

PM-23

Reg # 62719-222

1920

FEB 26 1997

Dennis H. Lade, Ph.D.  
DowElanco  
9330 Zionsville Road  
Indianapolis, IN 46268

Dear Dr. Lacc:

subject: BROADSTRIKE® + TREFLAN®  
EPA Registration No. 62719-222  
Application Dated January 22, 1997, Request  
To Amend Labeling: Revised Safe Pesticide Handling  
Procedures, Revise General Use Precautions on Soybeans,  
Revise Cultivation After Planting, Weeds Controlled,  
Revise Tank Mix, Overlay and Postemergence Recommendations,  
and Minor Editing of Table of Contents

The proposed subject amendments to the label of  
Broadstrike + Treflan have been reviewed and found  
acceptable for registration under the Federal Insecticide,  
Fungicide and Rodenticide Act as amended provided that  
you:

- o Submit one (1) printed copy of your final printed  
before you release it for shipment.

If this condition is not complied with, the registration  
will be subject to cancellation in accordance with FIFRA,  
section 6(e). Your release for shipment of the product  
constitutes acceptance of this condition.

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

Sincerely yours,

Joanne I. Miller  
Product Manager (23)  
Fungicide-Herbicide Branch  
Registration Division (7505C)

Enclosure

CONCURRENCES

SYMBOL	SURNAME	DATE						
		Wilson:Diskette-Thiazopyr: 02-26-97						

2720

(Base label):

(logo) DowElanco

# Broadstrike\*+Treflan\*

**A selective soil applied herbicide for pre-emergence control of annual grass and broadleaf weeds in soybeans.**

**Active Ingredient:**

trifluralin: $\alpha,\alpha,\alpha$ -trifluoro-2,6-dinitro- N,N-dipropyl-p-toluidine .....	36.35%
flumetsulam: N-(2,6-difluorophenyl)-5- methyl-1,2,4-triazolo-[1,5a]- pyrimidine-2-sulfonamide .....	2.67%
Inert Ingredients .....	60.98%
Total .....	100.00%

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
FEB 26 1997**

*Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
62719-222*

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RECL / JPD1

Contains petroleum distillates.

Contains 3.4 pounds of trifluralin and 0.25 pounds of flumetsulam per gallon.

U.S. Patents 4,226,789, 4,954,163 and 4,818,273

## Precautionary Statements

### Hazards to Humans and Domestic Animals

**Keep Out of Reach of Children**

**DANGER PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**Causes Irreversible Eye Damage • Do Not Get in Eyes or on Clothing • Harmful if Swallowed, Inhaled, or Absorbed Through the Skin • May Cause Skin Sensitization Reactions in Certain Individuals**

**Avoid breathing vapors or spray mist and contact with skin, eyes, or clothing.**

### Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category "G" on an EPA chemical resistance category selections chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**BEST AVAILABLE COPY**

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### First Aid

**If in eyes:** Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

**If swallowed:** Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoonfuls) with a large quantity of water. Do not give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.

**If inhaled:** Remove individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, give artificial respiration, preferably cardiopulmonary resuscitation assistance, and get medical attention immediately.

**If on skin:** Immediately wash with plenty of soap and water. Get medical attention if irritation develops.

**Note to Physician:** This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Aspiration of this product may produce a severe pneumonitis. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6-8 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.

### Environmental Hazards

This pesticide is toxic to fish and aquatic invertebrates. 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 areas. Do not contaminate water when disposing of equipment washwater or rinsate.

Flumetsulam has been identified in groundwater sampling from a field research site under vulnerable conditions. There is the possibility that flumetsulam may leach through soil to groundwater, especially where soils are coarse and groundwater is near the surface.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to label booklet for additional precautionary information including Personal Protective Equipment (PPE), User Safety Recommendations and Directions for Use including Storage and Disposal.**

**Notice:** Read the entire label. Use only according to label directions. **Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.**

In case of emergency endangering health or the environment involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Shake Well Before Use

Avoid Freezing – Store Above 40°F

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EPA Reg. No. 62719-222

EPA Est. 00000-XX-00

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## Herbicide

Net Contents XXX

5920

(Datapack cover):

(logo) DowElanco

# Broadstrike\*+Treflan\*

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Contains petroleum distillates.

