

United States Environmental Protection Agency
Washington, D.C. 20460

OCT 13 1993

Office of
Prevention, Pesticides and
Toxic Substances

Bethany Hulcy
GOWAN COMPANY
BOX 5569
YUMA AZ 85366

Subject: Label Amendment Submission of 06/16/93
in Compliance with WPS Labeling Requirements
EPA Reg No. 10163-120
GOWAN TRIFLURALIN 10G

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is accepted subject to the comments listed below.

Based on your certification, the Agency has accepted only those changes to your labeling which are necessary to comply with PR Notices 93-7 and 93-11, which reflect the WPS labeling requirements of 40 CFR part 156, subpart K. Any other labeling changes submitted in connection with this amendment application and not directly related to compliance with PR Notice 93-7 or 93-11 have neither been reviewed nor accepted by the Agency. If you wish to make any such changes, you must submit a separate amendment application proposing them. If your product registration is currently suspended, acceptance of this labeling amendment does not affect the suspension in any way.

A copy of your proposed labeling stamped "Accepted with comments" is attached. Make any required changes described in the attached and send three copies of final labeling as soon as it is available to:

Document Processing Desk (FIN-LABEL)

GOWAN TRIFLURALIN 10G

GRANULAR HERBICIDE

ACTIVE INGREDIENT:	% By Wt.
Trifluralin (alpha, alpha, alpha-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine)	10%
INERT INGREDIENTS	90%
	TOTAL 100%

KEEP OUT OF REACH OF CHILDREN
CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger, or, if available by administering syrup of ipecac. Do not induce vomiting or give anything by mouth to an unconscious person.
IF INHALED, remove victim to fresh air. Apply artificial respiration if indicated.
IF IN EYES, flush with plenty of clear water for at least 15 minutes. Get medical attention.
IF ON SKIN, wash with soap and water.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes substantial but temporary eye injury. Avoid contact with eyes, skin, or clothing. Harmful if absorbed through skin. Avoid breathing dust.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

ACCEPTED
with COMMENTS
in EPA Letter Dated

OCT 13 1993

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

10163-120

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

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.

NET CONTENTS _____ POUNDS

Gowan Company
EPA Reg. No. 10163-120
EPA Est. No. 10163-AZ-1

P.O. Box 5569
Yuma, AZ 85366-5569

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. 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.

PHYSICAL OR CHEMICAL HAZARDS

Do not store near heat or open flame.

DIRECTIONS FOR USE

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

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
- Protective eyewear

BEST AVAILABLE COPY**STORAGE AND DISPOSAL**

DO NOT contaminate water, food or feed by storage or disposal.

STORAGE: Store in original bag only. In case of puncture or spill, contain material and dispose of waste.

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: Do not reuse bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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Bromegrass (Downy bromo)	Bromus tectorum
Cheer (Chess)	Bromus tectorum
Crabgrass (Large crabgrass) (Smooth crabgrass)	Digitaria sp.
Foxtail (Barngrass) (Bristlegrass) (Green foxtail) (Green foxtail) (Foxtail millet) (Pigeongrass) (Rabbit foxtail) (Yellow foxtail)	Setaria sp.
Goosegrass (Silver crabgrass) (Silvergrass) (Wragrass) (Yardgrass)	Elymus villosus
Johannesgrass (from seed)	Sorghum halepense
Junglegrass	Echinochloa colonum
Sandbar (Burggrass)	Conyza macrotis
Sporobolus Spikegrass (Lovegrass)	Leptochloa filiformis Eragrostis ciliaris
Wild Cana (Shattercane)	Sorghum bicolor
Wild Oat**	Avena fatua
Woolly cupgrass	Echinochloa villosa

BROADLEAF WEEDS

Carpenterweed	Mollugo verticillata
Chickweed	Stellaria media
Florida pusley (Florida purslane) (Mexican clover) (Pusley)	Richardia scabra
Goosefoot Lamb	Chenopodium hybridum Lamium amplexicaule
(fall application only)	
Knottweed	Polygonum aviculare
Lambquarters	Chenopodium album
Figweed (Cardinalweed) (Prostrate pigweed) (Redroot pigweed) (Rough pigweed) (Spike pigweed)	Amaranthus spp.
Puncturevine (Western U.S. only) (Caltrop) (Goatshead)	Tribulus terrestris
Purslane Sungum nettle (Nettle)	Portulaca oleracea Urtica dioica

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

Evenness: The soil surface should be smooth enough so the application and incorporation equipment can be operated efficiently and at speeds which ensure a uniform application and incorporation of Trifluralin.
General Soil Conditions: To insure uniform incorporation of Trifluralin, soil moisture conditions should be such that large clods can be broken up during the incorporation process.

