, apply at the correct rate and uniformly across all
- Do not fall apply Trifluralin 10G in combination with any other preplant incorporated herbicide.
- High salinity, eroded knolls/hilltops, loose dry soils and compaction may contribute to seedling stress.
- Cold and/or wet soils, excessively hot soils, excessive moisture, drought, and soil crusting from heavy rainfall may also contribute to crop seedling stress.

# Barley, Spring Seeded—Fall Applications (For Use in Minnesota, North Dakota and South Dakota)

Apply in the fall for general weed control during the following growing season. Incorporate once within 24 hours and a second time before planting to destroy existing weeds and insure uniform distribution of Trifluralin 10G in soil. The second incorporation should occur at least 7 days after the first. Set planting equipment to place seed approximately 2 inches deep.

Note: See recommendation on incorporation and equipment in the beginning of this section.

### **Broadcast Application Rate/Acre:**

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	7.5 lbs
Fine	7.5 lbs

When applied at 7.5 lbs/acre, Trifluralin 10G will provide partial control or suppression of kochia and Russian thistle.

# Barley, Spring Seeded—Spring Application for Use In Barley Used as a Cover Crop or in the Acreage Conservation Reserve Program (For use in Minnesota, North Dakota, and South Dakota)

For control of foxtail (pigeongrass), apply Trifluralin 10G in the spring as a preplant incorporated treatment. Incorporate one time within 24 hours and a second time before planting to destroy existing weeds and insure uniform distribution of this product in soil. The second incorporation should be completed at least 7 days after the first. Set planting equipment to lace seed approximately 2 inches deep.

See recommendations on incorporation and equipment at the beginning of this section.

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

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	7.5 lbs
Fine	7.5 lbs

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

### Spring Seeded Wheat or Durum—Fall Application

Apply this product in the fall for foxtail (pigeongrass) control during the following growing season. Incorporate one time within 24 hours, and a second time before planting to destroy existing weeds and insure a uniform distribution of Trifluralin 10G in soil. Set planting equipment to place seed approximate 2 inches deep. See recommendation on incorporation and equipment at the beginning of this section.

**Broadcast Application Rate/Acre:** 

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	5 lbs
Fine	7.5 lbs

# Winter Wheat—Preplant Incorporated (For Use in Idaho, Oregon, and Washington)\*

For control of cheatgrass and other annual grasses, apply Trifluralin 10G as a preplant incorporated treatment up to 3 weeks before planting. See recommendations on incorporation direction below.

# Winter Wheat—Fallow Soil Application (For Use in Idaho, Oregon, Washington)\*

For control of cheatgrass and certain other annual grasses and broadleaf weed during the fallow period and during the following growing season, apply and shallowly incorporate Trifluralin 10G up to 4 months before planting.

\*See following table for rates and instructions.

**Broadcast Application Rate/Acre:** 

Soil Texture	Trifluralin 10G
Coarse	7.5 lbs
Medium	7.5 lbs
Fine	10 lbs

#### Incorporation Directions for Preplant and Fallow Soil Application

Incorporate with a flexible tine-toothharrow (flextine or Melroe), set to cut 1 to 2 inches deep and operated at 3 to 6 mph. Thorough incorporation requires 2 incorporation passes over the field in different directions. Incorporate 1 time within 24 hours of application. A required second incorporation pass prior to planting should occur at least 5 days after the first. Do not till the soil with a disc after this product has been incorporated with a flexible tine harrow.

#### Planting Directions for Preplant and Fallow Soil Application

Use only deep furrow or semi-deep furrow drill that will place the seed below the zone into which Trifluralin 10G has been incorporated.

**Precaution:** Do not plant wheat directly into the zone of soil treated with Trifluralin 10G as crop injury may occur.

# Summer Fallow Weed Control Followed Spring Seeded Wheat, Durum, or Barley

Trifluralin 10G may be applied for control of labeled weeds in the summer fallow period and for pigeongrass (foxtail) control in wheat, durum, and barley seeded the following spring. Apply this product to standing stubble or land which has been fallowed or pretilled. Existing weeds and surface debris should be reduced by tillage if the exist in quantities that will prevent uniform soil incorporation. The first incorporation is required within 24 hours after application, and the second may occur in conjunction with tillage to destroy resistant weed growth during the remainder of the fallow year. During the fallow year, susceptible weeds may not be controlled until after the second incorporation. See recommendations on incorporation and incorporation equipment at the beginning of this section. Wheat, durum, or barley should be seeded approximately 2 inches deep.

