UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

5 AUG 1993

Bethany G. Hulcy
Gowan Company
P.O. Box 5569
Yuma, AZ 85366-5569

Dear Ms. Hulcy:

Subject: Revised Label - Add Chemigation to Ornamentals
Gowan Trifluralin E.C.
EPA Registration No. 10163-181
Your Submission Dated May 21, 1993

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide,. and Rodenticide Act, as amended, is acceptable with the following provisions:

1) Add a restriction to read "Do not apply this product through any type of irrigation system except as described for use on ornamentals."

2) Within the instructions for calculating the amount of product to be injected into the chemigation system based on rate per 1,000 square feet, change the square footage in the example for step #2 to read "If there are 7 emitters per 1,000 square feet...".

A stamped copy is enclosed for your records. Please submit five (5) final printed copies for the referenced label, incorporating the above changes, before releasing the product for shipment.

This acceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR part 156, subpart K, § 156.200(c)(3), you are prohibited from distributing or selling any product within the scope of the WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (H7505C)

Enclosure

CONCURRENCES							
SYMBOL	H7505C						
SURNAME	D. KENNY						
DATE	8/9/93						

GOWAN TRIFLURALIN E.C.

WEED AND GRASS PREVENTER

A selective, preemergence herbicide for use in ornamentals and vegetable gardens for the control of annual grasses and broadleaf weeds

Active Ingredient:	% By Wt.
Trifluralin-(a,a,a-trifluoro-2,6-N,N-dipropyl-p-toluidine)	44.5%
Inert Ingredients:	55.5%
TOTAL	100.0%

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

KEEP OUT OF REACH OF CHILDREN

WARNING-AVISO

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada amplimente.

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 eyes with plenty of clear water for at least 15 minutes. Get medical attention.

IF ON SKIN, wash with soap and water.

ACCEPTED with COMMENTS In EPA Letter Dated: 5 AUG 1993

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 10163-181

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear safety glasses when handling. Wash thoroughly with soap and water after handling. Harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing spray mist. Remove contaminated clothing and wash before reuse.

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff from treatment areas may be hazardous to aquatic organisms in neighboring sites. Do not contaminate water by disposing of equipment washwaters.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

STORAGE AND DISPOSAL

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

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

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

NET CONTENTS ____QUARTS

EPA Reg. No. 10163-181
EPA Est. No. 10163-AZ-1

Gowan

Gowan Company
P.O. Box 5569
Yuma, AZ 85366

Gowan

TRIFLURALIN E.C.

WEED AND GRASS PREVENTER

Gowan Company
P.O. Box 5569
Yuma, AZ 85366

EPA Reg. No. 10163-181
EPA Est. No. 10163-AZ-1

GOWAN TRIFLURALIN E.C. is a selective preemergence herbicide for the control of annual grasses and broadleaf weeds in nursery stock, ornamental trees, ornamental woody shrubs, ornamental ground cover, roses, established flowers, vegetable gardens and under paved surfaces.

DIRECTIONS FOR USE

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

WEEDS AND GRASSES CONTROLLED BY GOWAN TRIFLURALIN E.C.

Grasses

Annual bluegrass
Barnyardgrass
(ergrass)
Bl aria
Bromegrass
Cheat
Crabgrasses
Foxtail
Goosegrass
Johnsongrass (from seed)
Junglerice
Panicum, Fall
Panicum, Texas
Sandbur
Sprangletop
Stinkgrass
Woolly cupgrass

Broadleaf Weeds

Carpetweed
Chickweed
Florida pusley
Goosefoot
Knotweed
Kochia
Lambsquarters
Pigweed
Puncturevine (Western U.S. only)
Purslane
Russian thistle
Stinging nettle

Note: Trifluralin will not control certain resistant weeds such as Cocklebur, Velvetleaf, Jimson weed, Ragweed, Venice Mallow and Nutgrass.

GENERAL DIRECTIONS

Trifluralin is a preemergence herbicide which is incorporated (mixed) into the soil to provide long-lasting control of annual grasses and broadleaf weeds (see list above). Trifluralin controls weeds by killing their seeds as they germinate. It does not control established weeds.

Incorporation of Trifluralin helps assure effective weed control regardless of weather conditions and permits shallow cultivation, rotary hoeing and hand hoeing without reducing its weed control activity.

Trifluralin is recommended for use on a wide variety of vegetables, ornamental trees, ornamental groundcovers, shrubs, and flowers. The ornamental species on which Trifluralin can be used at recommended rates without damage include those listed in this booklet.