SOIL TEXTURE GUIDE
The amount of trifluralin applied to will vary with the soil texture and organic matter. A fine textured soil will require more trifluralin per acre than a coarse soil. Check the proper rate for each application based on the following soil texture group and specific recommendations. Do not exceed recommended rates.

Soil Texture	Soil Classifications
Coarse soil: (Light)	Sand, loamy sand, sandy loam
Medium soil:	Loam, silt clay loam*, silty loam, silty sandy clay loam
Fine soil: (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 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.

CROP USE PRECAUTIONS

Applied according to the directions and under normal growing conditions, Gowen Trifluralin 10G will not harm the treated crop. Overapplication may result in crop injury or a soil residue. Uneven application or improper soil 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.

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. For a spring application or for 12 months after a fall application. Sow 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 14 months after a fall application 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 Gowen 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. 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" of rainfall per year, moldboard plow before planting sugar beets where a spring application was made the previous season.

Vegetable Growing Areas: Vegetable crops other than those listed on this label should not be planted within 3 months following the application of Gowen Trifluralin 10G.

DIRECTIONS FOR USE

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

Gowen Trifluralin 10G is a pre-emergence herbicide which is incorporated into the soil to provide long lasting control of annual grasses and broadleaf weeds. This product controls weeds as they germinate but will not control established weeds.

WEEDS AND GRASSES CONTROLLED BY GOWEN TRIFLURALIN 10G GRASSES

Annual bluegrass	Poa annua
Barnyardgrass (Watergrass)	Echinochloa sp.
Brachiaria (Signalgrass)	Brachiaria sp.

APPLICATION DIRECTIONS

Apply Gowan 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 the 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 break to produce a free flowing granule.

INCORPORATION DIRECTIONS

Incorporation Equipment—General Directions

Use incorporation equipment that mixes Gowan Trifluralin 10G into the top 2 to 3 inches of the final seedbed or eric weed control and/or crop injury may result. Incorporation equipment such as a disc will mix the granules 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 granules within the top 2 inches of the final seedbed.

Incorporation Before Planting

Gowan 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 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, incorporate into the top 2 to 3 inches of the final seedbed.

Application prior to bedding: Apply and incorporate 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 Gowan Trifluralin 10G. Apply and incorporate with recommended equipment that will conform to 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 Conditioner: Set to cut 3 to 4 inches deep and operate at a speed of or over 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 7 inches (staggered so that no soil is left unturned), followed by a spike team of flexible 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 (rollers, cultivators, hoes): Adjust to incorporate into the top 2 to 3 inches of the seedbed with rollers 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 Matriel), is also recommended but only for the special program, for which it is specified in this label.

CULTIVATION AFTER PLANTING

Treated soil may be shallow cultivated without reducing the weed control activity. 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 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 is given in shillings, use the lower rate for coarser soils or soils with lower organic matter. This product should not be used on soils containing more than 10% organic matter or on much soils.

Alfalfa—Established

(For Barnyardgrass, Cransgrass, Foxtail, Jungletick, Sandspur and Cuscutta Control)

Gowan Trifluralin 10G can be activated for barnyardgrass, crabgrass, foxtail, jungletick, sandspur, and cuscutta control in established alfalfa either by rainfall, overhead irrigation or irrigation. Good irrigation or by mechanical incorporation.

Apply to established alfalfa and provide weed emergence of a broadcast rate of 20 pounds per acre for all soil textures. Use properly calibrated ground or aerial application equipment. A single rainfall or overhead irrigation of 0.5 inches or more or flood irrigation after application is required to activate Gowan Trifluralin 10G. This does not occur within three (3) days after application activate using incorporation equipment that will ensure thorough soil mixing with minimum damage to the established alfalfa.

Precaution: In the season following a 20 pound per acre treatment where established alfalfa is to be rotated to another crop, plant only those crops for which Gowan Trifluralin 10G can be applied as a preplant treatment or injury may result.

Asparagus - Established

Follow recommended soil preparation, application and incorporation procedures on this label. Gowan Trifluralin 10G can be applied to established asparagus as a single or as a split application. In the winter or early spring, apply to asparagus after ferns are removed but before spear emergence. Or, apply after harvest in the late spring or early summer before ferning begins. Gowan Trifluralin 10G will suppress volunteer seedling asparagus and field bindweed if you use the following recommended rates and application schedules.