Contains 3.4 pounds of trifluralin and 0.25 pounds of flumetsulam per gallon.

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EPA Reg. No. 62719-222

EPA Est. 00000-XX-00

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## Herbicide

Net Contents XXX

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**Precautionary Statements**

**Hazards to Humans and Domestic Animals**

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Flumetsulam has been identified in groundwater sampling from a field research site under vulnerable conditions. There is the possibility that flumetsulam may leach through soil to groundwater, especially where soils are coarse and groundwater is near the surface.

### Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

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### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

**Exception:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Shoes plus socks
- Protective eyewear

### Storage and Disposal

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. Store in original container only. Do not store near heat or flame. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site according to label directions described herein 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 incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Container Disposal for Returnable Containers:** Container must be returned to a collection site designated by DowElanco. If the container has been damaged and cannot be returned according to the recommended procedures, contact DowElanco Customer Service Center at 1-800-258-1470 to obtain proper handling instructions.

### General Information

Broadstrike\*+Treflan\* herbicide is a selective soil applied product for preemergence control of annual grasses and broadleaf weeds in soybeans. Broadstrike+Treflan may be applied in water, liquid fertilizer or impregnated on dry bulk fertilizer. To prevent loss of herbicidal activity, Broadstrike+Treflan must be soil incorporated within 24 hours after application. Broadstrike+Treflan controls broadleaf weeds during germination or soon after emergence and grass weeds during germination. Susceptible weeds exposed to Broadstrike+Treflan either die or remain non-competitive with the crop. Adequate soil moisture is necessary for optimal activity, because herbicidal activity of Broadstrike+Treflan on broadleaf weeds involves uptake by both emerging shoots and/or roots. Broadstrike+Treflan may provide residual control of susceptible broadleaf weeds which emerge after application. This product will not harm the crop when applied according to label directions.

When applications are made under adverse conditions or when less susceptible species are treated, weed suppression may be observed. Weed suppression is a visual reduction in weed competition (reduced population, size, and/or vigor) as compared to an untreated area.

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Broadstrike+Treflan may be tank mixed or followed by overlay or postemergence treatments with other herbicides registered for use on soybeans to broaden the spectrum of weeds controlled unless tank mixing or sequential use is specifically prohibited by the tank mix product manufacturer.

### General Use Precautions

#### Safe Pesticide Handling Procedures

- Calibrate sprayers only with clean water away from the well sites.
- Make scheduled checks of spray equipment.
- Assure accurate measurement of pesticides by all operation employees.
- Mix only enough product for the job at hand.
- Avoid over filling the spray tank.
- Do not discharge excess material on soil at a single spot in the field or at the mixing/loading station.
- Dilute and agitate excess spray solution and apply at labeled rates/uses on an approved crop site.
- ~~When + Triple~~ rinsing the pesticide container, be sure to add the rinsate to the spray mix.
- **Sprayer Cleanup:** To avoid injury or exposure to nontarget crops, thoroughly clean all mixing and spray equipment on approved rinse pads or on the field site where an approved crop is to be grown. Do this immediately after application and prior to use on crops other than those registered for use on this label. Spray equipment should be cleaned at the end of each day by the following procedure:
  1. Drain any remaining Broadstrike+Treflan from the spray tank and dispose of according to label disposal instructions.
  2. Hose down the interior surfaces of the tank and fill the tank 1/2 full with water. Recirculate for 5 minutes. Spray part of the mixture through the hoses, boom and nozzles and drain the tank. All rinsate material should be collected in a suitable container and disposed of according to label directions (applied to cropland to be planted to crops recommended in this label) or in a locally approved manner (see "Storage and Disposal" section).
  3. Remove the nozzles and screens and clean separately.
  4. If the spray equipment will be used on crops other than those registered for use on this label, repeat steps 1 and 2 again and thoroughly wash the spray mixture from the outside of spray tank and the boom.
- Placement of mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

#### General Use Precautions

- Use of this product in Suffolk and Nassau counties in the state of New York is prohibited.
- Do not exceed a total application rate of 2.25 pints per acre (0.07 lb a.i. Broadstrike + 0.96 lb a.i. Treflan) in a single crop year.
- Use the lowest end of the application rate range in the use directions on treatment sites where soils have a sand or loamy sand texture throughout the soil profile.
- **Preharvest interval:** An interval of at least 85 days is required between application of Broadstrike+Treflan and soybean harvest.
- Uneven application or improper incorporation of Broadstrike+Treflan can result in erratic weed control or crop injury. Overapplication may result in crop injury or rotational crop damage from soil residue. Conditions such as seedling disease, cold weather, deep planting, excessive moisture, high soil salinity, or drought may weaken crop seedlings and increase the possibility of damage from Broadstrike+Treflan. Under these conditions, delayed crop development or reduced yields may result.

