NOTICE OF PESTICIDE: \underline{REGISTRATION}  \underline{REREGERISTRATION}  
(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended)

NAME AND ADDRESS OF REGISTRANT (Include ZIP code)

Gowan Company
P.O. Box 5696
Yuma, AZ 85364

NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product, always refer to the above U.S. EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.

A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.

Registration is in no way to be construed as an endorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A) provided that you:

1. Submit any and all data required for registration/reregistration of your product under FIFRA section 3(c)(3) when the Agency requires all registrants of similar products to submit such data.

2. Make the labeling changes listed below before you release the product for shipment:
   a. Add the phrase "EPA Registration No. 10163-101."
   b. Add the statement - Contains petroleum distillate - in proximity to the ingredient statement.
   c. Check your label dosage rates carefully. You have used rates for the 5 lb/gallon product at several places, including soybeans - rhizome johnsongrass and wild cane; sugarcane - itchgrass and under winter wheat.

3. The maximum total nitroamine content permitted for this product is 0.445 ppm. Submit a corrected formula statement. We have completed evaluation of your additional nitroamine data submitted January 20. These data are adequate and support the above maximum content.

☐ ATTACHMENT IS APPLICABLE

SIGNATURE OF APPROVING OFFICIAL: 

DATE: JUN 13 1986

EPA Form 8570-6 (Rev. 5-76)
PREV. EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED.
4. Submit one (1) copy of your final printed labeling before you release the product for shipment. Refer to the A-79 Enclosure for a further description of final printed labeling.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIPRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Richard F. Mountfort
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (TS-767C)

Enclosures
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

Do not apply directly to any body of water. Direct contamination of any body of water with this product may kill fish and other aquatic organisms. Do not contaminate any body of water by direct application, cleaning of equipment or disposal of wastes.

PHYSICAL OR CHEMICAL HAZARD

Do not use or 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.

RE-ENTRY STATEMENTS

Do not enter treated areas without protective clothing until sprays have dried. Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written and oral warnings must include the following information: WARNING--Area treated with Trifluralin on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure, follow instructions under Statement of Practical Treatment section.
DO NOT contaminate water, food, or feed by storage or disposal.

STORAGE: Avoid freezing. Store above 40 F. If frozen, poor weed control may result. Do not store near heat or flame.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CROP USE DIRECTIONS
See directions for use inside booklet.

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.
Crabgrass
(Spreading panicgrass - see cotton and soybean sections for special instructions)

Sugar cane (Echinochloa colonum)
Paniculata

Fragrant grass (Eleusine indica)

Panicum

Buffer grass (Panicum dichotomiflorum)

Guinea grass (Eleusine indica)

Texas panicum (Panicum texitum)

Itchgrass (Iresine herbstii)

Johnson grass (from Seed)

Red rice (Oryza sativa)

Black rice (Oryza sativa)

Buckwheat

Dutch clover

Kochia

Wild oats

Wild rye

Woolly cupgrass (Eriochloa villosa)

BROADLEAF WEEDS

Carpetweed

Chickweed

Field bindweed

Florida pusley

Goosefoot

Sagebrush

Graham (Eremophila) (Acacia)

Lilac (Syringa)

Ground application: Apply Green Trifluralin in 5 to 60 gallons of water or liquid fertilizer per acre (broadcast basis), using any properly calibrated, 10 to 120 pressures, herbicide sprayer that will apply the spray uniformly.

Aerial application: Apply Green Trifluralin in 5 to 100 gallons of water or liquid fertilizer per acre. Adjust pump pressure, nozzle arrangements, speed and height to provide a uniform application to the soil surface. Use earth markers or inlets to assure proper application spray widths.
Incorporation Equipment-General Directions

Cowan TriFluralin must be incorporated one time within 24 hours after application. Then any time prior to planting, a second incorporation is recommended. For example, a disc to cut 4 inches deep will incorporate most of the Cowan TriFluralin within the top 2 inches of soil. Incorporation Before Planting

Cowan TriFluralin must be incorporated one time within 24 hours after application. Then any time prior to planting, a second incorporation is recommended. For example, a disc to cut 4 inches deep will incorporate most of the Cowan TriFluralin within the top 2 inches of soil.

Incorporation After Planting

Cowan TriFluralin must be incorporated one time within 24 hours after application. Then any time prior to planting, a second incorporation is recommended. For example, a disc to cut 4 inches deep will incorporate most of the Cowan TriFluralin within the top 2 inches of soil.

Incorporation in Bedded Culture

For effective weed control, Cowan TriFluralin needs to be incorporated into the top 2 to 3 inches of the final seedbed. Incorporation prior to bedding: Apply Cowan TriFluralin and incorporate it one time with recommended equipment. The bedding operation serves as the second incorporation. Do not use untreated soil for post-bedding operations.

Incorporation after bedding: Apply Cowan TriFluralin to the existing beds to planting height before applying Cowan TriFluralin. Incorporate it with recommended equipment that will conform to the bed shape. Do not leave treated soil exposed.

Avoid removal of untreated 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 other recommended tools. 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 3 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 untreated. 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.
Rolling Cultivator: set to cut 3 to 4 inches deep and operate at 3 mph or more. A rolling 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 untreated. Chisel points should not be used. Combination tools with rollers may be used.

Cultivation After Planting

Soil treated Cowan TriFluralin may be shallow cultivated without reducing the product's weed control activity. Do not cultivate directly over the treated area or bring untreated soil to the surface, and poor weed control may result.

Fall Application

General: (Areas receiving more than 20" average annual rainfall)

Site specific crop for recommendations. For all crops for which there are no specific fall application instructions and for which Cowan TriFluralin is recommended as a preemergence application, use the rates listed for spring applications. Do not apply Cowan TriFluralin in the fall for sugarcane, potatoes, and direct-seeded turkeys.

In most states apply and incorporate Cowan TriFluralin any time between October 15 and December 31. In Minnesota, Montana, North Dakota, and California, apply and incorporate anytime between September 1 and December 31. Ground may be left flat or bared up over winter. On bared ground, knock lee down to desired bed height before planting, moving some treated soil a band into furrows. Where soil is left in the winter, be careful not to turn up untreated soil during spring bedding operations. Destroy established

CROPP RECOMMENDATIONS

These recommendations are given as the broadcast rates of Cowan TriFluralin per acre. For band applications, increase the amount in the broadcast band. The amounts shown are for the amount of surface treated per acre. Apply at any time after January 1 when the soil can be worked and when is suitable for good incorporation. Cowan TriFluralin can be applied in the fall — see above paragraph and specific crops for recommendations. Where rainfall is shown, use the lower rate for coarse soils or soils with lower organic matter. Cowan TriFluralin should not be used on soils containing more than 10% organic matter.

COTTON - GOWAN TRIFLURALIN ALONE

Cowan TriFluralin can be applied and incorporated before or at planting, immediately after planting, and from four true leaf stage to layby.

