



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 14 1994

Nik Ramswick
UNIVERSAL COOPERATIVES INC.
P.O. BOX 460
7801 Metro Parkway
Minneapolis, MN. 55440

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Subject: Label Amendment Submission of 08/03/93 in Response to PR Notice 93-7
EPA REG. NO. 1386-623
TRIFLURALIN 10G

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recycling
Printed with Soy-Based Ink
Contains at least 50% recycled paper

Page 2

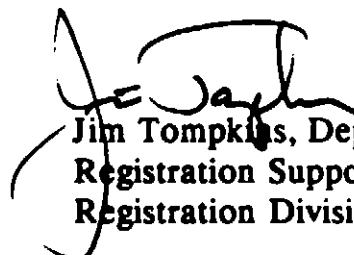
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

TECHNICAL DATA
 MONITORING DATA
 OF HERBICIDES

TRIFLURALIN 10G

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

Approved
 with COMMENTS
 In EPA Letter Dated

1 190

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

1386-623

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

ACTIVE INGREDIENT:

Trifluralin* (a,a,a-trifluoro-2,

6-dinitro-N, N-dipropyl-p-toluidine) 10.0%

INERT INGREDIENTS 90.0%

Total 100.0%

*Granular formulation of Trifluralin containing 10 percent
 active ingredient.

Net Contents: 50 Pounds

EPA Reg. No. 1386-623
 EPA Est. No. 1386-OH-1



Manufactured By:
 UNIVERSAL COOPERATIVES, INC., MINNEAPOLIS, MN 55440

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

Keep out of reach of children. Harmful if swallowed or absorbed through the skin. Avoid breathing dust. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- *Long-sleeved shirt and long pants
- *Waterproof gloves
- *Shoes plus socks

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.

USER SAFETY RECOMMENDATIONS:

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

STATEMENT OF PRACTICAL TREATMENT

In case of skin or eye contact, flush with plenty of water. If irritation persists, get medical attention.

ENVIRONMENTAL HAZARD

This product is toxic to fish. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water or wetlands (swamps, bogs, or marshes). Drift or runoff from treatment areas may be hazardous to aquatic organisms in neighboring aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes.

DIRECTIONS FOR USE

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

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
- *Waterproof gloves
- *Shoes plus socks

Trifluralin 10G is a preemergence herbicide which is incorporated into the soil to provide long-lasting control of many annual grasses and broadleaf weeds. Trifluralin 10G controls weeds as they germinate. Trifluralin 10G will not control established weeds.

WEEDS AND GRASSES CONTROLLED BY TRIFLURALIN 10G

GRASSES

Annual bluegrass (*Poa annua*); Barnyardgrass (Watergrass), (*Echinochloa* sp.); Brachiaria (Signalgrass), (*Brachiaria* sp.); Bromegrass (Cheatgrass, Downy brome), (*Bromus tectorum*); Cheat (Chess), (*Bromus secalinus*); Crabgrass (Large crabgrass, Smooth crabgrass), (*Digitaria* sp.); Foxtail (Bottlegrass, Bristlegrass, Giant foxtail, Green foxtail, Foxtail millet, Pigeongrass, Robust foxtail, Yellow foxtail), (*Setaria* sp.); Goosegrass (Silver crabgrass, Silvergrass, Wiregrass, Yardgrass), (*Elysiue indica*); Johnsongrass (from seed) (*Sorghum halepense*); Junglerice (*Echinochloa colonum*); Sandbur (Burgrass), (*Cenchrus incertus*); Sprangletop (*Leptochloa illiiformis*); Stinkgrass (Lovegrass), (*Eragrostis cilianensis*); Wild cane (Shattercane), (*Sorghum bicolor*); Wild oat* (*Avena fatua*); Woolly cupgrass (*Eriochloa villosa*).

*Trifluralin 10G applied as a preplant incorporated (PPI) treatment will provide partial control of wild oats. This claim is for all PPI uses except fall applications for spring seeded cereals.