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- ~~In cool, wet calcareous soils with an alkaline soil pH, soybeans may exhibit chlorosis induced by reduced availability of iron. Soybeans growing in calcareous soils or on soils with historically high salt content (soil test results for salinity indicating electrical conductivity greater than 1.0 mmho/cm) may exhibit chlorosis and/or stunting resulting from reduced availability of iron or other micro nutrients essential for normal crop vigor and growth. The presence of soil-active herbicides, such as Broadstrike+Treflan may cause additional stress under these conditions, resulting in enhanced leaf chlorosis and/or crop stunting. This combination of added stress may retard soybean crop recovery, especially under conditions of limited rainfall. In fields with a history of iron chlorosis, growers should plant soybean varieties with tolerance to iron deficient soils. In fields which contain calcareous or high salt content soils and/or have a history of causing iron chlorosis in soybeans, growers should plant soybean varieties with known tolerance to iron deficient soils. On these type soils, the likelihood of crop injury can also be reduced by applying Broadstrike+Treflan 10-14 days prior to planting.~~
- Do not apply Broadstrike+Treflan to soils that are saturated or are subject to prolonged periods of flooding as poor weed control may result.
  - Do not use Broadstrike+Treflan on any crop grown in Pecos county or Reeves county, Texas.
  - Do not apply to areas where the soil pH is greater than 7.8 as this may result in decreased crop tolerance.
  - Do not apply to soils that contain greater than 5% organic matter with a pH below 5.9 or reduced weed control will result.
  - Do not graze or feed treated soybean forage, hay, or straw to livestock.
  - **Chemigation:** Do not apply Broadstrike+Treflan through any type of irrigation system.
  - **Do not aerially apply Broadstrike+Treflan.** Apply with ground equipment only.
  - **Avoid all direct or indirect contact with nontarget plants.** Do not apply near desirable vegetation and allow adequate distance between target area and desirable plants.
  - **Do not apply under conditions which favor runoff or wind erosion of soil containing Broadstrike to nontarget areas. To prevent off-site movement due to runoff or wind erosion:**
    - Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
    - Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered ground.
    - Do not apply to soils when saturated with water.
    - Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.
  - **Do not apply when weather conditions favor drift to nontarget sites. To minimize spray drift to nontarget areas:**
    - Use low pressure application equipment capable of producing a large-droplet spray.
    - Do not use nozzles that produce a fine-droplet spray.
    - Minimize drift by using sufficient spray volume to ensure adequate coverage with large-droplet size sprays.
    - Keep ground-driven spray boom as low as possible above the target surface.
    - Spray when conditions are calm or wind speed is low. Do not spray when wind is gusting or steady wind speed is greater than 10 mph.

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## Rotation Crop Restrictions

Do not rotate to any crop other than soybeans for a minimum of 4 months after application of Broadstrike+Treflan. The following rotational crops may be planted at the indicated interval following application of Broadstrike+Treflan:

Crop†	Rotational Crop interval (months)		
	Group 1: all states except groups 2 and 3	Group 2: MN, ND, and SD	Group 3: AZ, CA, CO, ID, MT, NV, NM, OR, UT, WA, and WY
alfalfa, barley, dry beans, peas, peanuts, wheat	4	4	4
rice	6	6	6
rye	4	6	6
sweet potato	5	5	5
corn (field, silage, seed)	8	8	18
popcorn	9	9	9
tobacco	9	9	9
potato	12	12	12
cotton, sunflower, sweetcorn	18	18	18
oats, proso millet, annual or perennial grass crops or grass mixtures, grain sorghum <sup>2-1</sup>	12	18	18

†Note: Rotation to all other crops requires a 26-month rotation interval and a successful field bioassay.