COTTON - Preemergence:

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Areas receiving less than 20&quot; average annual rainfall</th>
<th>Areas receiving greater than 20&quot; average annual rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>(pints)</td>
<td>(pints)</td>
</tr>
<tr>
<td>Coarse Medium</td>
<td>Coarse Medium</td>
</tr>
<tr>
<td>V₁ - V₂</td>
<td>1₂</td>
</tr>
<tr>
<td>1₂ - 1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Use 1.2 pints per acre one coarse and medium soils and 1.6 pints on fine soils with 2-5% organic matter: use 1.6 to 2 pints on all soils with 5-10% organic matter.

Incorporation with Bedding Implements

Bedding Implements (Lickers and rippers) may be used to incorporate Cowan TriFluralin into the soil for weed control in cotton. Since bedding equipment does not provide thorough incorporation under all conditions, it is important to closely follow the directions below to optimize weed control performance. Weed control resulting from single pass incorporation with bedding implements will be reduced compared to conventional double incorporation. Apply the amount of Cowan TriFluralin recommended in the label.

Soil Preparation: See general soil preparation Bedding Use Directions: Either a licker or disk bedder may be used. Operating the bedder in the manner recommended by the equipment manufacturer in order to bed to the desired height. A ripper, chisel, or flat shank should be mounted on the bedder behind the spray nozzles and ahead of the bedder tool to help distribute Cowan TriFluralin in the center of the bed. The use of bed tillage equipment such as rolling cultivators, P.T.O. driven rod weeder beds, or conditioners after the bedding operation will provide additional mixing of the soil.

Weather conditions, cultural practices, bed tillage and planting procedures will determine location of the Cowan TriFluralin in the soil. Weed control obtained will be dependent upon location of the Cowan TriFluralin at the time of planting. If Cowan TriFluralin is moved during bed tillage or planting, a band application of Cowan TriFluralin at planting or a postemergence application of Cowan TriFluralin may be required to ensure good weed control.

Precautions: Do not incorporate with the bedder if the soil is too wet for good mixing.

COTTON - Postplant:

When incorporating Cowan TriFluralin after planting (postplant), be careful not to disturb the seed.

COTTON - Postemergence:

Directions for Use

Cowan TriFluralin can be used as a post emergence soil incorporated application in cotton. Cowan TriFluralin may be applied after final bed preparation any time from the four true leaf stage up to layby, but not less than 90 days before harvest.

Application Directions

Cowan TriFluralin may be applied to cotton from the four true leaf stage as either a broadcast application or as a post directed spray. Drop nozzles should be used if cotton foliage prevents uniform coverage of the soil. Refer to the Cowan TriFluralin labeling for ground and aerial application directions.

Application Rates:

Apply Cowan TriFluralin to cotton at the following broadcast application rates per acre:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Pints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>V₁ - 1₂</td>
</tr>
<tr>
<td>Medium</td>
<td>1₂ - 1₂</td>
</tr>
<tr>
<td>Fine</td>
<td>1₂ - 2</td>
</tr>
</tbody>
</table>

Incorporation Directions

Final beds should be established before the Cowan TriFluralin application in cotton. The soil surface should be free of existing weeds and vegetation as close to planting time as possible. Cowan TriFluralin should be incorporated within 24 hours following application and may be accomplished...
In the fall, applications of Trifluralin should have 3 to 5 weeks per row middle and be
operated at 6 to 8 mph. Set swepper to provide maximum soil mixture and to insure movement of treated soil into the crop row. One pass with the sweeper conveyer properly set will provide adequate soil incorporation. The rolling cultivator should be set to provide
maximum soil mixing and to insure movement of treated soil into the crop row. The rolling
conveyor operates at 3 to 5 mph. Care should be taken to insure that middle swepers do not expose
untreated soil. One pass with the rolling cultivator properly set will provide adequate incorporation.

Additional Information:

Cotton Precautions: Cotton should be planted after early season adverse weather conditions have passed, especially when using trifle.

Cotton - Tank Mixes and Overlays

Follow recommended soil preparation and incorporation procedures for Goawn Trifluralin:

COTTOL - Goawn Trifluralin/Zorilal Tank Mix

A tank mix combination of Goawn Trifluralin and Zoriala is recommended
as a preplant soil incorporated treatment for broad spectrum control
growth and broad leaf weeds in cotton. Goawn Trifluralin and/or Zoriala may also be tank mixed and incorporated using one-half the recommended rate of Zoriala with the remaining one-half rate of Zoriala
surface applied after planting. This will effectively control the following weeds in addition to
those controlled by Goawn Trifluralin alone:

- Control
  - Cocklebur*<br>  - Morningglory<br>  - Pim, spurted smartweed<br>  - Spurred amoda<br>  - Prickly sida
  - Velvetleaf

- Suppression
  - Bermudagrass<br>  - Johnsongrass (risomus)<br>  - Eveningglory<br>  - Hemp swainsonia<br>  - Other smartweeds

*Controlled by Zoriala split application only.

Application

Follow preparation procedures normally used with Goawn Trifluralin. The tank mix of Goawn Trifluralin/Zoriala may be applied up
to 30 days before planting using the recommended rate of Calma and Zoriala. Fill the spray tank two-fourths full with clean water and start
agitation. Premix the required amount of Zoriala with a small amount
of water and add to the spray tank. Continue agitation and add the
required amount of Goawn Trifluralin to the spray tank. Agitate continuously during filling and throughout the spraying operation. Agitation, such as a sparger system, should be used to avoid bottom
contents of the tank up into the main body of the spray mixture for
throughout mixing and uniform suspension. If a bypass line is
used, discharge at the bottom of the tank to minimize foaming. Apply
in from 10-20 gallons of water per acre with a sprayer equipped
with herbicide tips and screens sized 50 mesh or larger. Do not allow the spray mixture to remain in the tank overnight as
settling could occur and resuspension would be difficult.

Apply Goawn Trifluralin/Zoriala at the following broadcast rates per acre:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Goawn Trifluralin</th>
<th>Zoriala 80 Ws</th>
<th>lbs per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1/2</td>
<td>1.25</td>
<td>1.0</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2</td>
<td>1.25</td>
<td>1.0</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2</td>
<td>1.25</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Split application** - Apply and incorporate the full rate of Goawn Trifluralin plus half the rate of Zoriala. Surface apply the remaining half-rate of Zoriala pre-emergence.

COTTOL - Goawn Trifluralin/Caporal tank mix for cotton grown in California, Arizona, New Mexico and west Texas:

The Goawn Trifluralin/Caporal combination will control certain grass and broadleaf weeds listed for Goawn Trifluralin alone plus the following
weeds:

- Smutgrass
- Prickly sida (Tevedu)<br>  - Mustard<br>  - Annual morningglory<br>  - Helva<br>  - Wild oat

The tank mix also controls shallow germinating seedlings of cocklebur and coosheed

**Broadcast Rates Per Acre**

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Goawn Trifluralin</th>
<th>Caporal 80W</th>
<th>Pounds per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1/2</td>
<td>1/2</td>
<td>2</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2</td>
<td>1/2</td>
<td>2</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2</td>
<td>1/2</td>
<td>2</td>
</tr>
</tbody>
</table>

Do not use on sands and loamy sands. For band applications use pro-
portionally less.

**Mixing Directions**: Follow the procedures on the Caporal 80W label. For mixing, add 40 gallons of water to a partially full tank of water. After the Caporal is thoroughly mixed with the par-
Avoid leaving spray mixture in tank without constant agitation. If bypass agitation is used, the bypass line should stop at the bottom of the tank to minimize foaming.