BROADLEAF WEEDS

Carpetweed (*Mollugo verticillata*); Chickweed (*Stellaria media*); Florida pusley (Florida purslane, Mexican clover, Pusley), (*Richardia scabra*); Goosefoot (*Chenopodium hybridum*); Henbit (fall application only), (*Lamium amplexicaule*); Knotweed (*Polygonum aviculare*); Lambsquarters (*Chenopodium album*); Pigweed (Carelessweed, Prostrate pigweed, Redroot pigweed, Rough pigweed, Spiny pigweed), (*Amaranthus* sp.); Puncturevine (Western U.S. only), (*Caltrop*, Goathead), (*Tribulus terrestris*); Purslane (*Portulaca oleracea*); Stinging nettle (Nettle), (*Urtica dioica*).

SOIL PREPARATION

Crop Residues or Existing Weeds: Apply Trifluralin 10G to soil that has a manageable trash level, been fallowed, pre-tilled or to soil that has standing stubble. A manageable level of such ground cover would allow the Trifluralin 10G to be uniformly incorporated into the top 2 to 3 inches of the final seedbed.

Roughness: The soil surface should be smooth enough so that application and incorporation equipment can be operated efficiently and at speeds which ensure a uniform application and incorporation of Trifluralin 10G.

General Soil Conditions: To assure uniform incorporation of Trifluralin 10G, soil moisture conditions should be such that large clods can be broken up during the incorporation process.

SOIL TEXTURE GUIDE

The amount of Trifluralin 10G applied will vary with the soil texture and organic matter. A fine textured soil will require more Trifluralin 10G per acre than a coarse soil. Choose the proper rate for each application based on the following soil texture group and specific crop recommendations. Do not exceed recommended rates.

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

*Silty clay loam and sandy clay loam soils are transitional soils and may be classified as either medium or fine textured soils. If silty clay loam or sandy clay loam soils are predominately sand or silt, they are usually classified as medium textured soils. If they are predominately clay, they are usually classified as fine textured soils.

APPLICATION DIRECTIONS

Apply Trifluralin 10G with a properly calibrated herbicide applicator that will apply the granules uniformly. Calibrate the applicator according to the manufacturer's directions and check frequently during application to be certain that equipment is working properly. Avoid concentration of the material in narrow bands.

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

INCORPORATION DIRECTIONS

Incorporation Equipment—General Directions

Use incorporation equipment that mixes Trifluralin 10G into the top 2 to 3 inches of the final seedbed, or erratic weed control and/or crop injury may result. Incorporation equipment such as a disc will mix Trifluralin 10G approximately half as deep as the equipment is set to operate. For example, a disc set to cut 4 inches deep will incorporate most of the Trifluralin 10G within the top 2 inches of the final seedbed.

Incorporation Before Planting

Trifluralin 10G must be incorporated one time within 24 hours after application. The second incorporation must be delayed at least five (5) days after the first, completed prior to planting, and should be run in a different direction from the first. Incorporate the Trifluralin 10G uniformly into the top 2 to 3 inches of the final seedbed.

Incorporation After Planting

Check specific crop for incorporation directions after planting.

Incorporation in Bedded Culture

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

Application prior to bedding: Apply Trifluralin 10G and incorporate it one time 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 Trifluralin 10G. Apply Trifluralin 10G and incorporate it with recommended equipment that will conform to the bed shape. Do not leave untreated soil exposed.*

*Avoid removal of treated soil from the seedbed before or during the planting operation. This would expose untreated soil, allowing weeds to germinate in the drill row.

Recommended Equipment

Any recommended incorporation tool may be used alone or in combination with any other recommended tool. Two incorporation passes are required unless specifically stated. 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 to cut 3 to 4 inches deep and operate at 5 mph or more. A field cultivator is defined as an implement with 3 to 4 rows of sweeps, spaced at intervals of 7 inches or less and staggered so that no soil is left unturned. Chisel points should not be used.

Chisel Plow: (For use in northern Great Plains).

The chisel plow may be used for the first incorporation pass only. Any other recommended tool may be used for the second pass for row crops. The chisel plow may be used for any tillage or incorporation pass in the Summer Fallow program. Operate at 4-5 inches deep at 4-6 mph. A chisel plow is defined as having 3 rows of 14 to 18 inch sweeps on no greater than 12 inch center. Stagger sweeps so that no soil is left unturned. Chisel points should not be used.