<sup>2-1</sup>Oats, proso millet, grass crops, and grain sorghum should not be planted for 18 months after application of Broadstrike+Treflan if combined rainfall and irrigation during the previous growing season was less than 20 inches.

**Field Bioassay Instructions:** Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop variety across the field previously treated with Broadstrike+Treflan. Plant the strips perpendicular to the direction Broadstrike+Treflan was applied. The strips should also be located so that different field conditions are encountered, including differences in soil texture, pH, and drainage. If the crop does not show visible symptoms of injury, stand reduction, or yield reduction, the field can be seeded with the test crop in the growing season following the bioassay. If visible injury, stand reduction, or yield reduction occurs, the test crop should not be seeded, and the bioassay must be repeated the next growing season.

## Mixing Directions

### Mixing - Broadstrike+Treflan Alone

Fill spray tank 1/3 to 1/2 full with clean water or liquid fertilizer. Start agitation. Add correct amount of Broadstrike+Treflan and continue agitation while filling tank to required spray volume.

**Precaution:** Do not allow water or spray mixture to back siphon into a water source.

### Mixing - Broadstrike+Treflan Tank Mixes

Vigorous, continuous agitation during mixing, filling, and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture. To prevent foaming during filling, keep end of fill pipe below the surface of the liquid in the spray tank.

**Mixing Order:** Fill the spray tank to 1/4 to 1/3 of the total liquid spray volume required. Start agitation. Add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products.

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Add different formulation types in the following order: Dry flowables; wettable powders; aqueous suspensions, flowables, and liquids.

Maintain agitation and fill spray tank to 3/4 of total spray volume. Add Broadstrike+Treflan and other emulsifiable concentrates (EC) and any solutions (S).

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling, and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

**Premixing:** Dry and flowable formulations may be premixed with water (slurried) and added to the spray tank through a 20- to 35-mesh screen. This procedure assures good initial dispersion of these products in liquid fertilizer or water.

Line screens in the spray tank should be no finer than 50-mesh (100-mesh is finer than 50-mesh).

### Liquid Fertilizer Mixing Instructions

Broadstrike+Treflan can be applied in liquid fertilizer. In all cases, continuous agitation is required. A compatibility agent must be used to ensure that Broadstrike+Treflan mixes properly. The use of appropriate compatibility agents is especially important when tank mixing Broadstrike+Treflan and other dry flowables, wettable powders, flowables, liquids, aqueous suspensions, or solutions with emulsifiable concentrates in liquid fertilizers. If the emulsifiable concentrate formulation rises to the surface of the fertilizer as an oil ("oils out"), the oil may combine with the wettable powder, flowable, or suspension to form oily curds (viscous phase) which are difficult to disperse. A jar test, utilizing relative proportions of the tank mix ingredients is recommended prior to mixing with liquid fertilizers.

### Testing for Compatibility in Liquid Fertilizers

Broadstrike+Treflan alone or in tank mix combination with dry flowables (DF); wettable powders (WP); aqueous suspensions (AS), flowables (F), liquids (L), or solutions (S) may not combine properly with some fluid fertilizer materials. Small quantities should always be tested before full-scale mixing. Follow the testing procedure below to determine if a compatibility agent is needed and which one works best in your herbicide/fertilizer mixture. The seven compatibility agents listed at the end of this section have been thoroughly tested. Other surfactants commercially available may or may not be suitable for use with liquid fertilizers.

### Testing Procedure:

1. Add 1 pint of the liquid fertilizer to a quart jar.
2. Add 1 to 4 teaspoon(s) of the DF, WP, AS, F, or L formulation (depending on mixing ratio required) to the liquid fertilizer. Close the jar and agitate until the materials are evenly dispersed in the liquid fertilizer. If the materials do not disperse well, it may be necessary to slurry the chemicals in water before adding to the fertilizer.
3. After dispersing the materials (step 2) add 3 to 4 teaspoons of Broadstrike+Treflan to the jar and shake well. Add solution herbicides to the mixture last and agitate. Observe the jar for about 10 minutes. If materials rise to the surface and form a thick oily layer that will not redisperse when agitated, a compatibility agent is needed. If the mixture is easily redispersed with slight agitation, a compatibility agent is not required. Good agitation, however, must be provided to maintain dispersion in the spray tank.
4. If the need for a compatibility agent is demonstrated (step 3) the following procedure is recommended: Using a clean quart jar repeat step one above and add 1/2 teaspoon of the compatibility agent to the liquid fertilizer. Mix well and then repeat steps 2 and 3.