Application Directions

Trifluralin E.C is to be mixed with water and applied as a spray before, or in the same operation as soil incorporation. Apply in 5 to 40 gallons of water per acre (broadcast basis) using any properly calibrated low pressure boom-type herbicide sprayer that will uniformly apply the spray. Pour the recommended amount of Trifluralin for your soil type into the spray tank during the filling operation and mix thoroughly before spraying. Do not apply more than the recommended amount

Incorporation Directions

Trifluralin must be incorporated into the soil after application to prevent loss of its activity. Spraying and incorporation should be done in the same operation, if possible. Incorporation may be delayed up to 4 hours after application. Variable weed control may result from delayed incorporation if Trifluralin is applied to a wet, warm soil surface or if the wind velocity is 10 mph or higher.

The machinery used for incorporation should break up large clods and mix Trifluralin thoroughly with the soil. The more thoroughly the Trifluralin is mixed with the soil, the more consistent the weed control will be.

Apply and incorporate Trifluralin prior to planting new nursery stock liners, ornamentals, trees and woody shrubs, and gladioli. (Gladioli corms less than 1 inch in diameter may be injured by pre-plant applications of Trifluralin.) Trifluralin may also be applied to established plantings by using a directed spray to the soil between the rows and beneath the plants.

Incorporation before planting (pre-plant): Thorough incorporation may be achieved with the following: *P.T.O.-driven equipment* (tillers, cultivators, hoes) set to cut 2 to 3 inches deep with rotors spaced to provide a clean sweep of the soil; *double disc* (or double disc with spiketooth harrow in tandem) set to cut 3 to 4 inches deep and operated in two different directions (cross disced) at 4 to 6 mph; *mulch treader* and other similar disc-type implements set to cut 3 to 4 inches deep and operated twice at 5 to 8 mph; *rolling cultivators* set to cut 2 to 4 inches deep and operated twice at 6 to 8 mph; or a *bed conditioner* (Do-All) set to cut 2 to 4 inches deep and operated at 4 to 6 mph.

Incorporation after planting (post-plant): Incorporation may be achieved around established plants by using *P.T.O.-driven equipment* (tillers, cultivators, hoes) set to cut 2 to 3 inches deep with rotors spaced to provide a clean sweep of the soil; or *rolling cultivators* set to cut 2 to 4 inches deep and operated twice at 6 to 8 mph. When incorporating Trifluralin in transplants, new liners, or established plants, the implement should be adjusted so that treated soil is thrown toward and around the plants in the row.

Clean cultivate area to be treated before application since Trifluralin will not control established weeds.

Shallow incorporation with implements set to cut less than 2 inches deep may result in erratic weed control. Do not use spiketooth or springtooth harrows alone for incorporation.

Broadcast (Overall) Application Rates for Soil Incorporation Only

Coarse Soils Sand and sandy loam	1 pint per acre (½ pound active)
Medium Soils Loam, silt loam and silt	1½ pints per acre (¾ pound active)
Fine Soils Clay loam, silty clay and clay	2 pints per acre (1 pound active)

Trifluralin is not recommended on muck soils.

For band applications, use the following formula to figure the proportionate amount:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{recommended broadcast rate} = \text{amount to apply per acre on band}$$

Surface Application and Water Incorporation to Ornamental Groundcover Plantings

Add Trifluralin to clean water in the spray tank during the filling operation. Agitate thoroughly prior to spraying. Apply in 5 to 40 gallons of water per acre using any properly calibrated low pressure herbicide sprayer that will uniformly apply the spray mixture. A one-half inch rain or its equivalent in sprinkler irrigation must be received within 24 hours or poor weed control will result.

Application Rates—Groundcovers Only

Apply 1 gallon of Trifluralin E.C. per acre or 3 ounces per 1,000 sq. ft. of groundcover area.

ORNAMENTAL SPECIES

Woody Shrubs

Andromeda, Japanese
Arborvitae, American
Azalea
Barberry, Japanese
Barberry, Mento
Boxwood, Common
Boxwood, Harlands
Boxwood, Littleleaf
Camellia, Japanese
Camellia, Sasanqua
Cherry-laurel, American
Cinquefoil
Cleyera, Japanese
Cotoneaster, Cranberry
Cotoneaster, Zabel
Deutzia
Elaeagnus Silverberry
Euonymus, Spreading
Euonymus, Winged
Euonymus, Wintercreeper
Firethorn
Forsythia
Guava, Pineapple
Holly
Honeysuckle
Indiahawthorn
Juniper
Laurel, Mountain
Lilac, Common
Mockorange
Pittosporum, Japanese
Privet
Redcedar, Eastern
Rhododendron
Spiraea, Vanhoutte
Viburnum
Weigela
Willow
Yew, Anglojap
Yew, Japanese
Yewpine