Additional Precautions: The combination of Cowan Trifluralin/ Caporal should not be used in the cut areas of newly seeded crops in areas of excess salt, or where flooding over the beds is likely to happen. Do not plant cotton in tractor wheel depressions. These conditions may cause crop injury. On mulched cotton, water back well after crop seedlings are well established.

Crop Rotations: Cabbage, okra, onions and peas may be planted in the fall after a spray application of Cowan Trifluralin plus Caporal. Inter-crop winter eye and winter wheat can be planted in the fall also if they are not used for food or seed. Refer to the control label for directions, cautions and precautions.

COTTON - Cowan Trifluralin/Cotoral tank mix (except in Arizona and Trifluralin) Recommended for re-treatment of annual and broadleaf weeds listed for Cowan Trifluralin alone plus those Additional weeds:

Phragmites - Prickly sida (Teaweed)
Buckwheat - Ramped
Cowage - Seashore
Groundcrerry, Wright Sicklepump
Jalapweed - Southern
Morning glory - Tumbledweed

Broadcast Rate Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Cowan Trifluralin</th>
<th>Cotoral 80W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1/2 pint</td>
<td>1/2 pound</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2 pint</td>
<td>1/2 pound</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2 pint</td>
<td>1/2 pound</td>
</tr>
</tbody>
</table>

Additional Directions: Carefully follow the procedures on the Cotoral label when making a Cotoral mix by adding Cotoral to a partially filled tank of water. After the Cotoral is thoroughly mixed with the partially filled tank of water, add the Cowan Trifluralin and continuously reducing agitation. Agitate continuously throughout the mixing and application operations. Do not leave spray mixture in tank without constant agitation. If bypass agitation is used, the bypass line should stop at the bottom of the tank to minimize foaming. Apply in 15 - 40 gallons of water per acre.

Additional Precautions: Do not plant cotton other than cotton on the treated lands within 6 months after the application of Cowan Trifluralin plus Cotoral, or crop injury may result. Do not feed foliage from treated cotton plants or gin trash to livestock. Do not mix Cowan Trifluralin plus Cotoral with liquid fertilizer.

West Texas Only: Do not use the tank mix of Cowan Trifluralin plus Cotoral on sandy, loamy sand or fine sandy loam soils. Do not use cotton planted in furrows.

Arkansas, Louisiana, and Mississippi Only: Use 1 pound Cotoral 80W in tank mix with Cowan Trifluralin on sandy loam soils low in organic matter.

New Mexico: Do not plant treated land with crops other than cotton until 1 year after the last application. Do not use on sandy or coarse textured soils of less than 15 organic matter.

COTTON - Cowan Trifluralin Preplant followed by Kermax overlay: For cotton grown east of the Mississippi River plus Arkansas, Southeastern Missouri, Louisiana and Eastern Texas, incorporate before planting. Then follow with a preemergence application of Kermax. This will effectively control all the weeds controlled by Cowan Trifluralin alone plus these additional weeds:

Rampweed
Shepherdspurse
Annual groundcherry
Velvetgrass
Dogfennel
Wild mustard
Pennycress
Wild lettuce

Broadcast Rate Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Cowan Trifluralin</th>
<th>Kermax 80W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1/2 pint</td>
<td>1/2 pound</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2 pint</td>
<td>1/2 pound</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2 pint</td>
<td>1/2 pound</td>
</tr>
</tbody>
</table>

Additional Precautions: Do not use Kermax on soils with less than 12 organic matter as crop injury may result. Do not allow livestock to graze on cotton treated with Kermax. Consult the Kermax label for additional instructions, cautions and precautions.

SOYBEAN - COWAN TRIFLURALIN ALONE

SOYBEAN - PREEMERGENCE:
Follow recommended soil preparation, application, and incorporation procedures for Cowan Trifluralin.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Cowan Trifluralin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1/2 pint</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2 pint</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2 pint</td>
</tr>
</tbody>
</table>

SOYBEAN - COWAN TRIFLURALIN

APPLICATION:
Apply as a broadcast rate of 2.5 - 32.5 pint per acre on coarse and medium textured soils and 2 pints on fine soils with 2-5 organic matter; use 2 - 2.5 pints on all soils with 5-101 organic matter.

SOYBEAN - FALL APPLICATION:
Apply and incorporate anytime between October 15 and December 31. Ground may be left fall or bedded-up over winter. On bedded ground, knock beds down to desired height before planting, moving some treated soil from tops into furrows, or use a soil flat over the beds. Take care during spring bedding operations to prevent turning up untreated soil. Destroy established weeds during needed preparation. If weeds become established in furrows due to uncovering of treated soil, add a spraying of 2, 4-D in furrows. Do not apply to soil 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 Bootheel, North Carolina, Oklahoma, South Carolina, Tennessee and Texas, apply and incorporate at a broadcast rate of 2 pints per acre on coarse and medium soils and 2.5 pints on fine soils. For soybeans grown in states other than those listed above, apply and incorporate at a broadcast rate of 2 pint per acre on coarse soils; 1.5 pints on medium soils; and 1 pint on fine soils. Exception: In the state of Louisiana, 3 pints per acre are recommended on fine soils.

SOYBEAN - SPECIAL USE DIRECTIONS

SOYBEAN - FALL PANICM:
Apply Cowan at the broadcast rate of 2 pints per acre on both coarse and medium soils.

SOYBEAN -撐seed and seedling johnsongrass:
In Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Mississippi, southeastern Missouri, North Carolina, Oklahoma, South Carolina, Tennessee and southern Virginia, Cowan Trifluralin may be applied as a broadcast rate of 1 to 1.5 pints per acre on coarse soils; 1.5 to 2.5 pints on medium soils; and 2 pints on fine soils. Exception: In the state of Louisiana, 3 pints per acre are recommended on fine soils.

SOYBEAN - ADDITIONAL WEED AND GRASS CONTROL (TEXAS GULF COAST):
In the Texas Gulf Coast counties of Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Liberty, Orange, Victoria, Walker and Wharton, Cowan Trifluralin may be applied up to 2 weeks before planting at a broadcast rate of 1/2 pint per acre on coarse soils; 3 pints on medium soils; and 2 pints on fine soils.

SOYBEAN - CHARCOAL SOILS:
In Arkansas, Louisiana, and Mississippi:
Lowly cleared land often contains high organic matter (5-101) and charcoal from burning debris. This charcoal and/or organic matter tends to bind Cowan Trifluralin and reduce its weed control activity. Under these conditions, higher rates of Cowan Trifluralin are necessary for weed control. Increased rates, however, can cause crop injury if charcoal or organic matter is not present to bind some of the Cowan Trifluralin. In the burned row a high level of charcoal is present; consequently, lower weed control may result even with an increased rate of Cowan Trifluralin.

Apply at the broadcast rate of 1/2 to 2.5 pints per acre on coarse soils; 2.5 pints on medium soils; and 2 pints on fine textured soils. Follow recommended soil preparation, application and incorporation procedures for Cowan Trifluralin.