An effective compatibility agent will cause the mixture to remain uniformly dispersed with little or no separation (oil rising to the surface) for one half hour or longer. If slight separation occurs, 2 to 3 inversions of the jar should be sufficient to uniformly redisperse the mixture. If oily layer forms and will not redisperse, additional compatibility agent or an alternative compatibility agent should be tried.

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Use a clean jar for each test. A compatible mixture will have a uniform appearance and will be relatively easy to redisperse with gentle agitation of the jar.

**Compatibility Agents:** The phosphate ester-type surfactants listed below are designed for use with liquid fertilizers and can be mixed at rates as low as 1 1/2 to 2 pints per ton of liquid fertilizer. Add the compatibility agent just before adding pesticides.

1. Sponto 168D (Witco Chemicals Co., Chicago, IL)
2. Compat (Farm Chemicals, Inc., Aberdeen, NC) (Not registered for use in California)
3. Unite (Hopkins Ag Chemical, Madison, WI)
4. T-Multz 734-2 (Thompson-Hayward Chemical Co., Kansas City, MO) (Not registered for use in California)
5. Rigo Compatibility Agent (Rigo Company, Buckner, KY)
6. Amoco Spray Mate (Amoco Oil Co., Chicago, IL) (Not registered for use in California)
7. Kem-Link (Universal Coop, Minneapolis, MN)

Compliance with federal and state regulations relating to liquid fertilizer mixing, registration, labeling, and application are the responsibility of the individual and/or company offering the fertilizer or chemical mixture for sale.

**Precautions:**

- Do not use the compatibility agents listed above for tank mixes applied in water.
- Read the compatibility agent label for use directions and precautions before use.

**Application Methods**

**Ground Application**

Apply Broadstrike+Treflan in 10 to 40 gallons of liquid carrier per acre (broadcast basis), using properly calibrated, low pressure ground spray equipment that will apply the spray uniformly. As spray volume decreases, the importance of accurate calibration and uniform application increases. Check calibration and uniformity of spray application daily. To avoid spray drift, do not apply when winds are gusting or when wind speed is great enough to cause non-uniform application or spray drift. Do not aerially apply.

**Application With Dry Bulk Fertilizer**

Dry bulk fertilizers impregnated or coated with Broadstrike+Treflan may be applied as a preplant incorporated treatment on approved crops. All relevant Broadstrike+Treflan label recommendations regarding application rates, incorporation directions, special instructions, and precautions must be followed. Read and follow all label instructions below concerning Broadstrike+Treflan use with dry bulk fertilizer.

Use the following formula to calculate the amount of Broadstrike+Treflan required to impregnate a ton of dry bulk fertilizer.

$$\begin{matrix} \text{Pints of} \\ \text{Broadstrike+Treflan} \\ \text{Per Acre} \end{matrix} \times \frac{2,000}{\begin{matrix} \text{Pounds of Fertilizer} \\ \text{Per Acre} \end{matrix}} = \begin{matrix} \text{Pints of} \\ \text{Broadstrike+Treflan} \\ \text{Per Ton of Fertilizer} \end{matrix}$$

**Limitations:** Apply a minimum of 200 pounds per acre of dry fertilizer impregnated with Broadstrike+Treflan at the recommended broadcast rate per acre. Any commonly used dry fertilizer can be used for Broadstrike+Treflan impregnation except coated ammonium nitrate and pure limestone. 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. Nozzles used to apply Broadstrike+Treflan to dry bulk fertilizer should be placed to provide uniform spray coverage. Add water to the Broadstrike+Treflan to give a total volume of at least 6 pints per ton of fertilizer.

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**Application and Incorporation:** Spread the fertilizer/chemical mixture with properly calibrated application equipment. Be certain the material is applied uniformly to the soil surface. Broadstrike+Treflan should be incorporated 2 times when impregnated on dry bulk fertilizer. The first incorporation should occur within 24 hours after application. The second incorporation should be delayed 3 to 5 days after the first and be completed prior to planting.