Combination Seedbed Conditioners: Set to cut 3 to 4 inches deep and operate at a speed of at least 5 mph. These implements are defined 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 flexline 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, hoists): Adjust to incorporate Trifluralin 10G into the top 2 to 3 inches of the seedbed with rotors spaced to provide a clean sweep of the soil. Only one incorporation is necessary. P.T.O. driven equipment should not be operated at a speed greater than 4 mph.

Other equipment, including the flexible tine-tooth harrow, (Flexline, Melroe), is also recommended but only for the specific programs for which it is specified in this label.

CULTIVATION AFTER PLANTING

Soil treated with Trifluralin 10G may be shallow cultivated without reducing the weed control activity of Trifluralin 10G. Do not cultivate deeper than the treated soil since this may bring untreated soil to the surface, and poor weed control may result.

CROP RECOMMENDATIONS

These recommendations are given as the broadcast rates of Trifluralin 10G per acre. Apply any time after January 1 when the soil can be worked and is suitable for good incorporation—see specific crop for recommendations. Where a rate range is shown, use the lower rate for coarser soils or soils with lower organic matter. Trifluralin 10G should not be used on soils containing more than 10% organic matter or on muck soils.

ALFALFA—ESTABLISHED

In areas receiving less than 20" average annual rainfall per year, apply Trifluralin 10G to established alfalfa stands at a broadcast rate of 7 1/2 pounds per acre on coarse soils and 10 pounds on medium and fine soils. Use incorporation equipment that will ensure thorough soil mixing with minimum damage to the established alfalfa.

FOR THE FOLLOWING CROP GROUPING, USE THE RATE TABLE BELOW.**CASTOR BEAN****COLE CROPS—TRANSPLANT**

(Broccoli, Brussels Sprout, Cabbage and Cauliflower). See next section for direct seeded.

Apply and incorporate prior to transplanting only.

OKRA**PEPPER—TRANSPLANT**

Apply and incorporate prior to transplanting only.

SOUTHERN PEA—(Before planting only.)

Apply and incorporate Trifluralin 10G before planting, at planting or immediately after planting, unless otherwise indicated.

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving greater than 20" average annual rainfall*
	(pounds)	(pounds)
Coarse	5	5
Medium	6 1/4-7 1/2	7 1/2
Fine	7 1/2	10

*Use 7 1/2 pounds per acre on coarse and medium textured soils and 10 pounds on fine soils with 2-5% organic matter; use 10 pounds on all soils with 5-10% organic matter.

COLE CROPS—DIRECT SEEDED

(Broccoli, Brussels Sprout, Cabbage and Cauliflower). See above section for transplant.

For direct seeded cole crops, apply and incorporate Trifluralin 10G before planting at a broadcast rate of 5 pounds per acre on coarse and medium soils and 7 1/2 pounds on fine soils and soils with 2-5% organic matter. Direct-seeded cole crops have exhibited marginal tolerance to recommended rates of Trifluralin 10G. Stunting or reduced stands may occur.

CUCURBITS—POSTPLANT EMERGED

(Cantaloupe, Cucumber and Watermelon)

Western United States including Texas:

Apply Trifluralin 10G as a broadcast granule to the soil between the rows and beneath plants which are in the 3 to 4 true leaf stage.

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving greater than 20" average annual rainfall*
	(pounds)	(pounds)
Coarse	5	5
Medium	6 1/4-7 1/2	7 1/2
Fine	7 1/2	10

*Use 7 1/2 pounds per acre on coarse and medium textured soils and 10 pounds on fine soils with 2-5% organic matter; use 10 pounds on all soils with 5-10% organic matter.

Set incorporation equipment to throw treated soil around the plants during incorporation.

FRUIT AND NUT CROPS AND VINEYARDS

For areas receiving less than 20" average annual rainfall.