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

Application Date	Trifluralin 10G		
	Areas with less than 10 inches annual rainfall	All other areas	
April 15 - April 30	8.75 lbs	10 lbs	
May 1 - May 31	8.75 - 7.5 lbs	10 lbs - 8.75 lbs	
June 1 - June 30	7.5 - 6.25 lbs	8.75 - 7.5 lbs	
July 1 - July 31	6.25 - 5 lbs	7.5 - 6.25 lbs	
August 1 - August 31	5 lbs	6.25 - 5 lbs	

<sup>\*</sup>Where rate range is shown, use the higher rate per acre during the early part of an application period and the lower rate per acre during the latter part of an application period.

#### **SOYBEANS**

Apply and incorporate Trifluralin 10G in the spring prior to planting or in the fall. See instructions for "Fall Application" under "Application Timing".

**Broadcast Application Rates/Acre:** 

Soil Texture	Trifluralin 10G	
	Spring * Application	Fall** Application
Coarse	5 lbs	10 lbs
Medium	7.5 lbs	10 lbs
Fine	10 lbs	12.5 lbs

\* Spring Application: Use 7.5 lbs on coarse and medium soils with 2 - 5% organic matter; 10 lbs on fine soils with 2 - 5% organic matter; and 10-12.5 lbs on all soils with 5 - 10% organic matter.

\*\*Fall Application: Use rates for soybeans grown in Alabama, Arkansas, Northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. For soybeans grown in areas other than those listed above, fall apply Trifluralin 10G at broadcast rates recommended for areas receiving greater than 20 inches of annual rainfall and irrigation.

**Precaution:** Do not fall apply Trifluralin 10G in the fall to soils which are wet or subject to prolonged periods of flooding, or where rice was grown the previous year.

# Preemergence Overlay Applications Following Trifluralin 10G

Apply Trifluralin 10G as a preplant incorporated treatment. Additional weeds tolerant to Trifluralin 10G may be controlled using preemergence overlay applications of other products registered of use on soybeans. Such treatments may be made unless use following a Trifluralin 10G application is specifically prohibited by the product label. Consult the overlay product label for additional weeds controlled, directions for use, and cautions before use.

#### Postemergence Treatments Following Trifluralin 10G

Apply Trifluralin 10G as a preplant incorporated treatment. Additional weeds tolerant to Trifluralin 10G may be controlled using postemergence applications of other products registered for use on soybeans. Such treatments may be made, unless use following Trifluralin 10G application is specifically prohibited by the product label. Consult the overlay or postemergence product label for additional weeds controlled, directions for use, caution, and limitations before use.

#### **SUGAR BEETS**

Apply and incorporate Trifluralin 10G when sugar beets are 2 to 6 inches tall. Precaution: To reduce the possibility of girdling, exposed sugarbeet roots should be covered with soil before applying Trifluralin 10G. When incorporating, set equipment to move treated soil into the row.

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	6.25 - 7.5 lbs
Fine	6.25 - 7.5 lbs

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

# SUGARCANE

Apply and incorporate Trifluralin 10G twice a year at a rate of 10 - 20 lbs for all soil textures. Make the first application in the fall on firmly packed beds immediately after the seed pieces are planted and a second application in the spring before or shortly after the cane emerges. Loosen rain-packed beds 2 to 3 inches deep before spring application.

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

Apply and incorporate this product at a rate of 10 - 20 lbs shortly before or after cane emergence until layby. For itchgrass control, apply and incorporate Trifluralin 10G on plant or ratoon cane. Apply after beds have been shaved or false shaved. Loosen rain-packed beds 2 to 3 inches deep before application. Incorporate with a rolling cultivator or bed chopper for all soil textures. Set chopper to cut 3 to 4 inches deep and operate at 4 to 6 mph. Two incorporation passes are necessary.