Trees

Almond
Apple, Crabapple
Apricot
Ash, White
Baldcypress
Birch, European White
Blackgum
Cherry
Chestnut, Chinese
Cottonwood
Dogwood, Flowering
Dogwood, Kousa
Douglasfir
Fir, Balsam
Hemlock, Canada
Honeylocust
Larch, Japanese
Locust, Black
Maple, Norway
Maple, Red
Maple, Silver
Maple, Sugar
Oak, Pin
Oak, Red
Oak, Scarlet
Peach
Pine, Austrian
Pine, Eastern White
Pine, Japanese Black
Pine, Loblolly
Pine, Red
Pine, Scotch
Planetree, London
Plum
Redbud, Eastern
Spruce, Colorado
Spruce, Norway
Spruce, White
Sweetgum
Sycamore
Tuliptree
Walnut, Black

Groundcover Plantings

Aaronsbeard
Bellflower, Adriatic
Bellflower, Poscharsky
Ceanothus
Coreopsis
Cotoneaster
Coyote Brush
Crown Vetch
Daisy, Trailing African
Fern, Asparagus
Gazania
Germander
Ice Plant, Largeleaf
Ivy, Algerian
Ivy, English
Lily-of-the-Nile
Lilyturf, Bigblue
Marigold
Myoporum
Plumbago, Dwarf
Rockrose
Rosemary
Rupturewort
Snow-in-Summer
Speedwell
St. Johnswort
Stonecrop (Sedum)
Strawberry, Beach
Thrift
Verbena
Wirevine, Creeping
Yarrow, Woolly
Zoysiagrass

Roses and Other Established Flowers

African Daisy
Aster (perennial)
Balsam
Blackeyed Susan
Calendula
Carnation
Centaurea, Velvet
Chrysanthemum
Coreopsis
Cornflower
Cosmos
Dahlia
Dianthus
Dusty Miller
Floss Flower
Forget-me-not
Four O'Clock
Gaillardia
Gladiolus
Golden Glow
Impatiens
Ixora
Lobelia
Lupine
Marigold
Marigold, Cape
Morningglory
Nasturtium
Nicotiana
Petunia
Phlox
Pincushion Flower
Poppy, California
Portulaca
Rose
Salvia
Shasta Daisy
Snapdragon
Snow-on-the-mountain
Stock
Sunflower
Sweet Alyssum
Sweet Pea
Sweet Sultan
Sweet William
Vinca
Yarrow
Zinnia

CHEMIGATION USE INSTRUCTIONS

ORNAMENTALS

- GOWAN TRIFLURALIN E.C. can be applied through recommended types of irrigation systems to the ornamental species listed on this label. GOWAN TRIFLURALIN E.C. may not be applied through irrigation system to any crop except the ornamental species listed on this label.
- Apply this product only through one or more of the following types of systems: sprinkle (including micro) or drip (including surface or subsurface) irrigation systems. Do not apply this product through any other type of irrigation system.
- Application of GOWAN TRIFLURALIN E.C. through irrigation systems should be used as a supplemental weed control practice, to suppress break-through weeds at irrigation points.
- Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result form non-uniform distribution of treated water.
- Do not allow contact with foliage.
- Calibration and distribution will be more accurately achieved by injecting a larger volume of a more dilute solution over time. If desired, dilute GOWAN TRIFLURALIN E.C. with water prior to injection, and mix solution sufficiently to ensure uniform delivery into the injection system. Sprinkler systems should be calibrated to deliver a volume of 4-50 gallons per hour (gph) per emitter. Drip systems should be set at 0.01-3 gph per emitter.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- Do not apply when wind speed favors drift beyond the area intended for treatment, when systems connections leak or when emitters do not provide uniform distribution.
- Before use, remove scale, pesticide residues and other debris from the mix tank and pump system. Flush system with clean water.
- The application interval should be such that at one period of time during the injection, the first and last emitters in the system contain GOWAN TRIFLURALIN E.C. treated water.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Chemigation Systems Connected To Public Water Systems

- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

Sprinkler And Drip Irrigation Systems

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Calculation Of Use Rate For Application Through Chemigation

- Calculation of use rate is based on wetted area around emitters, NOT on acres or 1000 square feet.
- Apply GOWAN TRIFLURALIN E.C. according to the dosages on this label.
- To determine the correct amount of GOWAN TRIFLURALIN E.C., use one of the following formulas:

