Gem™

Fungicide

For control of certain diseases in citrus, potatoes, rice and sugar beets.

Active Ingredient:

Trifloxystrobin	25.0%
Other Ingredients:	75.0%
Total:	100.0%

EPA Reg. No. 3125-577 Six 2.5-Pound Jugs Per Case

STOP - Read the label before use.
Keep out of reach of children.

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

Personal Protective Equipment

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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 eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
In case of emergency call toll free the Bayer Kansas City Emergency Response Telephone No. 800-414-0244. Have a product container or label with you when calling a poison control center or doctor, or going for treatment.	
Note to Physician: If ingested, induce emesis or lavage stomach. Treat symptomatically.	

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water or rinsate.

Ground Water Advisory

Several trifloxystrobin degradates have properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

PHYSICAL OR CHEMICAL HAZARDS

Do not use, pour, spill, 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.

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

AGRICULTURAL USE REQUIREMENTS

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

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

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 made of any waterproof material
- Shoes plus socks

IMPORTANT: Read these entire DIRECTIONS FOR USE and CONDITIONS OF SALE before using GEM Fungicide.

CONDITIONS OF SALE: THE DIRECTIONS ON THIS LABEL WERE DETERMINED THROUGH RESEARCH TO BE APPROPRIATE FOR THE CORRECT USE OF THIS PRODUCT. THIS PRODUCT HAS BEEN TESTED UNDER DIFFERENT ENVIRONMENTAL CONDITIONS BOTH INDOORS AND OUTDOORS UNDER CONDITIONS SIMILAR TO THOSE THAT ARE ORDINARY AND CUSTOMARY WHERE THE PRODUCT IS TO BE USED. INSUFFICIENT CONTROL OF PESTS OR PLANT INJURY MAY RESULT FROM THE OCCURRENCE OF EXTRAORDINARY OR UNUSUAL CONDITIONS, OR FROM FAILURE TO FOLLOW LABEL DIRECTIONS. IN ADDITION, FAILURE TO FOLLOW LABEL DIRECTIONS MAY CAUSE INJURY TO ANIMALS, MAN, AND DAMAGE TO THE ENVIRONMENT. BAYER OFFERS, AND THE BUYER ACCEPTS AND USES, THIS PRODUCT SUBJECT TO THE CONDITIONS THAT EXTRAORDINARY OR UNUSUAL ENVIRONMENTAL CONDITIONS, OR FAILURE TO FOLLOW LABEL DIRECTIONS ARE BEYOND THE CONTROL OF BAYER AND ARE, THEREFORE, THE RESPONSIBILITY OF THE BUYER.

Not registered for aerial application in New York State.

GENERAL INFORMATION

GEM is a broad-spectrum fungicide for the control of certain diseases in citrus, potatoes, rice and sugar beets. GEM works by interfering with respiration in plant pathogenic fungi. GEM is a potent inhibitor of spore germination and mycelial growth.

UNDER CERTAIN CONDITIONS CONDUCIVE TO EXTENDED INFECTION PERIODS, ADDITIONAL FUNGICIDE APPLICATIONS BEYOND THE NUMBER ALLOWED BY THIS LABEL MAY BE NEEDED. UNDER THESE CONDITIONS, USE ANOTHER FUNGICIDE REGISTERED FOR THE CROP/DISEASE.

Resistance Management

GEM belongs to the strobilurin class of chemistry which exhibits no known cross-resistance to other chemical classes including sterol inhibitors, dicarboximides, benzimidazoles, anilinopyrimidines, or phenylamides. Trifloxystrobin (the active ingredient in GEM) does exhibit cross-resistance to other strobilurin fungicides, such as azoxystrobin and kresoxim-methyl. Fungal pathogens are known to develop resistance to products with the same mode of action when used repeatedly. Because resistance development cannot be predicted, the use of this product should conform to resistance management strategies established for the crop and use area. Such strategies may include rotating and/or tank mixing with products having different modes of action or limiting the total number of applications per season. Bayer encourages responsible resistance management to ensure effective long-term control of the fungal diseases on this label.

Spray Equipment

Thorough coverage is necessary to provide good disease control. Applications using sufficient water volume to provide thorough and uniform coverage generally provide the most effective disease control. For ground application equipment, a minimum of 50 gal/A is recommended for tree crops and 10 gal/A for other crops. For aerial application equipment, a minimum of 10 gal/A is recommended for tree crops and 5 gal/A for other crops.

Air Blast Sprayers

Air assisted or air blast sprayers move spray droplets into the crop canopy using a forced air system. The fan should be set up to deliver only enough air volume to penetrate the canopy and provide good coverage. Adjust deflectors or other aiming devices to direct spray only to the target area.

Equip sprayers with nozzles that provide accurate and uniform application. Check whirl plates and nozzle discs for wear, and replace as necessary. Calibrate the sprayer before use.

Use a pump with a capacity to maintain the correct rated pressure for the nozzles selected. Maintain sufficient agitation to keep the mixture in suspension. Use jet agitators, a liquid sparge tube, or mechanical paddles for agitation.

It is suggested that screens be used to prevent nozzles from clogging. Screens placed after the tank and before the nozzles should be 50-mesh or coarser. Check nozzle manufacturer's recommendations.

Broadcast Ground Sprayers

Equip sprayers with nozzles that provide accurate and uniform application. Be certain that nozzles are the same size and uniformly spaced across the boom. Calibrate the sprayer before use.

Use a pump with the capacity to: (1) maintain a minimum of 35 psi at nozzles, and (2) provide sufficient agitation in the tank to keep the mixture in suspension – this requires recirculation of 10% of the tank volume per minute. Use jet agitators or a liquid sparge tube for vigorous agitation.

Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump should be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh screens at the nozzles. Check nozzle manufacturer's recommendations.