#### SUNFLOWERS\*

Apply and incorporate Trifluralin 10G in the spring or in the fall between September 15 and December 31 in California, Minnesota, North Dakota, and South Dakota, and between October 15 and December 31 in other states

### TOMATOES\*

For direct seeded tomato, apply Trifluralin 10G at blocking or thinning to the soil between rows and beneath plants and incorporate. For transplant tomatoes, apply and incorporate prior to transplanting only. Do not apply this product after transplanting.

#### \*Refer to the table below for application rates

**Broadcast Application Rates/Acre:** 

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	6.25 - 7.5 lbs
Fine	7.5 - 10 lbs

Use 7.5 lbs on coarse and medium soils with 2 - 5% organic matter; 10 lbs on fine soils with 2 - 5% organic matter and on all soils with 5 - 10% organic matter; and use the lower rate in range in areas receiving less than 20 inches total annual rainfall and irrigation.

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

For new plantings to almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine, and walnut trees, apply and incorporate Trifluralin 10G before planting.

**Broadcast Application Rates/Acre:** 

Soil Texture	Trifluralin 10G
Coarse	5 lbs
Medium	6.25 - 7.5 lbs
Fine	7.5 lbs

Use 7.5 - 10 lbs on all soils with 2 - 5% organic matter; 10 lbs on all soils with 5-10% organic matter. Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation. For new plantings of vineyards, apply and incorporate Trifluralin 10G before planting at the following rate/acre:

Soil Texture	Trifluralin 10G
Coarse	5 - 7.5 lbs
Medium	7.5 - 15 lbs
Fine	15 - 20 lbs

Use 15 - 20 lbs on all soils with 2 - 10% organic matter. Use the lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation. Do not use more than 10 lbs/acre on heat treated grape rooting.

Trifluralin 10G may be applied at a rate of 10 lbs - 20 lbs in established non-bearing and bearing vineyards and planting of almond, apricot, grapefruit, lemon, nectarine, orange peach, pecan, plum, prune, tangelo, tangerine, and walnut trees. In established plantings apply to the soil surface and use incorporation methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

### CONTAINER GROWN ORNAMENTALS, LANDSCAPE ORNAMENTALS, NURSERY STOCK, GROUND COVERS, ESTABLISHED FLOWERS, ORNAMENTAL BULBS, NON-BEARING FRUIT AND NUT TREES AND NON-BEARING **VINEYARDS, AND CHRISTMAS TREE PLANTATIONS**

Trifluralin 10G is recommended as a preemergence treatment for control of certain annual grasses and broadleaf weeds in container grown ornamentals, landscape ornamentals, nursery stock, ground covers, established flowers, ornamental bulbs, non-bearing fruit and nut trees and non-bearing vineyards, and Christmas tree plantations. Apply 40 lbs./A (.9 lbs./1000 sq.ft.) Trifluralin 10G before or after planting but prior to germination of target weeds, or immediately after cultivation. Length of weed control will vary with weed population, potting media or soil conditions, temperature, watering regime, and other factors. Following application, user should monitor and observe level of weed control over time to determine when additional applications may be needed. Repeat application should not be made sooner than 60 days after a previous application of Trifluralin 10G. Do not apply over 120 pounds per acre total of Trifluralin 10G within a 12-month period.

Trifluralin 10G does not control established weeds. Existing weeds should be controlled by cultivation or with postemergence herbicides. Weed residues, prunings and trash should be removed or thoroughly mixed into soil prior to treatment. Soil should be in good condition and free of clods at the time of application. A single rainfall or sprinkler irrigation of 0.5 inches or more, or flood irrigation, is required to activate Trifluralin 10G. Optimum weed control is obtained when Trifluralin 10G is activated within 3 days of application. If rainfall or irrigation has not occurred within 3 days of application and tillage is possible, Trifluralin 10G may be activated using cultivation equipment capable of uniformly mixing the herbicide into the upper 1-2 inches of soil. Failure to activate Trifluralin 10G within 3 days of application may result in erratic weed control. Do not apply when wind conditions favor drift of Trifluralin 10G granules from the target area. Optimum weed control will be obtained when followed by overhead irrigation or rainfall within a few hours after surface application.