For new plantings of almond, apricot, citrus, nectarine, peach, pecan and walnut trees, apply and incorporate Trifluralin 10G before planting at a broadcast rate of 5 pounds per acre on coarse soils, 6 1/4 to 7 1/2 pounds on medium soils; 7 1/2 pounds on fine soils; 7 1/2 to 10 pounds on soils with 2-5% organic matter; and 10 pounds on soils with 5-10% organic matter.

For new plantings of vineyards, apply and incorporate Trifluralin 10G before planting at a broadcast rate of 5 to 7 1/2 pounds per acre on coarse soils; 7 1/2 to 15 pounds on medium soils; and 15 to 20 pounds on fine soils or soils with 2 to 10% organic matter. Do not use more than 10 pounds per acre on heat-treated grape rootings.

For postplant applications on bearing or non-bearing, established plantings of vineyards and almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangerine, tangerine and walnut trees, apply Trifluralin 10G at a broadcast rate of 10 to 20 pounds per acre for all soil textures. Do not apply to vineyards within 60 days of harvest.

In established plantings, apply Trifluralin 10G to the soil and use incorporation methods not injurious to the trees or vines.

COTTON—TRIFLURALIN 10G ALONE

Trifluralin 10G can be applied and incorporated before or at planting, immediately after planting, or at layby.

COTTON—Preemergence:

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving greater than 20" average annual rainfall*
	(pounds)	(pounds)
Coarse	5	5
Medium	6 1/4-7 1/2	7 1/2
Fine	7 1/2	10

*Use 7 1/2 pounds per acre on coarse and medium textured soils and 10 pounds on fine soils with 2-5% organic matter; use 10 pounds on all soils with 5-10% organic matter.

COTTON—Postplant:

When incorporating Trifluralin 10G after planting (postplant), be careful not to disturb the seed.

COTTON—Layby:

Apply and incorporate Trifluralin 10G any time up to layby, but not less than 90 days before harvest. Direct the layby applications onto the soil between the rows and beneath emerged cotton plants. Use the same rates as for a preemergence application.

COTTON—Fall Application:

Apply and incorporate Trifluralin 10G any time between October 15 and December 31. The 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 furrows. Where soil is left flat over winter, be careful not to turn up untreated soil during spring bedding operations. Destroy established weeds during seedbed preparation. If weeds become established in furrows due to uncovering of untreated soil during bedding, destroy these weeds before planting. In the fall, do not apply Trifluralin 10G to soils which are wet or subject to prolonged periods of flooding.

Broadcast Rates per Acre—Fall Application Only:

In Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri bootheel, North Carolina, New Mexico, Oklahoma, South Carolina, Tennessee and Texas, apply and incorporate Trifluralin 10G at a broadcast rate of 10 pounds per acre on coarse and medium soils and 12 1/2 pounds on fine soils.

In Arizona, California and Nevada, apply and incorporate Trifluralin 10G at a broadcast rate of 7 1/2 pounds per acre on coarse soils; 10 pounds on medium soils; and 12 1/2 pounds on fine soils.

For cotton grown in other states, apply and incorporate Trifluralin 10G at a broadcast rate of 5 pounds per acre on coarse soils; 7 1/2 pounds on medium soils; 10 pounds on fine soils; 7 1/2 pounds on coarse soils with 2-5% organic matter; and 10 to 12 1/2 pounds on soils with 5-10% organic matter.

DRY BEAN—TRIFLURALIN 10G ALONE

Apply and incorporate Trifluralin 10G before planting using the following rates:

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving greater than 20" average annual rainfall*
	(pounds)	(pounds)
Coarse	5	5
Medium	6 1/4-7 1/2	7 1/2
Fine	7 1/2	10

Use 7 1/2 pounds per acre on coarse and medium textured soils and 10 pounds on fine soils with 2-5% organic matter; use 10 pounds on all soils with 5-10% organic matter.

DRY BEAN—Fall Application

Apply and incorporate Trifluralin 10G any time between October 15 and December 31 at a broadcast rate of 5 pounds per acre on coarse soils; 6 1/4 to 7 1/2 pounds on medium soils; and 7 1/2 pounds on fine soils. Destroy established weeds during seedbed preparation.