**Compliance with Federal and State Regulations:** Compliance with federal and state regulations relating to blending pesticide mixtures with dry bulk fertilizer, registration, labeling, and application are the responsibility of the individual and/or company offering the fertilizer or chemical mixture for sale.

### **Soil Preparation and Incorporation**

**General Soil Conditions:** Ground cover, such as crop residues or existing weeds, can interfere with uniform soil incorporation of Broadstrike+Treflan. A manageable level of ground cover will allow uniform incorporation into the top 2 to 3 inches of soil. Ground cover and crop residues, if excessive, should be reduced by appropriate soil tillage prior to application.

The soil surface should be smooth enough to allow for uniform application and thorough incorporation. Break up clods using tillage equipment prior to application or apply when soil moisture is sufficient to allow the breakup of large clods and uniform mixing during the incorporation process. Soil compaction and/or non-uniform incorporation may occur if soil is excessively moist.

**Soil Incorporation:** Broadstrike+Treflan must be incorporated within 24 hours after application. Use incorporation equipment that thoroughly and uniformly mixes Broadstrike+Treflan into the top 2 to 3 inches of the seedbed, or erratic weed control and/or crop injury may result.

Control of dense weed populations will usually require two incorporation passes, with the second pass occurring at an angle to the first pass. The second pass should be no deeper than the first or untreated soil will be brought to the surface resulting in reduced weed control. Avoid application and incorporation when soils are too wet for thorough soil mixing. Under conditions of heavy weed density, sequential application of a postemergence herbicide or mechanical cultivation may be required to achieve complete weed control.

#### **Application Prior to Bedding**

Apply Broadstrike+Treflan and thoroughly mix into the top 2 to 3 inches of soil. The bedding operation provides additional mixing. Do not expose untreated soil.

#### **Application After Bedding**

Knock off beds to planting height before applying Broadstrike+Treflan. Apply and incorporate Broadstrike+Treflan with recommended equipment that will conform to the shape of the bed. Do not expose untreated soil.

#### **Cultivation After Planting**

Adequate soil moisture is required for optimal weed control. Sufficient water to moisten the soil to a depth of 2 inches is generally adequate. If dry conditions persist following an application of Broadstrike+Treflan application, a shallow cultivation is recommended. Limit depth of cultivation to the zone of treated soil (2-3 inches) to avoid moving untreated soil to the surface. Exposure of untreated soil may result in loss of weed control.

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### Incorporation Equipment

Use incorporation equipment capable of thoroughly mixing Broadstrike+Treflan uniformly into the top 2 to 3 inches of the final seedbed. Use of inappropriate equipment or improper use of recommended equipment may result in erratic weed control and/or crop injury. Incorporation equipment such as a tandem disc will mix Broadstrike+Treflan approximately half as deep as the equipment is set to operate. For example, a disc set to cut 4 inches deep will mix most of the Broadstrike+Treflan within the top 2 inches of soil. Any recommended incorporation implement may be used alone or in combination with any other recommended implement. Two incorporations are required under conditions which prevent optimum soil mixing such as excessive trash, roughness, high clay content, or soil moisture.

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

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

**Combination Seedbed Conditioners:** These implements are defined as 3 or more tillage devices combined to operate as a single tillage unit. For example, 2 to 3 rows of field cultivator C- or S-shaped shanks with an effective sweep spacing of 6 to 9 inches, (staggered so that no soil is left unturned), followed by a spike-tooth or flexline harrow, followed by a ground driven reel or basket. Combination implements should be set to cut 3 to 4 inches deep and operated at a minimum of 6 mph.

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

**Bed Conditioner (Do-All):** Set equipment to cut 2 to 4 inches deep and operate at 4 to 6 mph. The do-all should be used only on coarse and medium textured soils.

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

**P.T.O-Driven Equipment (tillers, cultivators, hoes):** Adjust equipment to incorporate Broadstrike+Treflan into the top 2 to 3 inches of the final seedbed with rotors spaced to provide a clean sweep of the soil. P.T.O. equipment should not be operated more than 4 mph.

### Weeds Controlled by Broadstrike+Treflan

#### Grass Weeds:

Common name	Scientific Name
annual bluegrass	<i>Poa annua</i>
barnyardgrass (Watergrass)	<i>Echinochloa crus-galli</i>
brachiaria (Signalgrass)	<i>Brachiaria</i> spp.
bromegrass (Cheatgrass) (Downy brome)	<i>Bromus tectorum</i>
cheat (Chess)	<i>Bromus secalinus</i>
crabgrass (large crabgrass) (smooth crabgrass)	<i>Digitaria</i> spp.