Special Use Precautions: To avoid possible injury, do not apply Trifluralin 10G to:

- Nursery forest or Christmas Tree seedling beds, cutting beds, or transplant beds
- Unrooted liners or cuttings that have been planted in pots for the first time
- · Pots less than four inches wide
- · Ground covers until they are established and well rooted

Do not apply Trifluralin 10G to newly transplanted ornamentals, nursery stock, ground covers, flowers, and non-bearing fruit and nut crops and non-bearing vineyards until soil or potting media has been settled by packing and irrigation or rainfall and no cracks are present or injury may occur.

Do not make preplant applications of Trifluralin 10G to areas where gladioli corms less than one inch in diameter will be planted or injury may occur.

Do not apply Trifluralin 10G in greenhouse or other enclosed structures.

Users who wish to use Trifluralin 10G on plant species not recommended on this label may determine suitability for such uses by making trial application of Trifluralin 10G at a recommended rate to small numbers of plants. Prior to using Trifluralin 10G on a large number of plants, the treated plants should be observed for signs of herbicidal injury during 30 to 60 days of normal growing conditions to determine if the treatment is non-injurious to the target plant species. The user assumes responsibility for any plant damage or other liability resulting from the use of Trifluralin 10G on plant species not recommended on this label. Trifluralin 10G may be used on the following established plant species when container grown or field grown:

#### **TREES**

Scientific Name Abies balsamea Balsam fir Abies concolor White fir Abution hybridum

Acer gimmala Acer platanoides Acer rubrum

Acer saccharinum Acer saccharum

Areacastrum romanzoffianum Betula nigra Betula papyrifera

Betula pendula Brachychiton populneus

Bucida buceras Castanea mollissima Ceratonia siliqua Cercis canadensis Chamaecyparis obtusa

Chamecyparis pisifera

Chamaedorea cataractarum Chamaedorea costaricana Chamaedorea elegans Cornus florida

Cornus kousa Crataegus viridis Cupaniopsis anacardioides Cupressus glabra Elaeagnus angustifolia Eucalvotus camaldulenisis

Eucalyptus cinerea Eucalyptus microtheca Eucalyptus sideroxyion

Fraxinus americana Fraxinus udhei Ginko biloba Gleditsia triacanthos

Ficus benjamina

Heteromeles arbutiflora Illicium floridanum Juniperus virginiana Larix kaempferi Liquidambar styraciflue

# Common Name

Albus-flowering maple Luteus-flowering maple Roseus-flowering maple Tangerine-flowering maple Vesuvius red-flowering maple

Flame maple Norway maple Red maple Red sunset maple Silver maple Sugar maple Queen palm River birch Paper birch European white birch

Bottle tree Black olive Chinese chestnut

Carob Redbud

Palm

Filicoides-fernspray cypress Gracilis-slender Hinoki cypress

Swara false cypress Squarrosa-moss cypress

Palm Parlor Palm Cloud nine dogwood Flowering dogwood Dogwood, kousa Green hawthorn Carrot wood Arizona cypress Russian olive Redgum eucalvotus Mealy eucalyptus

Silver dollar eucalyptus Coolibah tree Red ironbark eucalyptus

Ficus Mini ficus White ash Shamel ash

Ginko-maidenhair tree

Honey locust

Shademaster honey locust

Toyon

Florida anise-tree Eastern red cedar Japanese larch American sweet gum

Trees cont'd .: Scientific Name Liriodendron tuilipifera Magnolia grandiflora Malus spp. Morus alba

Nyssa sylvatica Oxydendrum arboreum

Picea abies

Musa aluminata

Picea glauca conica Picea glauca Picea pungens

Pinus aristata Pinus canariensis Pinus contorta Pinus eldarica Pinus leucodermis Pinus mugo

Pinus nigra Pinus radiata Pinus resinosa Pinus taeda Pinus strobus Pinus sylvestris

Pinus thunbergiana Platanus acerifolia Platanus occicentalis Platanus racemosa Podocarppus spp. Populus deltoids Prosopis chilensis Prunus yedoensis Pseudotsuga menziesii Quercus coccinea Quercus ilicifolia Quercus palustris Quercus phellos Quercus rubra Quercus virginiana Robinia pseudoacacia Salix spp.