SOYBEAN - RED RICE:
In Arkansas, Louisiana, Mississippi and Texas only:
You can obtain suppression or partial control of red rice when you apply Cowan Trifluralin at the following recommended rates.

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

APPLICATION:
Apply and incorporate in the spring before planting.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Cowan Trifluralin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1/2 pint</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2 pint</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2 pint</td>
</tr>
</tbody>
</table>

SOYBEAN - RED RICE IN ARKANSAS, LUSISSIANA AND MISSISSIPPI:
Apply at the broadcast rate of 1/2 to 2.5 pints per acre on coarse soils; 2.5 pints on medium soils; and 2 pints on fine textured soils. Follow recommended soil preparation, application and incorporation procedures for Cowan Trifluralin.
treatment, or crop injury may result. Do not plant rice the second year. Rice may be planted the third year.

SOYBEAN - Rhizome johnsongrass (Eastern United States and the state of Texas):

You can obtain commercially acceptable control of rhizome johnsongrass with a double rate program applied for 2 consecutive years in accordance with the following directions.

Soil Preparation: Proper preparation of the soil before application is very important for satisfactory results. Use a chisel plow or similar implement to bring rhizomes to the top of the soil. Then follow with a disk or in field cultivator before application to cut the rhizome grass (2 to 3 inches) pieces and to destroy any sprouted johnsongrass.

Applicator - Choose the one application program that best fits your cultural practices:

1. Spring Application - Apply Gowan Trifluralin alone in the spring. Before planting for 2 years in a row, use a broadcast rate of 1.6 pints per acre on coarse soils; 2.4 pints on medium soils; 3.2 pints on fine soils; or 4.8 pints on coarse soils (1.5-2.5 inch organic matter); and 5.6 pints on 3-5 inch organic matter.

2. Split Application - Apply Gowan Trifluralin at the same rate in both the spring and fall for 2 years in a row using the rates in the following table.

<table>
<thead>
<tr>
<th>Broadcast Rates Per Acre</th>
<th>Gowan Trifluralin 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring and Fall</td>
<td>(pints)</td>
</tr>
<tr>
<td>Coarse</td>
<td>1/6</td>
</tr>
<tr>
<td>Medium</td>
<td>2/6</td>
</tr>
<tr>
<td>Fine</td>
<td>2/6</td>
</tr>
<tr>
<td>Coarse soils with 2-5X</td>
<td>1/6</td>
</tr>
<tr>
<td>organic matter</td>
<td></td>
</tr>
<tr>
<td>Soils with 5-10X organic matter</td>
<td>1/6</td>
</tr>
</tbody>
</table>

Incorporation - Deep incorporation is essential for good rhizome johnsongrass control. Incorporate Gowan Trifluralin thoroughly with the first pass to cut 4 to 6 inches deep and operate at 4 to 6 mph. Two passes are necessary, with the second pass in a different direction from the first.

Cultivation - Some johnsongrass plants will escape. Tiney cultivations during the crop season to remove escaped plants are necessary to obtain commercially acceptable control.

Crop Rotation: In the season following a double rate treatment, plant only rice and those crops which Gowan Trifluralin can be applied as a preplant treatment or injury may result.

SOYBEAN - Rhizome johnsongrass - Gowan Trifluralin/Sencor or Gowan Trifluralin/Lexone tank mix:

Gowan Trifluralin may be used with Sencor or Lexone for rhizome johnsongrass control and for the control of those weeds listed for Gowan Trifluralin alone. For the additional weeds controlled by Sencor or Lexone in tank mix, see below. Follow procedures for soil preparation, incorporation, and cultivation recommended in the Soybean - Rhizome johnsongrass section.

Applying Gowan Trifluralin/Sencor or Lexone up to two weeks before planting for two consecutive years at the following broadcast rates per acre:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring and Fall</td>
<td>(pints)</td>
</tr>
<tr>
<td>Coarse</td>
<td>1/6</td>
</tr>
<tr>
<td>Medium</td>
<td>2/6</td>
</tr>
<tr>
<td>Fine</td>
<td>2/6</td>
</tr>
<tr>
<td>Coarse soils with 2-5X organic matter</td>
<td>1/6</td>
</tr>
<tr>
<td>Soils with 5-10X organic matter</td>
<td>1/6</td>
</tr>
</tbody>
</table>

* Do not use Sencor/Lexone on coarse soils with less than 1% organic matter.

Additional Precautions: Do not apply any crop other than soybeans within 4 months after treatment. Overapplication, uneven application, or improper soil incorporation may result in crop injury, herbicide residue, or erratic weed control. Additional stress factors are seedling disease, cold weather, deep planting, excessive moisture, soil pH over 7.5, high salt concentration, or drought. Any of these may weaken crop and increase possibility of damage from the tank mix. These additional factors may also delay development or reduce yields when Sencor or Lexone is applied. Observe all cautions and limitations on the Sencor and Lexone labels. Do not use the foliage from soybeans treated with the tank mix for feed or forage.

SOYBEAN - Gowan Trifluralin preplant followed by Sencor or Lexone as an overlay:

Apply Gowan Trifluralin as a preplant incorporated herbicide. As a separate operation, make a single application of Sencor or Lexone as either a band or broadcast spray during planting or as a separate preplant operation after planting, but before the soybeans emerge. Do not spray Sencor or Lexone over the top of emerged soybeans, or crop injury may result.

Use Directions - Follow directions on the Sencor or Lexone labels for specific instructions regarding each herbicide.

| Soil Texture       | Postplant/Preemergence | Gowan Trifluralin 4  |
|--------------------|------------------------|
| Spring and Fall    | (pounds/pints)         | (pounds) |
| Coarse             | 1/4                    | 1/2 |
| Medium             | 3/4                    | 1/2 |
| Fine               | 2/6                    | 5/4 |

* Lexone rates are given first, followed by Sencor rates.
* Do not apply Lexone to and soil with less than 1/2% organic matter. Do not apply Sencor to coarse soils (sandy loam and loamy sand) containing less than 2% organic matter.

Additional Sencor and Lexone precautions: Do not use Lexone or Sencor on Tracy, Semmes, Altona, Vanoy or Coker 102 soybeans. These varieties are sensitive to Lexone or Sencor, and crop injury may result. Seed must be planted at least 1/2 inches but not more than 2 inches below the soil surface before a Sencor or Lexone application. Do not apply Sencor or Lexone at these rates more than once per season. Do not replant areas treated with Sencor or Lexone with any crop other than soybeans within 4 months after treatment. Injury to soybeans may occur if you use Lexone or Sencor on soils having a calcareous surface or pH 7.5 or higher, or if you use them in conjunction with soil-applied organic phosphate pesticides. Do not use the foliage from treated soybeans for feed or forage.
**SWYLAN** - **Gowan Trifluralin/Dual or Dual Tank Mix Preplant Incorporated**

Gowan Trifluralin/Dual tank mix and Gowan Trifluralin preplant incorporated followed by Lasso surface applied control these weeds:

<table>
<thead>
<tr>
<th>Weed</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galinsago</td>
<td></td>
</tr>
<tr>
<td>Nightshade, black</td>
<td></td>
</tr>
<tr>
<td>Nightshade, hairy</td>
<td></td>
</tr>
<tr>
<td>Rice, red</td>
<td></td>
</tr>
</tbody>
</table>

**Additional weeds partially controlled by this combination include:**

<table>
<thead>
<tr>
<th>Weed</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristleseed, Florida</td>
<td></td>
</tr>
<tr>
<td>Side, spiny (teaweed)</td>
<td></td>
</tr>
<tr>
<td>Smartweed</td>
<td></td>
</tr>
</tbody>
</table>

* Additional rates vary by location. See the Lasso label for additional application directions, conditions, and precautions prior to use.