FLAX—FALL APPLICATION

Apply and incorporate Trifluralin 10G in the fall from September 1 to December 31.

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G
	(pounds)
Coarse	5
Medium	7 1/2
Fine	10

Special Instructions for Flax

1. Incorporation operations or any other tillages performed in the spring prior to seeding should be relatively shallow so as to maintain a firm seedbed, and the seedbed should be packed just prior to seeding.
2. Seeding should be done with a press drill or hoe drill. Seed into a moist seedbed no more than 1 1/2 inches deep.
3. Flax should not be seeded until the seedbed has warmed up.

BEANS—(Lima Bean and Snap Bean):

Apply and incorporate Trifluralin 10G before planting at a broadcast rate of 5 pounds per acre on coarse and medium soils and 7 1/2 pounds on fine soils.

MUSTARD—Grown for seed or processing for food in Minnesota, Montana and North Dakota:

Apply and incorporate Trifluralin 10G before planting at a broadcast rate of 5 pounds per acre on coarse soils and 7 1/2 pounds on medium and fine soils.

PEANUT—(Spanish Peanut in Texas and Oklahoma):

Apply and incorporate Trifluralin 10G before planting, at planting or immediately after planting at a broadcast rate of 5 pounds per acre on coarse soils. When incorporating after planting, take care not to disturb the seed.

RAPE

Apply and incorporate Trifluralin 10G in the spring before planting or in the fall after September 1.

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G (pounds)
Coarse	5
Medium	7 1/2
Fine	10

SAFFLOWER

Follow recommended soil preparation, application and incorporation procedures for Trifluralin 10G.

Apply and incorporate Trifluralin 10G in the spring before planting or in the fall between October 15 and December 31.

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving greater than 20" average annual rainfall*
	(pounds)	(pounds)
Coarse	5	5
Medium	6 1/4-7 1/2	7 1/2
Fine	7 1/2	10

* Use 7 1/2 pounds per acre on coarse and medium textured soils and 10 pounds on fine soils with 2-5% organic matter; use 10 to 12 1/2 pounds on all soils with 5-10% organic matter.

SAFFLOWER—Fall Application—(Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming):

Apply and incorporate Trifluralin 10G any time between October 15 and December 31. 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 tops into furrows. Where soil is left flat over winter, take care during spring bedding operations to prevent turning up untreated soil. Destroy established weeds during seedbed preparation. If weeds become established in furrows due to uncovering of untreated soil during listing, destroy these weeds before planting.

Apply and incorporate Trifluralin 10G at a broadcast rate of 7 1/2 pounds per acre on coarse soils; 10 pounds on medium soils; and 12 1/2 pounds on fine soils.

Do not apply Trifluralin 10G in the fall to soils which are wet or are subject to prolonged periods of flooding.

SOYBEAN—TRIFLURALIN 10G ALONE

SOYBEAN—Preemergence:

Follow recommended soil preparation, application, and incorporation procedures for Trifluralin 10G.

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G* (pounds)
Coarse	5
Medium	7 1/2
Fine	10

* Use 7 1/2 pounds per acre on coarse and medium textured soils and 10 pounds on fine soils with 2-5% organic matter; use 10 to 12 1/2 pounds on all soils with 5-10% organic matter.

SOYBEAN—Fall Application:

Apply and incorporate Trifluralin 10G any time between October 15 and December 31. 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 tops into furrows. Where soil is left flat over winter, take care during spring bedding operations to prevent turning up untreated soil. Destroy established weeds during seedbed preparation. If weeds become established in furrows due to uncovering of untreated soil during listing, destroy these weeds before planting. Do not apply Trifluralin 10G in the fall to soils which are wet, are subject to prolonged periods of flooding, or where rice was grown the previous year.

For soybeans grown in Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri, North Carolina, Oklahoma, South Carolina, Tennessee and Texas, apply and incorporate Trifluralin 10G at a broadcast rate of 10 pounds per acre on coarse and medium soils and 12 1/2 pounds on fine soils.