Sequoiadendron giganteum Swietenia mahogani Tabebuia caraiba Taxodium distichum Tsuga canadensis Ulmus parvifolia Washingtonia robusta

# **ORNAMENTAL SHRUBS**

Scientific name

Abelia grandiflora

Acacia abyssinica Acacia redolens Acacia stenophylla Acalypha wilkesiana Acer ginnala Acer palmatum

Agave americana Astilbe chinensis Athyrium nipponimcum Baccharis pilularis Berberis gladwynensii Berberis mentorensis Berberis thunbergii

Common Name

Tulintree Southern magnolia Crabapple

White mulberry Banana Blackgum Sourwood Norway spruce

Pendula-weeping Norway spruce Repens-spreading Norway spruce

Dwarf Alberta spruce White spruce

Dwarf globe blue spruce Glauca-Colorado blue spruce Hoopsii-Hoop blue spruce Koster-Koster blue spruce

Bristlecone pine Canary Island pine Shore pine, beach pine Eldarica pine

Bosnian pine

Pumilio-shrubby swiss mountain

pine

Austrian black pine Monterey pine Red pine Loblolly pine White pine

Columnar Scotch pine

Scotch pine Japanese black pine London planetree American sycamore California sycamore Podocarpus

Cottonwood Chilian mesquite Yoshino flowering cherry Douglas fir

Scarlet oak Bear oak Pin oak Willow oak Red oak Live oak Black locust Willow Giant sequoia

Mahogany Yellow tab Bald cypress Eastern hemlock Chinese elm Mexican fan palm

Common Name

Edward Goucher abelia

Glossy abelia Abyssinica acacia Prostrate acacia Shoestring acacia Copper leaf Amur maple

Coral bark Japanese maple Dwarf Japanese maple

Century plant False spiraea Japanese painted fern Coyotebush

William Penn barberry Mentor barberry Atropurea-redleaf Japanese

barberry

Aurea-golden Japanese barberry Crimson pygmy barberry Rose glow barberry

Ornamental Shrubs cont'd .:

Scientific name Bougainvillea spp.

Euonymus fortunei

Euonymus japonica

Feijoa sellowiana

Hibiscus syriacus

Illicium annisatum

Ilex spp.

Itea ilcifolia

Ixora collinea

Juniperus spp.

Kalmia latifolia

Lantana spp.

Ligustrum spp.

Lagerstroemia indica

Leucothoe fontainesiana

Leucothoe axillaris

Forsythia spp.

Euonymus kiautschovica

Gradenia jasminoides

Scarlet O'Hara Temple fire Texas dawn Buxus microphylla japonica Japanese boxwood Buxus microphylla Koreana Korean boxwood Buxus sempervirens Common boxwood Callistemon citrinus Lemon bottlebrush Callistemon viminalis Weeping bottlebrush

Common Name

Barbara Karst

California gold

Pink pixie

Spring torch scotch heather Calluna vulgaris Camellia sasanqua Sasanqua camellia Camellia japonica Japanese camellia Cassia artemisioides Feathery cassia Ceanothus spp. Wild lilac Cephalotaxus drupacae Plum yew Cerastium tomentosum Snow-in-summer Chamaecyparis obtusa spp. Kosteri cypress

> Nana-dwarf Hinoki cypress Torulosa cypress

Chamaecyparis pisifera Filifera-thread cypress Chrysalidocarpus lutescens Areca palm Clethra alnifolia Summersweet

Cleyera japonica Japanese cleyera Cornus alba Sibirica-Siberian dogwood Cornus stolonifera Baileyi red osier dogwood Flaviragmea-yellow twig dogwood

Cotinus coggygria Royal purple smoke tree Cotinus dammeri Coral beauty smoke tree Eichholz smoke tree Cotoneaster adpressus Praecox-early cotoneaster Cotoneaster apiculatus Cranberry cotoneaster Cotoneaster congestus Pyrenees cotoneaster Bearberry cotoneaster