---

**Broadcast Rates Per Acre**

**Gowan Trifluralin/Dual tank mix preplant incorporated:**

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Lasso</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2</td>
<td>2</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Gowan Trifluralin preplant incorporated followed by Lasso surface applied:**

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Lasso</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1/2</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2</td>
<td>1 1/2</td>
</tr>
</tbody>
</table>

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**SOYBEAN** - **Gowan Trifluralin/Dual Tank Mix Preplant Incorporated**

If you have a tank mix, follow the recommended soil preparation recommendations for Gowan Trifluralin. Apply Gowan Trifluralin/Lasso in a mixture of 15 gallons of water or liquid fertilizer per Acre. Set incorporation equipment to work the soil no deeper than the desired depth. Apply the tank mix up to seven days prior to planting.

**For Gowan Trifluralin/Dual tank mix:** Follow the recommended soil preparation requirements for Gowan Trifluralin. Apply Gowan Trifluralin/Lasso in a mixture of 15 gallons of water or liquid fertilizer per Acre. Set incorporation equipment to work the soil no deeper than 3 to 1 1/2 inches. Apply the tank mix up to seven days prior to planting.

**SOYBEAN** - **Gowan Trifluralin/Ambien/Sensor or Lexene tank mix:**

The Gowan Trifluralin/Ambien/Sensor or Lexene tank mix effectively controls all weeds listed for Gowan Trifluralin/Ambien and Gowan Trifluralin/Sensor or Lexene tank mix. Follow recommended soil preparation, application, and incorporation procedures for Gowan Trifluralin. The tank mix may be applied from several days prior to planting up to 10 to 40 gallons of water per acre. Use screens no finer than 50 mesh. Apply the tank mix at the following broadcast rate per acre:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Ambien</th>
<th>Sensor</th>
<th>Lexene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td>Medium</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td>Fine</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
</tbody>
</table>

---

**SOYBEAN** - **Gowan Trifluralin/Vermex tank mix:**

The Gowan Trifluralin/Vermex tank mix effectively controls the following weeds listed for Gowan Trifluralin tank mix plus these additional weeds:

- Purple nutedge (nutgrass)
- Yellow nutedge (nutgrass)
- Cuked grass
- Cocksfoot
- Spinach
- Sorghum
- Velvet

Follow recommended soil preparation, application, and incorporation procedures for Gowan Trifluralin. You may apply the tank mix up to 10 days prior to planting. Incorporate the tank mix immediately after application. Apply Gowan Trifluralin/Vermex at these rates:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Vermex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1 1/2</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Fine</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
</tbody>
</table>

* For nutedge, wild velocities, and velvetleaf control, use the higher rate of 3 pints per acre on medium textured soils.
ASTERS - ESTABLISHED

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

Goan Trifluralin can be applied to established asparagus as a single or a split application. In the winter or early spring, apply to asparagus after harvets but before severe emergence. Or, apply to asparagus after harvest in the late spring or early summer before ferning begins. Goan Trifluralin will suppress volunteer seedling asparagus and field bindweed if you use the following recommended rates and application schedules.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Coarse</th>
<th>Medium</th>
<th>Fine</th>
<th>Rate (pints)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td></td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
</tbody>
</table>

FOR THE FOLLOWING CROP GROUPING, USE THE RATE TABLE BELOW

CASTOR BEAN

CELERI - (Direct seeded and transplant in areas receiving less than 20" average annual rainfall.)

COLE CROPS - TRANSPLANT

Apply and incorporate prior to transplanting only. (Broccoli, Brussels Sprout, Cabbage and Cauliflower) See next section for direct seeding.

CORN

PEPPER - TRANSPLANT

Apply and incorporate prior to transplanting only.

SOUTHERN PEAS

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

Soil Texture

<table>
<thead>
<tr>
<th>Coarse</th>
<th>Medium</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
</tbody>
</table>

*Use 1 1/2 pint per acre on coarse and medium textured soils and 2 pints per acre on fine soils with 2.51 organic matter. Use 2 pints 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 Goan Trifluralin before planting at a broadcast rate of 1 1/2 pints per acre on coarse and medium soils and 1 1/2 pints on fine soils with 2.51 organic matter. Direct-seeded cole crops have exhibited marginal tolerance to recommended rates of Goan Trifluralin. Stunting or reduced stands may occur.

CUCURBITS - POSTPLANT EMERGED (Cantaloupe, Cucumber, and Watermelon)

Western United States including Texas:

Apply as a directly spray to the soil between the rows and beneath plants which are 3 to 4 true leaf age.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Coarse</th>
<th>Medium</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
</tbody>
</table>

*Use 1 1/2 pints per acre on coarse and medium textured soils and 2 pints per acre on fine soils with 2.51 organic matter; use 2 pints on all soils with 5-10% organic matter.

GOWAN TRIFLURALIN - YIELD

Apply and incorporate before planting using the following rates:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Coarse</th>
<th>Medium</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
</tbody>
</table>

*APPLICATION DIRECTIONS - Goan Trifluralin should be applied and incorporated at the recommended rates for the soil texture when the crop is well established (6 inches or taller). Goan Trifluralin may be applied either as an over-the-top spray or as a directed spray. Drop nozzles should be used if foliage prevents uniform coverage of soil surface. Soil incorporation may be accomplished with one pass of a sweep-type cultivator or a properly adjusted rolling cultivator. The sweep-type cultivator should have 3 to 5 sweeps per you middle and be operated at 6 to 8 mph. Set the middle sweeps to as to
Cowan Trifluralin®/Eptan tank mix (Spanish Peanut in Texas and Oklahoma):
Cowan Trifluralin®/Eptan tank mix effectively controls these weeds listed for Cowan Trifluralin® alone plus these additional weeds:
- Purple nutsedge (mounted)
- Collardweed
- Yellow nutsedge (mountas)
- Velutinweed

Annual morning glory

Follow recommended soil preparation procedures for Cowan Trifluralin®. You may apply the tank mix up to 10 days prior to planting. Incorporate the tank mix immediately after application. Apply the tank mix at these rates:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Cowan Trifluralin®</th>
<th>Eptan 7E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>3/4 – 1</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1 – 1 1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Fine</td>
<td>1 1/2 – 2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Precautions:**
Do not use this tank mix both before and after planting in the same season. Check the Eptan label before using. Observe all cautions and limitations of products used in mixtures. Do not use foliage from treated crops for feed or fertilizer.

PEANUT - (Spanish Peanut in Texas and Oklahoma):
Apply and incorporate Cowan Trifluralin® before planting at a broadcast rate of 3/4 pint per acre on coarse soil. When incorporating after planting, take care not to disturb the seed.