Broadcast rate per acre:

Soil Texture	Gowan Trifluralin 10G	
	SPLIT APPLICATION Before Harvest	SINGLE APPLICATION Before Harvest
Coarse	5.0 lbs. + 5.0 lbs.	10.0 lbs. or 10.0 lbs.
Medium	7.5 lbs. + 7.5 lbs.	15.0 lbs. or 15.0 lbs.
Fine	10.0 lbs. + 10.0 lbs.	20.0 lbs. or 20.0 lbs.

In any single calendar year, the maximum Gowan Trifluralin 10G to apply is 10 lbs. per acre on coarse soils, 15 lbs. per acre on medium soils and 20 lbs. per acre on fine soils.

FOR THE FOLLOWING CROP GROUPING, USE THE RATE TABLE BELOW.

Castor Bean

Cole Crops—Transplant

(Broccoli, Brussels Sprout, Cabbage and Cauliflower)

Apply and incorporate prior to transplanting only.

Onion

Pepper—Transplant

Apply and incorporate prior to transplanting only.

Southern Pea—(Before planting only.)

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

Broadcast Rates Per Acre

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

*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 Seedbed

(Broccoli, Brussels Sprout, Cabbage and Cauliflower)

For direct seeded cole crops, apply and incorporate Gowan 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 Gowan Trifluralin 10G. Stunting or reduced stands may occur.

Curcubits

Postplant Emerged

(Cantaloupe, Cucumber and Watermelon)

Western United States including Texas

Apply Gowan 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	Gowan Trifluralin 10G	
	Areas receiving less than 20 average annual rainfall*	Areas receiving greater than 20 average annual rainfall*
Coarse	5 (pounds)	5 (pounds)
Medium	6 1/2 (pounds)	7 1/2 (pounds)
Fine	7 (pounds)	10 (pounds)

*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.

For incorporation equipment to draw treated soil around the plants during incorporation.

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Fruit and Nut Crops and Vineyard:

For all areas receiving less than 20" average annual rainfall for all new plantings of almond, apricot, citrus, nectarine, peach, pecan and walnut trees, apply and incorporate before planting at a broadcast rate of 5 pounds per acre on coarse soils, 6 1/2 to 7 1/2 pounds per acre 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 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 grass rootings.

For postplant applications on bearing or nonbearing, established plantings of vineyards and almond, apricot, grapefruit, lemon, nectarine, orange, peach, pecan, plum, prune, tangelo, tangerine and walnut trees, apply 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 to the soil and use incorporation methods not injurious to the trees or vines.

Cotton Gowan Trifluralin 10G Alone

This product can be applied and incorporated before or at planting, immediately after planting, or at layby.

Cotton—Preemergence Broadcast Rates Per Acre

Soil Texture	Gowan Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving more than 20" average annual rainfall*
Coarse	(pounds) 5	(pounds) 5
Medium	6 1/2 - 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 after planting (postplant), be careful not to disturb the seed.

Cotton—Layby

Apply and incorporate 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 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 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, North Carolina, New Mexico, Oklahoma, South Carolina, Tennessee and Texas, apply and incorporate 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 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.

Dry Bean Gowan Trifluralin 10G Alone

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

Broadcast Rates Per Acre

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

*Use 7 1/2 pounds per acre on coarse and medium 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 any time between October 15 and December 31 at a broadcast rate of 5 pounds per acre on coarse soils, 6 1/2 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 in the fall from September 1 to December 31

Broadcast Rates Per Acre

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

Special Instructions for Flax

1. Incorporation operations or any other tillage 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 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 feed in Minnesota, Montana and North Dakota:

Apply and incorporate 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 before planting, or 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 in the spring before planting or in the fall after September 1.

Broadcast Rates Per Acre

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

Safflower

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

Broadcast Rates Per Acre

Soil Texture	Gowan Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving more than 20" average annual rainfall*
Coarse	(pounds) 5	(pounds) 5
Medium	6 1/2 - 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 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 tilling, destroy these weeds before planting.

Apply and incorporate 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 in the fall to soils which are wet or are subject to prolonged periods of flooding.

Soybean

Gowan Trifluralin 10G Alone

Soybean—Preemergence

Broadcast Rates Per Acre

Soil Texture	Gowan 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.

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Soybean—Fall Application

Apply and incorporate 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 laying, destroy these weeds before planting. Do not apply 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, south-eastern Missouri, North Carolina, Oklahoma, South Carolina, Tennessee and Texas, apply Gowan Trifluralin 10G at a broadcast rate of 10 pounds per acre on coarse and medium soils and 12½ pounds on fine soils.