Cotoneaster dammeri Cotoneaster himalayan Himalayan cotoneaster Cotoneaster horizontalis Rock cotoneaster Cotoneaster zabelii Zabel cotoneaster Cycas revoluta Saga palm

Cytisus praecox Hollandia-warminster broom Cytisus scoparius Lena-Scotch broom Daphne odora Fragrant daphne Deutzia spp. Deutzia Dodonea viscose Hopseed bush Fruitland silver berry Elaeagnus pungens Erica cinerea Purple bell heather

Erica x darleyensa Mediterranean pink heather Erica vagans Cornish heather Euonymus alatus Winged euonymus

> Candale gold euonymus Emerald'n gold *euonymus* Sunspot euonymus Wintercreeper euonymus Silver king-euonymus

Variegated evergreen euonymus

Spreading euonymus Pineapple guava Forsythia

August beauty gardenia

Gardenia

Radican gardenia Gaultheria shallon Salal/lemon leaf Gelsemium sempervirens Carolina jessamine Genista pilosa Woadwaxen Hibiscus rosa-sinensis Ross Estey-hibiscus

Rose of Sharon-heart Rose of Sharon-red bird Rose of Sharon-woodbridge

Mystery gardenia

Henry Garnet holly leaf sweetspire

Ixora Juniper Mountain laurel Crape myrtle Lantana Coast leucothoe Drooping leucothoe

Privet

# Ornamental Shrubs cont'd.:

Scientific name

Livistona chinensis Lonicera periclymenum

Lonicera sempervirens Mahonia bealei Mahonia repens Myrica cerifera Nandina domestica

Nerium oleander

Osmanthus fortunei Philadelphus spp Phoenix roeloelenii Photinia fraseri Pieris japonica

Pieris japonica x forestii Pinus mugo Pittosporum tibira

Plumbago ariculata Plumbago capensis Podocarpus macrophyllus Polystichum polyblepharum Potentilla spp. Prunus caroliniana Prunus gladulosa Pyracantha spp. Rhaphiolepis indica

Rhaphiolepis ovata Rhododendron spp. Rhus lancea Rosa rugosa Rosmarinus officinalis Skimmia japonica Skimmia revesiana Spiraea japonica

Spiraea vanhouttii Syringa rothomangensis Syringa vulgaris Taxus cuspidata Taxus media Tecomaria capensis Temstroemia gymnanthera Thuja occidentalis

Thuja orientalis

Veitchia merrilli Viburnum spp. Weigela spp. Xylosma congestum Yucca filamentosa

Common Name

Chinese fountain palm Flowering woodbine Serotina woodbine Trumpet honeysuckle Leather leaf mahonia Creeping mahonia Wax myrtle

Compacta-dwarf heavenly bamboo Harbour dwarf-heavenly bamboo

Heavenly bamboo

Nana compacta-heavenly bamboo Nana *purpurea*-heavenly bamboo Woods dwarf heavenly bamboo

Hardy red oleander Oleander

Ruby lace oleander Fortunes osmanthus Mockorange Pigmy date palm Fraser's photinia
Japanese andromeda Japanese andromeda
Mountain fire lily-of-the-valley
Snowdrift lily-of-the-valley
Templebells lily-of-the-valley
Valley rose lily-of-the-valley
Valley valentine lily-of-the-valley
Forcet flowelling the valley

Forest flame lily-of-the-valley Mugo-mugho pine Green pittosporum

Japanese pittosporum Wheeler's dwarf pittosporum

Blue cape plumbago

Plumbago Yewpine Tallen fern Cinquefoil

Carolina laurel cherry Dwarf pink flowering almond

Charisma-Monruce rhaphiolepis Enchantress-Moness rhaphiolepis India hawthorn

Springtime-Monme rhaphiolepis

Roundleaf rhaphiolepis Azalea/rhododendron Africa sumac Ramanas rose Rosemary

Japanese skimmia Reeve's skimmia Dolchia spiraea Japanese alpine spiraea Shirobana *spiraea* 