**Soil Texture** | Cowan Trifluralin® | Eptan 7E |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>3/4 – 1</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1 – 1 1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Fine</td>
<td>1 1/2 – 2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Precautions:**
Do not use this tank mix both before and after planting in the same season. Check the Eptan label before using. Observe all cautions and limitations of products used in mixtures. Do not use foliage from treated crops for feed or fertilizer.
SUGARCANE - Applications up to laity for plant cane or ratoon cane grown in Louisiana or Texas.
Apply and incorporate Gowan Trifluralin at a broadcast rate of 2 to 4 pints per acre for all soil textures. Do this in the spring from February to April in Texas and from March to May in Louisiana. Apply the Gowan Trifluralin before the beds have been shaved or false-shaved. Loosen rain-packed beds 2 to 3 inches deep before application. Be careful that incorporation machinery does not damage pieces or emerging shoots. You may use a rolling cultivator or bed chopper to incorporate laity applications in sugarcane on all soil textures. Follow normal incorporation directions for the rolling cultivator. Use a bed chopper to cut 3 to 4 inches deep and operate at 4 to 6 mph. Two incorporation passes are necessary.

SUNFLOWER - Gowan Trifluralin 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 for Gowan Trifluralin.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Amiben 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1 pint</td>
<td>1 pint</td>
</tr>
<tr>
<td>Medium</td>
<td>1 1/2 pints</td>
<td>2 pints</td>
</tr>
<tr>
<td>Fine</td>
<td>2 pints</td>
<td>3 pints</td>
</tr>
</tbody>
</table>

#For best control of mustard, common ragweed or black nightshade, use the 6 quart rate.

In coarse-textured soils, heavy rains on the incorporated Amiben may move it below the weed seed germination zone, and erratic weed control may result. If sufficient rain does not fall within 7 days after pre-emergence application of Amiben, but there is enough soil moisture and the weeds are established in grassy and weedy fields, a light cultivation with a rotary hoe or similar tool will uproot these small grassy fields and weeds. The shallow mixing of Amiben in the surface soil will not interfere with the action of Amiben when rains come.

SUNFLOWER - Gowan Trifluralin/Amiben tank mix or overlay

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

Amiben may be applied in a tank mix or overlay prior to planting. The tank mix is composed of mustard, smartweed, velvetleaf, and ragweed control in addition to those weeds controlled by Gowan Trifluralin alone.

Apply Gowan Trifluralin/Amiben or Gowan Trifluralin with an Amiben overlay at the following broadcast rates per acre:

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Amiben 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1 pint</td>
<td>1 pint</td>
</tr>
<tr>
<td>Medium</td>
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<td>3 pints</td>
</tr>
</tbody>
</table>

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SUNFLOWER - Gowan Trifluralin/Eptan tank mix for weed control in sunflowers in the states of Wisconsin, North Dakota and South Dakota

Gowan Trifluralin/Eptan (EPTe) may be tank mixed and preplant incorporated for weed control in sunflower.

The tank mix controls the following annual and perennial weeds to those controlled by Gowan Trifluralin alone:

- Annual Weeds
  - Ryegrass (Italian)
  - Ryegrass (Italian)
  - Mustard, common ragweed or black nightshade
  - Spurvy, corn
  - Volunteer grasses
  - Wild oats
  - Nettlesedge, goosefoot
  - Morningglory, annual
  - Shepherds purse
  - Pigweed, tumble

- Perennial Weeds
  - Berseegrass
  - Barnyardgrass

Follow recommended soil preparation, application and incorporation procedures for Gowan Trifluralin. Apply and immediately incorporate the tank mix prior to planting in the spring. The tank mix may also be applied in the late fall before the ground freezes.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Eptan 70</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1 pint</td>
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<tr>
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<tr>
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<td>3 pints</td>
</tr>
</tbody>
</table>

#For best control of mustard, common ragweed or black nightshade, use the 6 quart rate.

In coarse-textured soils, heavy rains on the incorporated Amiben may move it below the weed seed germination zone, and erratic weed control may result. If sufficient rain does not fall within 7 days after pre-emergence application of Amiben, but there is enough soil moisture and the weeds are established in grassy and weedy fields, a light cultivation with a rotary hoe or similar tool will uproot these small grassy fields and weeds. The shallow mixing of Amiben in the surface soil will not interfere with the action of Amiben when rains come.

SUNFLOWER - Gowan Trifluralin/Eptan tank mix for weed control in sunflower in the states of Wisconsin, North Dakota and South Dakota

Gowan Trifluralin/Eptan (EPTe) may be tank mixed and preplant incorporated for weed control in sunflower.

The tank mix controls the following annual and perennial weeds to those controlled by Gowan Trifluralin alone:

- Annual Weeds
  - Ryegrass (Italian)
  - Ryegrass (Italian)
  - Mustard, common ragweed or black nightshade
  - Spurvy, corn
  - Volunteer grasses
  - Wild oats
  - Nettlesedge, goosefoot
  - Morningglory, annual
  - Shepherds purse
  - Pigweed, tumble

- Perennial Weeds
  - Berseegrass
  - Barnyardgrass

Follow recommended soil preparation, application and incorporation procedures for Gowan Trifluralin. Apply and immediately incorporate the tank mix prior to planting in the spring. The tank mix may also be applied in the late fall before the ground freezes.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Eptan 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1 pint</td>
<td>1 pint</td>
</tr>
<tr>
<td>Medium</td>
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<td>2 pints</td>
</tr>
<tr>
<td>Fine</td>
<td>2 pints</td>
<td>3 pints</td>
</tr>
</tbody>
</table>

#For best control of mustard, common ragweed or black nightshade, use the 6 quart rate.

In coarse-textured soils, heavy rains on the incorporated Amiben may move it below the weed seed germination zone, and erratic weed control may result. If sufficient rain does not fall within 7 days after pre-emergence application of Amiben, but there is enough soil moisture and the weeds are established in grassy and weedy fields, a light cultivation with a rotary hoe or similar tool will uproot these small grassy fields and weeds. The shallow mixing of Amiben in the surface soil will not interfere with the action of Amiben when rains come.

SUNFLOWER - Gowan Trifluralin/Eptan tank mix for weed control in sunflower in the states of Wisconsin, North Dakota and South Dakota

Gowan Trifluralin/Eptan (EPTe) may be tank mixed and preplant incorporated for weed control in sunflower.

The tank mix controls the following annual and perennial weeds to those controlled by Gowan Trifluralin alone:

- Annual Weeds
  - Ryegrass (Italian)
  - Ryegrass (Italian)
  - Mustard, common ragweed or black nightshade
  - Spurvy, corn
  - Volunteer grasses
  - Wild oats
  - Nettlesedge, goosefoot
  - Morningglory, annual
  - Shepherds purse
  - Pigweed, tumble

- Perennial Weeds
  - Berseegrass
  - Barnyardgrass

Follow recommended soil preparation, application and incorporation procedures for Gowan Trifluralin. Apply and immediately incorporate the tank mix prior to planting in the spring. The tank mix may also be applied in the late fall before the ground freezes.