For soybeans grown in states other than those listed above, apply and incorporate Trifluralin 10G at a broadcast rate of 5 pounds per acre on coarse soils; 7 1/2 pounds on medium soils; 10 pounds on fine soils; 7 1/2 pounds on coarse soils with 2-5% organic matter; and 10-12 1/2 pounds on soils with 5-10% organic matter.

SUGAR BEET

Broadcast Trifluralin 10G overtop when plants are between 2 and 6 inches tall at a rate of 5 pounds per acre on coarse soils and 6 1/4 to 7 1/2 pounds on medium and fine soils. Use the higher rate for medium and fine soils in areas receiving more than 20" average annual rainfall. Set incorporation machinery to throw treated soil toward the plants in the row. Be careful that incorporation machinery does not damage the sugar beet taproot.

Precaution: Exposed beet roots should be covered with soil before a Trifluralin 10G application to reduce the possibility of girdling.

SUNFLOWER—TRIFLURALIN 10G ALONE

Apply and incorporate Trifluralin 10G in the spring or in the fall between October 15 and December 31. Follow recommended soil preparation, application and incorporation procedures for Trifluralin 10G.

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving greater than 20" average annual rainfall*
	(pounds)	(pounds)
Coarse	5	5
Medium	6 1/4-7 1/2	7 1/2
Fine	7 1/2	10

*Use 7 1/2 to 10 pounds per acre on coarse and medium textured soils with 2-5% organic matter and 10 pounds on all soils with 5-10% organic matter.

TOMATO

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

Broadcast Rates Per Acre

Soil Texture	Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving greater than 20" average annual rainfall*
	(pounds)	(pounds)
Coarse	5	5
Medium	6 1/4-7 1/2	7 1/2
Fine	7 1/2	10

*Use 7 1/2 pounds per acre on coarse and medium textured soils and 10 pounds on fine soils with 2-5% organic matter; use 10 pounds on all soils with 5-10% organic matter.

WHEAT (SPRING), DURUM AND BARLEY—SUMMER FALLOW

Trifluralin 10G may be applied to coarse, medium and fine textured soils for control of labeled weeds in the summer fallow period and for pigeongrass (foxtail) control in wheat, durum, and barley seeded the following spring.

Trifluralin 10G may be applied to ground that has a manageable trash level, been fallow, pre-tilled, or to soil left with a stubble cover. The first incorporation is required within 24 hours after application. The second incorporation and subsequent tillage may be down whenever necessary 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.

Broadcast Rates Per Acre

Application Date	Trifluralin 10G
	(pounds)
April 15 to May 31	10
June 1 to June 30	8 3/4
July 1 to July 31	7 1/2
August 1 to August 31	6 1/4

Incorporation Directions: Incorporate Trifluralin 10G one (1) time within twenty-four (24) hours after application. Care should be taken to ensure that the second incorporation and subsequent tillages are more shallow than the first. Incorporate and till the Trifluralin 10G treated ground with the following equipment:

1. Chisel plow: Operate at 4-5 inches deep at 4-6 mph. A chisel plow is defined as having 3 rows of 14 to 18 inch sweeps on no greater than 12 inch center. Stagger sweeps so that no soil is left unturned. Chisel points should not be used.
2. Tandem disc: Operate at 3-4 inches deep at 4-6 mph.
3. Field cultivator: Operate at 3-4 inches deep at 5 mph or more. A field cultivator is defined as having 3 to 4 rows of sweeps with "c" or "s" shaped shanks, spaced 7 inches or less and staggered so that no soil is left unturned.

Seeding Directions: Wheat, durum, or barley should be seeded approximately two (2) inches deep.

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

WHEAT (SPRING), DURUM AND BARLEY—FALL APPLICATION

For the control of foxtail (pigeongrass), apply Trifluralin 10G at a broadcast rate of 5 pounds per acre on coarse and medium soils and 7 1/2 pounds on fine soils.

Incorporation Directions: Any of the following tools are recommended for fall incorporation. The disc or field cultivator may be used for the spring incorporation pass. Care should be taken to operate the tool at a more shallow depth than the fall incorporation.