Bridal wreath Chinese lilac Common lilac Upright Japanese yew

Anglojap yew

Cape honeysuckle

American arborvitae Emerald arborvitae Globosa-globe arborvitae Little giant-dwarf arborvitae Nigra-dark American arborvitae Pyramidalis-pyramid arborvitae Rheingold arborvitae Techny arborvitae

Aureus nana-dwarf golden arborvitae

Minima glauca-dwarf arborvitae

Christmas palm Viburnum Weigela Xylosma

Yucca

**GROUND COVERS** Scientific Name

Achillea tomentosa Agapanthus spp.
Ammophila breviligulata
Arctotheca calendula

Armeria maritima Asparagus densiflorus Campanula spp.

Carex spp.
Carpobrotus edulis
Ceratostigma plumbaginoides Cistus spp.

Coreopsis spp. Coronilla vana Cortaderia selloana Cotoneaster spp. Delosperma alba

Descampsia caespitosa Drosanthemum floribundum Drosanthemum hispidum Festuca ovina glauca Fragaria chiloensis

Gazania spp.

Hypericum spp.

Hakonechloa marcroaureola Hedera canariensis Hedera helix Hemerocallis spp. Herniaria glabra Hosta lancifolia

Jasminum nitidum Lampranthus spectabilis Liriope gigantea Liriope muscari

Liriope spicata Miscanthus sinensis Muehlenbeckia axillaris Myoporum laetum Ophiopogon japonicus

Osteospermum fruticosum Pachysandra terminalis Pennisetum alopecuroides Phalaris arundinacea picta

Sedum spp. Teucrium chamaedrys

Trachelospermum asiaticum

. Verbena spp. Veronica spp. Vinca spp.

**ESTABLISHED FLOWERS** Scientific Name

Achillea spp.
Ageratum houstonianum

Alyssum spp. Antirrhinum majus Arctotis spp.
Artemisis stellerana

Aster spp. Calendula Officianalis Centaurea cyanus Centaurea gymnocarpa Centaurea moschata Chrysanthemum spp.
Convolvulus spp.
Coreopsis spp.
Cosmos spp.

Dahlia spp. Dianthus spp. Dimorphotheca spp. Euphorbia marginata

Geum spp. Gaillardia spp. Gladiolus spp.

Gypsophila paniculata Helianthus spp. Impatiens balsamina

Impatiens spp. Ixora spp. Lathyrus odoratus Limonium spp. Lobelia spp.

Lobularia maritima Lupinus spp. Matthiola spp.

Common Name

Wooly yarrow Lily-of-the-nile Beechgrass Cape weed

Thrift
Asparagus fern
Bellflower
Variegated carex

Largeleaf iceplant Dwarf plumbago Rockrose Coreopsis Crown vetch Pampas grass Cotoneaster

Trailing rosea iceplant

Iceplant Blue fescue Strawberry beach

White iceplant Descampsia

Gazania Golden hakonechloa

Algerian ivy English ivy Daylilly

Rupturewort Albo-marginata hosta Aaronsbeard

St. Johnswort Angelwing jasmine Trailing iceplant White lily turf

White lily turf
Big blue lily turf
Lilac beauty lily turf
Magestic lily turf
Silvery sunproof lily turf
Variegated liriope lily turf
Green/creeping lily turf
Fuldlia grees

Eulalia grass Creeping wirevine

Myoporum
Dwarf Mondo grass Mondo grass Trailing African daisy Japanese spurge Fountain grass Ribbon grass Stonecrop (sedum) Germander

Asian jasmine Verbena Speedwell . Periwinkle

**Common Name** 

Yarrow Floss flower Alyssum Snapdragon

African daisy Dusty miller Aster (perennial)

Calendula

Cornflower Velvet centaurea Sweet sultan Chrysanthemum Morningglory Coreopsis Cosmos

Dahlia Dianthus Marigold, cape

Snow-on-the-mountain Geum

Gaillardia Gladiolus Baby's breath Sunflower Balsam Impatiens Ixora Sweet pea Statice