To Calculate Amount Of Product To Injected Into System Based On Rate Per Acre--

1. Treated area per each emitter = A
   A = 3.14 x (radius x radius)
   Example: If the average distance from emitter to perimeter of wetted area = 13 inches, then
   A= 3.14 x (13" x 13") = 530.7 square inches
2. The area in square feet wet in each acre = B
   B = A x (emitter/acre)
   Example: If there are 300 emitters per acre, then
   $B = \frac{530.7 \times 300}{144} = 1105.6$ square feet wetted per acre
3. The total area (in square feet) wet by your system = C
   C = B x (acres covered by system)
   Example: If the system covers 20 acres, then
   C = 1105.6 x 20 = 22,112 square feet wetted by system
4. The total area (in acres) wet by your system = D
   $D = \frac{22,112}{43,560} = 0.51$ total acreage wetted by system
5. Amount to be injected into system = D x (desired per acre rate)
   Example: If desired rate is 3.2 pints per acre, then
   $\frac{2 \text{ pints}}{\text{acre}} \times 0.51 \text{ acre} = 1.0$ pint TRIFLURALIN E.C. injected into irrigation system

To Calculate Amount Of Product To Injected Into System Based On Rate Per 1,000 Square Feet

1. Treated area per each emitter = A
   A = 3.14 x (radius x radius)
   Example: If the average distance from emitter to perimeter of wetted area = 13 inches, then
   A= 3.14 x (13" x 13") = 530.7 square inches
2. The area in square feet wet in 1,000 square feet = B
   B = A x (emitter/1,000 square feet)
   Example: If there are 7 emitters per 1000 square feet, then
   $B = \frac{530.7 \times 7}{144} = 25.8$ square feet wetted per 1,000 sq. ft.
3. The total area wet by your system = C
   C = B x (total square feet covered by your system)
   Example: If the system covers 20,000 square feet, then
   $C = \frac{25.8 \times 20{,}000}{1{,}000} = 516$ square feet wetted by system
4. Amount to be injected into system = D x (desired per 1,000 square foot rate)
   Example: If desired rate is 3 ounces per 1,000 square feet, then
   $\frac{3 \text{ ounces}}{1{,}000 \text{ square feet}} \times 516$ square feet = 1.6 ounces TRIFLURALIN E.C. injected into irrigation system

UNDER PAVED SURFACES

Directions For Use and Site Preparation

Trifluralin 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 a grader blade to a depth sufficient to insure 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 application and do not apply Trifluralin to areas where asphalt is to be layed directly on top of soil.

Paving should following Trifluralin applications as soon as possible.

Application Directions

Large Areas—Apply Trifluralin in sufficient water to insure thorough wetting of the soil surface or penetration of the spray solution through the base rock layer. A minimum of 150 gallons per acre is recommended. Apply with any sprayer that will apply the spray uniformly. Add the recommended amount of Trifluralin to clean water in the spray tank during the filling operation. Agitate before spraying.

Small Areas—For treating small areas, a tank type hand sprayer or sprinkling can, may be used. Before application determine the amount of water and Trifluralin necessary to uniformly cover the area to be treated. Shake or stir the spray solution prior to application.

The Proper Amount of Gowan Trifluralin E.C. to Apply

Ounces Per 1000 Sq. Ft.	Gallons Per Acre
9 to 12 ounces	3 to 4 gallons

VEGETABLE GARDENS

Soil Preparation

Crop Residues or Existing Weeds: Crop residues or existing weeds can interfere with the mixing of Trifluralin into the soil. A manageable level of such residues would allow the Trifluralin to be uniformly mixed into the top 2 to 3 inches of soil. If the level of the crop residue is such that this cannot be done, you must till the soil prior to the application.

Soil Texture Guide

The amount of Trifluralin you apply will vary with the soil texture. A fine textured soil will require more Trifluralin 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.

	Coarse Soils (light)	Medium Soils	Fine Soils (heavy)
Soil Texture	Sands, Loamy sands and sandy loams	Silt or loam	Clay loams, silty clay loams, clays, silty clays.

Mixing Directions

Start with a clean spray tank. Fill sprayer ½ full with clean water. Add correct quantity of Trifluralin. Close sprayer and shake well to mix Trifluralin. Finish filling sprayer and agitate occasionally to keep Trifluralin mixed in the tank.

Ground Application

Apply Trifluralin in 1 to 5 gallons of water per 1,000 square feet on a broadcast basis. Spray uniformly over the top of the soil surface to assure satisfactory weed control.

Incorporation Directions

Mix Trifluralin thoroughly into the soil with a tool or implement that breaks up large clods and distributes the chemical within the soil. The more thoroughly the Trifluralin is mixed within the soil, the more consistent the weed control.