1. Chisel plow: May be used for first pass only. Operate at 4-5 inches deep at 4-6 mph. A chisel plow is defined as having 3 rows of 14 to 18 inch sweeps on no greater than 12 inch center. Stagger sweeps so that no soil is left unturned. Chisel points should not be used.
2. Tandem disc: Operate at 3-4 inches deep at 4-6 mph.
3. Field cultivator: Operate at 3-4 inches deep at 5 mph or more. A field cultivator is defined as having 3 to 4 rows of sweeps with "c" or "s" shaped shanks, spaced 7 inches or less and staggered so that no soil is left unturned.

Seeding Directions: Wheat, durum, or barley should be seeded approximately two (2) inches deep.

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

WHEAT (WINTER)—(Idaho, Montana, Oregon and Washington):

Trifluralin 10G may be applied for preplant/preemergence control of cheatgrass and other annual grasses and broadleaf weeds controlled by Trifluralin 10G.

Apply Trifluralin 10G any time up to three (3) weeks prior to planting. Broadcast Trifluralin 10G at a rate of 7 1/2 pounds per acre on coarse and medium soils and 10 pounds on fine soils.

Incorporation Directions: Incorporate Trifluralin 10G into the soil with a flexible tine-tooth harrow, (Flextine or Metroe), set to cut one (1) to two (2) inches deep and operate at 3 to 6 mph. Incorporate one (1) time within 24 hours after application, followed by a second incorporation at least five (5) days after the first pass in a different direction prior to planting. Do not till the soil with a disc after the Trifluralin 10G has been incorporated with a flexible tine harrow.

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

Precaution: Do not plant wheat directly into the zone of soil treated with Trifluralin 10G as injury to the crop (delay in emergence or stand reduction) may occur. Delayed emergence or slight stand reductions do not normally affect yield.

WHEAT (WINTER)—Fallow Soil Application (Idaho, Montana, Oregon and Washington):

Trifluralin 10G applied and shallowly incorporated into fallow soil up to four (4) months ahead of planting will control cheatgrass and certain annual grasses and broadleaf weeds.

Broadcast rates are 7 1/2 pounds per acre on coarse and medium soils and 10 pounds on fine soils. Apply Trifluralin 10G any time from May to September prior to the fall planting of winter wheat.

Incorporation Directions: Incorporate Trifluralin 10G with a flexible tine-tooth harrow, (Flextine or Metroe), set to cut one (1) to two (2) inches deep and operated at three (3) to six (6) mph. For thorough incorporation, two (2) passes of the equipment in different directions over the field are necessary. Incorporate one (1) time within 24 hours after application followed by a second incorporation at least five (5) days after the first prior to seeding. Do not till the soil with a disc after Trifluralin 10G has been incorporated with a flexible tine harrow.

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

Precaution: Do not plant wheat directly into the zone of soil treated with Trifluralin 10G as injury to the crop (delay in emergence or stand reduction) may occur. Delayed emergence or slight stand reductions do not normally affect yield.

FALL APPLICATION

General: (Areas receiving more than 20" average annual rainfall). See specific crop for recommendations. For all crops for which there are no specific fall application instructions and for which Trifluralin 10G is recommended as a preemergence application, use the rates listed for spring applications. Do not apply Trifluralin 10G in the fall for sugar beets, potatoes and direct-seeded tomatoes.

In most states: Apply and incorporate Trifluralin 10G any time between October 15 and December 31.

In California, Minnesota, Montana, North and South Dakota: Apply and incorporate Trifluralin 10G any time between September 1 and December 31. 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 furrows. Where soil is left over winter, be careful not to turn up untreated soil during spring bedding operations. Destroy established weeds during seedbed preparation.

If weeds become established in furrows due to uncovering of untreated soil during bedding, destroy these weeds before planting. Do not apply Trifluralin 10G in the fall to soils which are wet, are subject to prolonged periods of flooding, or where rice was grown the previous year.