Lobelia Sweet alyssum Lupine Stock

#### Established Flowers cont'd.:

Scientific Name Common Name Mirabilis jalapa Four o'clock Myosotis spp. Forget-me-not Nicotiana spp. Nicotiana Papver spp. Poppy, California Petunia hybrida Petunia

Phlox spp. Phlox Portulaca grandiflora Portulaca Rosa spp. Rose Rudbeckia hirta Blackeyed susan

Rudbeckia laciniata Golden glow Salvia spp. Salvia

Pincushion flower Scabinosa spp. Lamb's ears Stachys spp. Stokesia laevis Stoke's aster Tagetes spp. Marigold Tropaeolum spp. Nasturtium Vinca spp. Vinca Zinnea spp. Zinnia

#### **ORNAMENTAL BULBS**

Trifluralin 10G may be applied for control of susceptible annual weeds in ornamental bulbs, e.g., bulbous iris, daffodil (narcissus), hyacinth and tulip. Apply Trifluralin 10G to the soil surface 2-4 weeds after planting, but prior to the emergence of annual weeds. Trifluralin 10G may also be applied following bulb emergence. For fall planted bulbs, apply Trifluralin 10G again in late winter or early spring to weed-free soil surfaces.

#### **CHRISTMAS TREE PLANTATIONS**

Apply Trifluralin 10G to established plantings of field grown Christmas tree species listed on this label. Do not apply to seedbeds or seedling transplant beds. Apply only to established plantings. Established plants are defined as those that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.

#### **NON-CROPLAND AREAS**

Trifluralin 10G is recommended as a preemergence herbicide for control of certain annual grasses and broadleaf weeds on industrial sites, utility substations, highway guard rails, sign posts and delineators.

Apply Trifluralin 10G anytime prior to germination of target weeds. Areas to be treated should be free of established weeds or existing weeds should be controlled with postemergence herbicides.

# **USE UNDER PAVED SURFACES**

# Site Preparation

Trifluralin 10G should be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with grader blade to a depth sufficient to ensure their complete removal.

Applications should be made only when final grade is established or after additions of base rock. Do not move soils following Trifluralin 10G application and do not apply Trifluralin 10G to areas where asphalt is to be laid directly on top of soil.

Paving should follow Trifluralin 10G applications as soon as possible.

Apply Trifluralin 10G to ensure thorough coverage of the base rock layer. Apply with any granular applicator that will apply uniformly.

#### Apply the following amount of Trifluralin 10G

**Amount of Trifluralin 10G** Per Acre Per 1000 sq. ft.

120-160 lbs 2.75-3.65 lbs

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

### New Plantings of Citrus, Fruit and Nut Trees

For new plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine and walnut trees, apply and incorporate Trifluralin 10G before transplanting.

# **Broadcast Rates Per Acre:**

Soil Texture Trifluralin 10G Coarse 5 lbs. 6.25-7.5 lbs. Medium Fine 7.5 lbs

- All soils with 2-5% organic matter 7.5-10 lbs./A
- All soils with 5-10% organic matter 10lbs./A
- Use lower rate in range in areas receiving less than 20 inches total annual rain fall and irrigation.

#### **New Plantings of Vineyards**

Apply and incorporate Trifluralin 10G before planting.

**Broadcast Rates Per Acre:** 

Soil Texture Trifluralin 10G Coarse 5-7 lbs. 7.5-15 lbs. Medium 15-20 lbs. Fine

- All soils with 2-10% organic matter 15-20 lbs./A
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

Note: Do not use more than 10 lbs./A on mist propagated grape rootings.

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

Trifluralin 10G may be applied in established non-bearing and bearing vineyards and plantings of almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine, and walnut trees. In established plantings, apply Trifluralin 10G to the soils surface and incorporate using methods not injurious to the crop. Do not apply to vineyards within 60 days of harvest.

**Broadcast Rates Per Acre:** 

Soil Texture Trifluralin 10G All soils 10-20 lbs

• Use the higher rate in the rate range for longer term weed control.

# STORAGE AND DISPOSAL

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

Storage: Store in original container only. In case of spill, contain material and

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

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.

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