For soybeans grown in states other than those listed above, apply and incorporate at a broadcast rate of 5 pounds per acre on coarse soils; 7½ pounds on medium soils; 10 pounds on fine soils; 7½ pounds on coarse soils with 2-5% organic matter; and 10 to 12½ pounds on soils with 5-10% organic matter.

Sugar Beet

Broadcast overtop when plants are between 2 and 6 inches tall at a rate of 5 pounds per acre on coarse soils and 6½ to 7½ pounds on medium and fine soils. Use the higher rate for medium and fine soils for areas receiving more than 20" average annual rainfall. Set incorporation machinery to throw treated soil toward the plants in the row. Be careful that the incorporation machinery does not damage the sugar beet topsoil.

Precaution: Exposed beet roots should be covered with soil before application to reduce the possibility of grouting.

**Sunflower
Gowan Trifluralin 10G Alone**

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

Broadcast Rates Per Acre

Soil Texture	Gowan Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving more than 20" average annual rainfall*
Coarse	5 (pounds)	5 (pounds)
Medium	6½ - 7½	7½
Fine	7½	10

*Use 7½ 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 at blotting or tinning to the soil between rows and beneath the plants, and incorporate. For transplant tomato, apply and incorporate before transplanting. Do not apply Gowan Trifluralin 10G after transplanting.

Broadcast Rates Per Acre

Soil Texture	Gowan Trifluralin 10G	
	Areas receiving less than 20" average annual rainfall*	Areas receiving more than 20" average annual rainfall*
Coarse	5 (pounds)	5 (pounds)
Medium	6½ - 7½	7½
Fine	7½	10

*Use 7½ 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**

Apply to coarse, medium or fine textured soils for control of labeled weeds in the summer fallow period, and for pigweed (Fenest) control in wheat, durum, and barley seeded the following spring.

This product 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 done whenever necessary to destroy resistant weed growth during the remainder of the fallow year, susceptible weeds may not be controlled until after the second incorporation.

Broadcast Rates Per Acre

Application Date	Gowan Trifluralin 10G (pounds)
April 15 to May 31	10
June 1 to June 30	8½
July 1 to July 31	7½
August 1 to August 31	6½

Incorporation Directions: Incorporate Gowan Trifluralin 10G one time within twenty-four hours after application. Care should be taken to ensure that the second incorporation and subsequent tillage are more shallow than the first. Incorporate and all 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 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 fescue (pigweedgrass), apply at a broadcast rate of 5 pounds per acre on coarse and medium soils and 7½ pounds per acre 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 to 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 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):

Gowan Trifluralin 10G may be applied for preplant preemergence control of cheatgrass and other annual grasses and broadleaf weed which it controls.

Apply any time up to three weeks prior to planting. Broadcast at a rate of 7½ pounds per acre on coarse and medium soils and 10 pounds on fine soils.

Incorporation Directions: Incorporate into the soil with a flexible tine-tooth harrow, (Flatline or Malrae), set to cut one to two inches deep and operate at 3 to 6 mph.

Seeding Directions: Use only a deep furrow or semi-deep furrow drill that will place the seed below the treated zone of soil.

Precaution: Do not plant wheat directly into the treated zone of soil, 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)**

This product applied and shallowly incorporated into fallow soil up to four months ahead of planting will control cheatgrass and certain annual grasses and broadleaf weeds.

Broadcast rates are 7½ pounds per acre on coarse and medium soils and 10 pounds on fine soils. Apply any time from May to September prior to the fall planting of winter wheat.

Incorporation Directions: Incorporate with a flexible tine-tooth harrow (Flatline or Malrae), set to cut one to two inches deep and operated at three to six mph. For thorough incorporation, two passes of the equipment in different directions over the field are necessary. Incorporate one time within 24 hours after application followed by a second incorporation at least five days after the first prior to seeding. Do not till the soil with a disc after the granules have 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 treated zone of soil.

Precaution: Do not plant wheat directly into the treated zone of soil as injury to the crop (delay in emergence or slight 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 Gowan Trifluralin 10G is recommended as a preemergence application, use the rates listed for spring applications. Do not apply in the fall for sugar beets, potatoes and direct-seeded tomatoes. In most states: Apply and incorporate Gowan Trifluralin 10G any time between October 15 and December 31.

In California, Minnesota, Montana, North and South Dakota: Apply and incorporate Gowan 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 in the fall to soils which are wet, are subject to prolonged periods of flooding, or where rice was grown the previous year.

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NOTICE ON CONDITIONS OF SALE

Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

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