Broadcast Rates Per Acre

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Gowan Trifluralin</th>
<th>Eptan 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>1 pint</td>
<td>1 pint</td>
</tr>
<tr>
<td>Medium</td>
<td>1 1/2 pints</td>
<td>2 pints</td>
</tr>
<tr>
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For direct-seeded tomatoes, apply Gowan Trifluralin at blocking or transplanting as a directed spray to the soil between rows and beneath the plants, and incorporate. For transplant tomato, apply and incorporate before transplanting. Do not apply after transplanting.

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Coarse</th>
<th>Medium</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas receiving &lt; 20&quot; annual rainfall</td>
<td>1/4 pint</td>
<td>1/2 pint</td>
<td>1 pint</td>
</tr>
<tr>
<td>Areas receiving 20&quot; to 24&quot; annual rainfall</td>
<td>1/2 pint</td>
<td>3/4 pint</td>
<td>1 pint</td>
</tr>
</tbody>
</table>

**FRUIT AND NUT CROPS AND VINEYARDS**

**FRUIT AND NUT CROPS AND VINEYARDS** - Rhizome johnsongrass control:

- **For areas receiving less than 20" annual rainfall.**
- You can obtain commercially acceptable control of rhizomejohnsongrass by incorporating Gowan Trifluralin incorporated in bearing and non-bearing established plantings of vineyards and almond, apricot, grapefruit, lemon, nectarine, orange, peach, plum, prune, tangelo, tangerine and walnut trees with a commercially acceptable rate for all soil textures. Do not apply to vineyards within 60 days of harvest.

**FRUIT AND NUT CROPS AND VINEYARDS** - Bidweed control in California:

Gowan Trifluralin can be used to control bidweed in vineyards, and for almond, apricot, grapefruit, lemon, nectarine, orange, peach, prune, tangelo, tangerine and walnut trees.

**FRUIT AND NUT CROPS AND VINEYARDS** - **Spray Equipment:** This operation requires a spray blade capable of running 4 to 6 inches below the surface of the soil. The spray blade should be equipped with nozzles located under the blade and directed so that the spray will be trapped under the soil which is flowing over the blade as it is pulled through the soil. Use a sufficient number of nozzles with spacing that will uniformly apply the Gowan Trifluralin underground in a thin, horizontal layer.

**Application** - Apply in 40 to 80 gallons of water per acre. Operate the spray equipment at a depth of 4 to 6 inches.

**Precautions:** Some soils develop cracks as they dry after rainfall or irrigation. Yield reduction may occur if the cracks extend through the Gowan Trifluralin layer. Prevent or eliminate cracks by shallow discing or other tillage. Deep tillage will also disturb the subsoil layer. Siltation or tillage should not be done prior to planting. Gowan Trifluralin under the soil will control germinating seeds.

**WEAT (WINTER)** - (Idaho, Montana, Oregon, and Washington)

Gowan Trifluralin may be applied for preplant or preemergence control of weeds and annual grasses and broadleaf weeds controlled by Gowan Trifluralin. The growth, development, and yield of winter wheat will not be adversely affected, provided the seed is placed below the zone of soil treated with Gowan Trifluralin.

**Application** - Broadcast during a period of 1 to 2 days immediately prior to planting. Do not seed the soil to a disc or a tine after the Gowan Trifluralin has been incorporated with a flexible tillage barrow.

**Precautions:** Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and development.

**WEAT (WINTER)** - Fallow soil application in Washington and Oregon:

Gowan Trifluralin applied and shallowly incorporated into the soil up to four months ahead of planting will control grasses and certain annual grasses and broadleaf weeds. The growth, development, or yield will not be adversely affected as long as the soil has been incorporated with a flexible tillage barrow.

**SEEDING DIRECTIONS:**

- Use a deep furrow or semi-deep furrow drill that will place the seed below the zone of soil into which Gowan Trifluralin has been incorporated.

**Precautions:** Wheat planted in direct contact with treated soil may suffer crop injury in the form of delayed emergence and development.

**WEAT (SPRING)** - Durum and Barley - Gowan Trifluralin Alone

Gowan Trifluralin is recommended as a postplant incorporated treatment to control foxtail (pigeongrass):

- **Application** - Apply Gowan Trifluralin at a broadcast rate of 1 pint per acre on all soil types each year for 2 years in a row. Do not apply to vineyards and within 60 days of harvest.

**INCORPORATION:**

- Incorporate thoroughly with a disk set to cut 4 to 6 inches deep and operate at 4 to 6 mph. Two incorporation passes are necessary, with the second pass in a different direction from the first.

**Germination:**

- Some johnsongrass plants will escape. Timely cultivation is necessary to obtain commercially acceptable control. You cannot obtain commercially acceptable control with only 1 year of Gowan Trifluralin use.

**Precautions:** Do not use the 2 pint rate on new plantings, or crop injury may result. Use on established orchards with other crops. If the treated vineyards and orchards are diverted to other crop uses, plant only those crops for which Gowan Trifluralin has been registered as a preplant treatment for the next cropping season.
1. Chisel plow: May be used for the first pass only. Operate at 4 - 5 inches deep at 4 - 6 mph. A chisel plow is defined as having 3 rows of up to 10-inch sweeps on no greater than 12-inch centers. Stagger sweeps so that no soil is left unturned.

2. Tandem disk: Operate at 3 - 4 inches deep at 4 - 6 mph. A field cultivator is defined as having 3 to 4 rows of sweeps with "c" or "t" shaped tines, spaced 7 inches or less and staggered so that no soil is left unturned.

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 "t" shaped tines, spaced 7 inches or less and staggered so that no soil is left unturned.

Plowing Directions - Wheat, durum, or barley should be approximately 2 inches deep.

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

FERTILIZER USE DIRECTIONS
APPLICATION WITH LIQUID FERTILIZERS
Gowan Trifluralin may be mixed with most liquid fertilizer materials. The combination of solutions and suspension-type fertilizers has produced excellent grass and control equal to the same rates of Gowan Trifluralin applied in water. Follow Gowan Trifluralin label recommendations regarding rates per acre, crops, incorporation directions, special instructions, caution, and special precautions. Individual state regulations relating to liquid fertilizer mixing, registration, labeling, and applications are the responsibility of the individual and/or company selling the fertilizer and chemical mixture.

Testing for Tank Mix Compatibility in Liquid Fertilizers:
Gowan Trifluralin alone or in tank mixture with dry fluracide, imidazolinone (IP), aqueous suspensions (AS), liquid (L), or solutions (S) may not combine properly with some fertilizer formulations. Small quantities should always be tested before full-scale mixing. This will determine whether a compatibility agent is needed, and which agent does the best job. The seven agents listed below have been thoroughly tested. There are many other surfactants on the market which were not designed for use with liquid fertilizers. Use the following test to select the correct agent for your mixture.