Thoroughly mix Trifluralin in the top 2 to 3 inches of the final seedbed (when the garden is ready for planting), or erratic weed control and/or crop injury may result. Equipment such as a rototiller or rake should be used to mix Trifluralin to the desired 2 to 3 inch depth.

Incorporation Before Planting

Trifluralin must be mixed into the soil within 24 hours after application. You should mix the Trifluralin uniformly into the top 2 to 3 inches of the final seedbed.

Incorporation After Planting

Check specific crop incorporation directions after planting.

Cultivation After Planting

Soil treated with Trifluralin may be shallow cultivated without reducing the weed control activity of Trifluralin. 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

The recommendations are given as broadcast rates of Trifluralin per 1,000 square feet. Apply any time after January 1 when soil can be worked and is suitable for good incorporation. **Do not use Trifluralin on soils containing more than 10% organic matter. Trifluralin should not be used in areas to be planted with sweet corn or direct seeded cucurbits.**

For the Following Crop Grouping, Use the Rate Listed Below

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

Broadcast Rates Per 1,000 Square Feet
Gowan Trifluralin E.C.

Soil Texture	Teaspoons
Coarse	2¼
Medium	3⅓
Fine	4½

Asparagus—Established

Follow recommended soil preparation, application and incorporation procedures for Trifluralin. Trifluralin can be applied to established asparagus as a single application. Apply Trifluralin to asparagus after ferns are removed but before spear emergence.

Carrot

Celery—Direct seeded and transplant

Cole Crops—Transplant (Broccoli, Brussels Sprout, Cabbage and Cauliflower)

Apply and incorporate prior to transplanting only. See next section for direct seeded.

Cucurbits—Postplant Emerged (Cantaloupe, Cucumber and Watermelon)

Apply Trifluralin as a direct spray to the soil between the rows and beneath plants which are in the 3 to 4 true leaf stage. After applying Trifluralin to the soil, incorporation is necessary to mix the chemical to the 2 to 3 inch desired depth. Optimum weed control will be achieved by moving a portion of the treated soil around the base of the established plants.

Okra

Pepper—Transplant

Apply and incorporate prior to transplanting only.

Potato—All states except Maine

Apply and incorporate Trifluralin after planting, before emergence, or immediately following dragoff or after the potato plants have fully emerged. Mix Trifluralin into the soil so a uniform layer of treated soil covers the bed. Concentrated areas of chemical in the bed may retard potato emergence and cause stem brittleness. If potato plants are already emerged when cultivating, do not totally cover foliage with treated soil. Do not damage potato seed pieces or elongating sprouts with incorporation equipment.

Southern Pea—Before planting only

Tomato—Transplant

Apply and incorporate prior to transplanting only.

For the Following Crop Grouping, Use the Rate Listed Below

Apply and incorporate Trifluralin before planting.

Broadcast Rate Per 1,000 Square Feet
Gowan Trifluralin E.C.

Soil Texture	Teaspoons
Coarse	2¼
Medium	2¼
Fine	3⅓

Beans—(Lima Bean and Snap Bean)

Cole Crops—Direct Seeded (Broccoli, Brussels Sprout, Cabbage and Cauliflower) See above section for transplant.

Greens—(Turnip Greens, Collard, Kale and Mustard Greens)

Green Pea

GOWAN TRIFLURALIN E.C. RATE CONVERSION CHART

Rate Per Thousand Square Feet to Rate Per Acre	
Rate Per 1,000 Square Feet Teaspoons	Rate Per Acre Pints
2¼	1
3⅓	1½
4½	2

SMALL SPRAYER CALIBRATION TECHNIQUE

Small sprayer calibration can be achieved by following these five simple steps.

1. Fill the sprayer full of clean water.
2. Spray as you would normally apply chemicals through the sprayer over the area to be treated.
3. When the sprayer is empty, measure the area treated to determine the number of square feet per sprayer load.
4. After you have calculated the number of square feet per sprayer load, calculate the amount of Trifluralin needed to treat that size area.
5. Refer to the Mixing Directions on the Trifluralin product label.

SPECIAL PRECAUTIONS

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

INHERENT RISKS OF USE

Failure to carefully follow the directions for use of Trifluralin as well as other factors such as seedling disease, cold weather, deep planting, excessive moisture, high salt concentration or drought, may result in unsatisfactory weed control or crop injury. Reduced yields may result under these conditions.

NOTICE ON CONDITIONS OF SALE

Our recommendation 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.

rev. 1/93