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foxtail	<i>Setaria</i> spp.
(bottlegrass)	
(bristlegrass)	
(giant foxtail)	
(green foxtail)	
(foxtail millet)	
(pigeongrass)	
(robust foxtail)	
(yellow foxtail)	
guineagrass	<i>Panicum maximum</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
jungerice	<i>Echinochloa colonum</i>
oats, wild†	<i>Avena fatua</i>
panicum	
fall panicum	<i>Panicum dichotomiflorum</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
(annual ryegrass)	
Texas panicum	<i>Panicum texanum</i>
(buffalograss)	
(Coloradograss)	
sandbur	<i>Cenchrus incertus</i>
(burgrass)	
sprangletop	<i>Leptochloa filiformis</i>
stinkgrass	<i>Eragrostis cilianensis</i>
(lovegrass)	
shattercane	<i>Sorghum bicolor</i>
(wild cane)	
woolly cupgrass	<i>Eriochloa villosa</i>

†Partial control only

**Broadleaf Weeds:**

Common Name	Scientific Name
anoda, spurred	<i>Anoda cristata</i>
amaranth, Palmer	<i>Amaranthus palmeri</i>
beggarweed, florida	<i>Desmodium tortuosum</i>
carpetweed	<i>Mollugo verticillata</i>
chickweed	<i>Stellaria media</i>
cocklebur, common <sup>††</sup>	<i>Xanthium strumarium</i>
goosefoot	<i>Chenopodium hybridum</i>
henbit	<i>Lamium amplexicaule</i>
jimsonweed <sup>††</sup>	<i>Datura stramonium</i>
knotweed	<i>Polygonum aviculare</i>
kochia	<i>Kochia scoparia</i>
(fireweed)	
(Mexican fireweed)	
mallow, Venice	<i>Hibiscus trionum</i>
morningglory spp. <sup>††</sup>	<i>Ipomoea</i> spp.
mustard, wild	<i>Sinapis arvensis</i>
nightshade spp.	<i>Solanum</i> spp.
ladysthumb	<i>Polygonum persicaria</i>
lambquarters, Common	<i>Chenopodium album</i>

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pigweed	<i>Amaranthus</i> spp.
(carelessweed)	
(prostrate pigweed)	
(redroot)	
(rough pigweed)	
(spiny pigweed)	
puncturevine	<i>Tribulus terrestris</i>
(caltrop)	
(goatweed)	
purslane, Common	<i>Portulaca oleracea</i>
pusley, Florida	<i>Richardia scabra</i>
(Florida purslane)	
(Mexican clover)	
(pusley)	
ragweed, common <sup>††</sup>	<i>Ambrosia artemisiifolia</i>
ragweed, giant <sup>†</sup>	<i>Ambrosia trifida</i>
Russian thistle	<i>Salsola iberica</i>
(tumbleweed)	
sicklepod <sup>††</sup>	<i>Cassia obtusifolia</i>
sida, prickly	<i>Sida spinosa</i>
smartweed, Pennsylvania	<i>Polygonum</i> <i>pennsylvanicum</i>
spurge, nodding	<i>Euphorbia nutans</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
spurge, spotted	<i>Euphorbia maculata</i>
stinging nettle	<i>Urtica dioica</i>
(nettle)	
sunflower, wild	<i>Helianthus annuus</i>
velvetleaf	<i>Abutilon theophrasti</i>
waterhemp, tall	<i>Amaranthus</i> <i>tuberculatus</i>

<sup>†</sup>Partial control only

<sup>††</sup> Control of light to moderate infestations: Control may vary according to weed density and soil conditions at the time of application. The level of control provided by Broadstrike+Treflan on cocklebur, jimsonweed, common ragweed, Florida beggarweed, sicklepod, and morningglory spp. can vary depending on weed density and soil or environmental conditions. Control of moderate to heavy infestations of these weeds may be variable with satisfactory control of higher populations dependent on consistent soil moisture. Consistent control of these weeds may also require a tank mixture or a sequential application of a postemergence herbicide. Control of these weeds may be improved by the following the procedures below:

1. Thoroughly till moist soil to destroy germinating and emerged weeds. ~~This tillage may be used to incorporate Broadstrike+Treflan.~~
2. Thoroughly and uniformly preplant incorporate to a depth of 2 inches utilizing two incorporation passes. Procedures 1 and 2 may be accomplished at the same time when a uniform 2-inch incorporation is achieved.
3. ~~3.~~ Plant crop into moist soil immediately after tillage.
3. ~~4.~~ If irrigation is not possible and rain does not occur after planting, a uniform shallow cultivation weed control may be decreased. Under these situations a uniform shallow cultivation or rotary hoeing is recommended as soon as weeds emerge.

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**Soil Texture Guide for Application Rates**

Broadstrike+Treflan rate recommendations for incorporated treatments are based on "Soil Texture Class" (coarse, medium, or fine) and soil organic matter content. A fine-textured soil (e.g., clay loam) will require a higher application rate than a coarse-textured soil (e.g., loamy sand). In the table below, find the "Soil Texture Class" (coarse, medium, or fine) corresponding to the "Soil Texture" to be treated. Choose the proper rate for each application based on the "Soil Texture Class" and specific crop recommendations. Do not exceed recommended rates.

Soil Texture Class	Soil Texture of Soil to be Treated
Coarse (Light) Soils:	Sand, loamy sand, sandy loam
Medium Soils:	Loam, silty clay loam†, silt loam, silt, sandy clay loam†
Fine (Heavy) Soils:	Clay, clay loam, silty clay loam†, silty clay, sandy clay, sandy clay loam†

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

Approved Uses

**SOYBEANS**

**Broadstrike+Treflan Alone**

Apply Broadstrike+Treflan from 0 to 30 days before planting as a preplant soil incorporated treatment.

**Broadcast Application Rates/Acre:**

Soil Texture	Broadstrike+Treflan (pints)
Coarse	1.50 - 2.00†
Medium	2.00
Fine	2.25

†Use the higher rate in the rate range on coarse soils with greater than 5% organic matter.

**Precautions**

Soybeans should be planted after early season adverse weather conditions have passed. Cool, wet weather early in the growth cycle causes additional stress on the soybean plant which may result in reduced stand, delayed maturity, and reduced yield.

**Tank Mix, Overlay, and Postemergence Recommendations**

**Broadstrike+Treflan in Tank Mix Combination**

Broadstrike+Treflan may be tank mixed with other herbicides such as Sencor, Lexone, or Vernam and applied as a preplant soil incorporated treatment to control additional weeds in soybeans. When Broadstrike+Treflan is tank mixed with a companion herbicide, follow all relevant use directions, including precautions, restrictions, and limitations listed on the manufacturer's label.

**Broadstrike+Treflan Applied Preplant Incorporated Followed by Overlay Treatments  
(Not For Use in California)**

Apply Broadstrike+Treflan as a preplant soil incorporated treatment. Weeds not controlled by Broadstrike+Treflan may be treated using overlay pre-emergence applications of other herbicides such as Lexone, Lorox, or Sencor. Consult the manufacturer's labels for application rates, additional weeds controlled, additional use directions, and precautions before use.

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**Broadstrike+Treflan Applied Preplant Incorporated Followed by Postemergence Treatments  
(Not for Use in California)**

Apply Broadstrike+Treflan as a preplant soil incorporated treatment. Broadleaf weeds not controlled by Broadstrike+Treflan may be treated using postemergence herbicide products such as Basagran, Blazer, Cobra, Galaxy, Reflex, or Storm. For enhanced control of sicklepod, Classic herbicide can be applied postemergence following application of Broadstrike+Treflan. Consult the manufacturer's labels for application rates, additional weeds controlled, additional use directions, precautions, and limitations before use.

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**Warranty Disclaimer**

DowElanco warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. DowElanco MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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**Inherent Risks of Use**

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tomadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of DowElanco or the seller. All such risks shall be assumed by buyer.

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**Limitation of Remedies**

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at DowElanco's election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

DowElanco shall not be liable for losses or damages resulting from handling or use of this product unless DowElanco is promptly notified of such loss or damage in writing. In no case shall DowElanco be liable for consequential or incidental damages or losses.

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