1. Quarter pint of the liquid fertilizer in a quart jar.
2. Add 1 to 4 teaspoonful (s) of the dry fluracide, AS, F, or L formulation (dependent on the recommended rate per acre) to the liquid fertilizer. Close jar and agitate until the materials are dispersed evenly in the fertilizer. If the materials do not disperse well, it may be necessary to alter the chemicals in water before adding to the fertilizer.
3. After dispersing the materials (Step 2), add 3 to 4 teaspoonful of Gowan Trifluralin to the jar, agitate well. Add solution herbicides to the mixture last and agitate. Observe for about 10 minutes. If the materials rise to the surface and form a thick layer (only curds) which will not disperse when agitated, a compatibility agent is needed. If the mixture is easily dispersed to its original state with slight agitation, no agent is needed but good agitation must be provided in the fertilizer spray tank.
4. If the need for a compatibility agent is shown in Step 3, using a clean quart jar, start at Step 1 above, add 4 teaspoonful of the compatibility agent to the liquid fertilizer, mix well, then repeat Steps 2 and 3. An effective compatibility agent will cause the mixture to remain uniformly mixed with little or no separating or oil rising to the surface for a period of 6 hours or longer. If slight separation does occur, 2 to 3 inversions of the jar should be sufficient. If oily curds form which will not disperse, more agent or another agent should be tried.

Use the correct mixing size for each test. The compatible mixture will have a uniform appearance and will be relatively easy to keep mixed with gentle agitation of the jar.

ONIONS (Grown for Dry Bulbs Only):
Application Directions - Apply Gowan Trifluralin as a directed spray to the soil between the onion rows. Avoid spraying the onion tops or exposed bulbs.

Preharvest interval - Do not apply within 60 days of harvest.

Application Directions - Apply Gowan Trifluralin as a directed spray to the soil between the onion rows. Avoid spraying the onion tops or exposed bulbs.

Preharvest interval - Do not apply within 60 days of harvest.
LIQUID FERTILIZER MIXING INSTRUCTIONS

Gowan Trifluralin in liquid fertilizer

Emulsifiable concentrates, such as Gowan Trifluralin, can be mixed with liquid fertilizers. In all cases, continuous agitation is required to prevent the Gowan Trifluralin from rising to the surface as an oily layer. When necessary, see Testing for Tank Mix Compatibility for Low Solubility Inorganic Fertilizers. Abundant a compatibility agent can be used to cause the Gowan Trifluralin to emulsify properly (i.e., have a milky appearance rather than an oily layer). The use of compatibility agents is especially important when tank mixing emulsifiable concentrates (EC) with dry flowable or liquid concentrates to form non-oiling mixtures with liquid fertilizers. These compatibility agents can be used at rates as low as 1/2 to 2 pints per ton of liquid fertilizer and should be mixed well with the fertilizer before adding the liquid concentrate. Read the label on the compatibility agent and follow the directions.

1. Sponate 16BD (Witco Chemicals Co., Chicago, IL)
2. Compert (Farn Chemicals, Inc., Aberdeen, NC)
3. Unite (Hopkins & Chemical, Madison, WI)
4. T-Muls 73–2 (Thompson-Hayward Chemical Co.)
5. Rigol Compatibility Agent (Rigol Company, Buckner, KY)
6. Amoco Spray Rate (Amoco Oil Co., Chicago, IL)
7. Kem-Link (Universal Coop, Minneapolis, MN)

All of the above are phosphate, water-type surfactants designed to be used with liquid fertilizers. They usually do not work as compatibility agents in tank mixtures in plain water.

APPLICATION - Spread the fertilizer/pesticide mixture with a properly calibrated applicator. Be certain the material is applied uniformly to the soil surface.

INTEGRATION - Follow normal Gowan Trifluralin incorporation procedures.

Gowan Trifluralin APPLICATION WITH DRY BULK FERTILIZERS

Dry bulk fertilizers may be incorporated or coated with Gowan Trifluralin. Application of dry bulk fertilizers impregnated with Gowan Trifluralin has provided weed and grass control equal to the area rates of dry fertilizer applied in water.

All Gowan Trifluralin label recommendations regarding rates per acre, approved crops, incorporation, special instructions, cautions, and special precautions must be followed. Apply a minimum of 200 pounds per acre of dry fertilizer impregnated with Gowan Trifluralin at the recommended rates. Any commonly used dry fertilizers can be used for Gowan Trifluralin impregnation, except coated ammonium nitrate and straight nitrate. These materials will not absorb the herbicide. Blends containing mixtures of these materials can be impregnated.

Impregnation - Use any closed drum, belt, ribbon or other commonly used dry bulk fertilizer blender. Apply Gowan Trifluralin uniformly to the fertilizer.

Rates - Check specific crop recommendations for the rate of Gowan Trifluralin per acre. See the rate table which follows to determine the amount of Gowan Trifluralin to be impregnated into a ton of dry bulk fertilizer based on the amount of fertilizer which will be applied per acre. (See chart below)

Application - Spread the fertilizer/chemical mixture with a properly calibrated applicator. Be certain the material is applied uniformly to the soil surface.

INTEGRATION - Follow normal Gowan Trifluralin incorporation procedures.

RATE CHART FOR INTEGRATING FERTILIZER WITH GOWAN TRIFLURALIN

(Gowan Trifluralin Added to a TON of Fertilizer)

<table>
<thead>
<tr>
<th>Fertilizer Rate Per Acre</th>
<th>Gowan Trifluralin Rate Per Acre</th>
<th>Rate Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pint</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 qts per ton</td>
<td>1½ qts per ton</td>
<td>6 qts per ton</td>
</tr>
<tr>
<td>10 qts per ton</td>
<td>2½ qts per ton</td>
<td>8 qts per ton</td>
</tr>
<tr>
<td>15 qts per ton</td>
<td>3½ qts per ton</td>
<td>10 qts per ton</td>
</tr>
<tr>
<td>20 qts per ton</td>
<td>4½ qts per ton</td>
<td>12 qts per ton</td>
</tr>
<tr>
<td>30 qts per ton</td>
<td>6½ qts per ton</td>
<td>16 qts per ton</td>
</tr>
<tr>
<td>40 qts per ton</td>
<td>8½ qts per ton</td>
<td>20 qts per ton</td>
</tr>
<tr>
<td>450 pounds</td>
<td>2½ qts per ton</td>
<td>9 qts per ton</td>
</tr>
</tbody>
</table>

For rates other than those listed above, use the following formula to calculate the amount of Gowan Trifluralin to be impregnated on a ton of dry bulk fertilizer:

Fertilizer X Lbs. Fertilizer = TRIFLURALIN PER TON OF FERTILIZER

SPECIAL PRECAUTIONS

Applied according to directions and under normal growing conditions, Gowan Trifluralin will not harm the treated crop. Overapplication may result in crop injury or a soil residue. Uneven application or slow soil incorporation of Gowan Trifluralin can result in erratic weed control or crop injury. Seedling disease, cold weather, deep planting, excessive moisture, high salt concentration or drought and the possibility of crop injury. Sorgbhum (mil), peanuts, sugar beets, or alfalfa should not be planted for 12 months after a spring application or for 14 months after a fall application. Flow the land to a depth of 12 inches prior to planting sugar beets to prevent the possibility of crop injury. Sorgbhum (mil), peanuts, alfalfa, corn or soybeans should not be planted for 16 months after a spring application or for 18 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.

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

Apply now before planting sugar beets where a spring application of Gowan Trifluralin was made the previous season. Also, no planting restrictions listed in the section on control of rhizomes and other higher rate programs.

Vegetable Growing Areas:

Vegetable crops other than those listed on this label should not be planted within 3 months following the application of Gowan Trifluralin.