Applicator Settings For Trifluralin 10G**Gandy Air-Spread®**

Application Rate (lbs/A)	Deflector Spacing	4MPH	5MPH Gauge Setting	6MPH	7MPH
5	24"	13	15	17	18
	30"	15	17	19	21
7½	24"	16.8	19	21	23
	30"	19	21.5	23.5	25.5
10	24"	20	22	24	26
	30"	22	25	27	29

Gandy Air-Spread® SC (61 Series and models marked SC)

Application Rate (lbs/A)	Deflector Spacing	Gauge Setting for units with Gain of 2
5	24"	25
	30"	28
7½	24"	31
	30"	35
10	24"	36
	30"	40

Gandy Box

Application Rate (lbs/A)	4MPH	5MPH Gauge Setting	6MPH	7MPH
5	6	7	8	8
7½	8	9	10	10
10	9	10	11	12

Valmar Air Flo™

Application Rate (lbs/A)	Ratio	Range	Gear
5	Low	8	2
7½	Low	8	4
10	Medium	8	2

Beline Linear Control

Application Rate (lbs/A)	4MPH	5MPH Meter Setting*	6MPH	7MPH
5	20	25	30	35
7½	30	37.5	45	52.5
10	40	50	60	70

*Settings are for:

1. Linear Box - one outlet for 7" spacing.
2. Air Spreader - one outlet for 24" spacing.

These are guidelines to be used only as starting points for equipment calibration. Consult the manufacturer's guide for precise calibration. Trifluralin 10G may be applied with any properly calibrated granular applicator that uniformly applies the recommended rates per acre.

SPECIAL PRECAUTIONS

Applied according to directions and under normal growing conditions, Trifluralin 10G will not harm the treated crop. Over application may result in crop injury or a soil residue. Uneven application or improper soil incorporation of Trifluralin 10G can result in erratic weed control or crop injury. Seedling disease, cold weather, deep planting, excessive moisture, high salt concentration or

drought may weaken crop seedlings and increase the possibility of damage from Trifluralin 10G. Under these conditions, delayed crop development or reduced yields may result.

In Arizona, Colorado, California, Idaho, Montana, 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 for 14 months after a fall application of Trifluralin 10G. Plow the land to a depth of 12 inches prior to planting sugar beets to prevent the possibility of crop injury. Sorghum (milo), proso millet, corn or oats should not be planted for 14 months after a spring application or for 16 months after a fall application of Trifluralin 10G to avoid crop injury. If land has not been irrigated, do not plant any of these crops for 18 months after a spring application or 20 months after a fall application of Trifluralin 10G.

In those portions of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota and Texas where at least 20 inches of irrigation and/or rainfall (total) was used to produce the crop, sorghum or oats should not be planted for 12 months after an application of Trifluralin 10G.

If less than 20 inches of total water was used to produce the crop, do not plant sorghum, proso millet, or oats for 18 months after an application of Trifluralin 10G. Cool, wet weather conditions during the early stage of growth may increase the possibility of injury to sorghum.

In all other areas receiving greater than 20" rainfall per year:

Moldboard plow before planting sugar beets where a spring application of Trifluralin 10G was made the previous season.

Vegetable Growing Areas:

Vegetable crops other than those listed on this label should not be planted within 5 months following the application of Trifluralin 10G.

STORAGE AND DISPOSAL

Do not contaminate water, food, feed, other pesticides, fertilizer or seeds.

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

Container Disposal: Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of bags in a sanitary landfill or by incineration if allowed by State and local authorities. If burned, stay out of smoke.

WARRANTY AND LIMITATION OF DAMAGES

Seller warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and Buyer assumes the risk of any use contrary to such directions. Seller makes no other express or implied warranty, including any other express or implied warranty of Fitness or of Merchantability, and no agent of Seller is authorized to do so except in writing with specific reference to this warranty. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

GUTHION SOLUPAK
50% Wettable Powder
CROP INSECTICIDE

ACTIVE INGREDIENT:

O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin -3(4*H*)-yl)methyl phosphorodithioate 50%

EPA Reg. No. 3125-301

KEEP OUT OF REACH OF CHILDREN

DANGER



POISON

(See Outer Package for Complete Use and Handling Directions and Precautions Including Antidote Statement)