For information on spray equipment and calibration, consult sprayer manufacturer's and/or state recommendations. For specific local directions and spray schedules, consult the current state agricultural experiment station recommendations.

Mixing Procedures

Prepare no more spray mixture than is needed for the immediate operation. Thoroughly clean spray equipment before using this product. **Vigorous agitation is necessary for proper dispersal of the product.** Maintain maximum agitation throughout the spraying operation. Do not let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area.

GEM Alone: Add 1/2 of the required amount of water to the mix tank. With the agitator running, add the GEM to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the GEM has completely and uniformly dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

GEM + Tank Mix Partners: Add 1/2 of the required amount of water to the mix tank. Start the agitator running before adding any tank mix partners. In general, tank mix partners should be added in this order: products packaged in water-soluble packaging*, wettable powders, wettable granules (dry flowables) such as GEM, liquid flowables, liquids, and emulsifiable concentrates. Always allow each tank mix partner to become fully and uniformly dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all of the mixture has been applied.

* **Note:** When using GEM in tank mixtures, all products in water-soluble packaging should be added to the tank before any other tank mix partner, including GEM. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using GEM in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label. No label dosage rate should be exceeded, and the most restrictive label precautions and limitations should be followed. This product must not be mixed with any product which prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are registered.

GEM is compatible with most insecticide, fungicide, and foliar nutrient products. However, the physical compatibility of GEM with tank mix partners should be tested before use. To determine the physical compatibility of GEM with other products, use a jar test, as described below.

Using a quart jar, add the proportionate amounts of the products to 1 qt. of water. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

The crop safety of all potential tank mixes including additives and other pesticides on all crops has not been tested. Before applying any tank mixture not specifically recommended on this label, the safety to the target crop should be confirmed. To test for crop safety, apply GEM to the target crop in a small area and in accordance with label instructions for the target crop.

Aerial Application: Avoid application under conditions when uniform coverage cannot be obtained or when excessive spray drift may occur. Do not apply directly to humans or animals.

Chemigation: Do not apply this product through any type of irrigation system.

Additives: Bayer does not recommend the application of GEM in combination with organosilicate surfactants at any time or crop injury may occur. Bayer does not recommend the application of GEM in tank mix combination with adjuvants (such as non-ionic surfactants, crop oil concentrates, penetrants, spreaders, stickers, etc.) at bloom or crop injury may occur.

Recommendations to Avoid Spray Drift

Do not make applications when conditions favor drift beyond the target application area. When drift may be a problem, take measures to reduce drift, including:

1. Do not spray if wind speeds are or become excessive. Do not spray if wind speed is 15 mph or greater. If nontarget crops are located downwind, use caution when spraying if wind is present. Do not spray if winds are gusty.
2. Use caution when conditions are favorable for drift (high temperatures, drought, low relative humidity).
3. Do not apply when a temperature inversion exists. If inversion conditions are suspected, consult with local weather services before making an application.

USE DIRECTIONS FOR SPECIFIC CROPS

GEM provides control or suppression of several important diseases of citrus, potatoes, rice and sugar beets. When reference is made to disease suppression, suppression can mean either erratic control from good to fair, or consistent control at a level below that obtained with the best commercial disease control products.

ROTATIONAL RESTRICTIONS

Treated areas may be replanted immediately following harvest with any crop listed on this label. For crops not listed on this label, do not plant back within 30 days of last application.

CITRUS			
Disease Control	**Rate oz./Acre**	**Application Timing**	**Notes**
Alternaria (*Alternaria alternata*) Greasy Spot (*Mycosphaerella citri*) Melanose (*Diaporthe citri*) Scab (*Elsinoe fawcettii*) Post Bloom Fruit Drop (PFD) (*Colletotrichum acutatum*)	4.0 to 8.0	Begin applications preventively and continue throughout the growing season using a 7- to 21-day spray interval.	Use the higher rates and shorter intervals when disease pressure is severe. Use of recommended weather-based predictive models may be of benefit in determining the appropriate timing of applications for diseases such as Alternaria and Post Bloom Fruit Drop.
Restrictions: Do not apply more than 32 oz. of GEM per acre per season. Do not apply GEM within 30 days of harvest. To limit the potential for development of disease resistance: • Do not make more than four (4) applications of GEM or other QoIfungicides per season. • Do not make more than three (3) sequential applications of GEM. Then alternate to at least an equal number of sequential applications of labeled, effective non-QoIfungicides with a different mode of action.			

POTATOES			
Disease Control	**Rate Oz./Acre**	**Application Timing**	**Notes**
Early Blight (*Alternaria solani*)	6.0 to 8.0	Begin applications preventively and continue as needed on a 7- to 10-day interval.	Use the higher rates and shorter intervals when disease pressure is severe.
Late Blight (*Phytophthora infestans*)	GEM Tank Mixture: 8.0	Begin applications preventively. Alternate GEM (every other application) with a protectant fungicide for use against late blight on a 7- to 10-day interval. GEM should always be applied in tank mixture with a registered protectant fungicide labeled for use on late blight (use 75% of the protectant fungicide labeled rate) and applied on a 7- to 10-day interval.	Use the shorter interval when disease pressure is severe.
Restrictions: Do not apply more than 48 oz. of GEM per acre per season. Do not apply GEM within 7 days of harvest. To limit the potential for development of disease resistance: • Do not make more than six (6) applications of GEM or other QoIfungicides per season. • Do not make more than two (2) sequential applications of GEM. Then alternate to at least an equal number of sequential applications of labeled, effective non-QoIfungicides with a different mode of action.			

RICE			
Disease Control	**Rate oz./Acre**	**Application Timing**	**Notes**
Sheath/Stem Diseases: Sheath Blight *(Rhizoctonia solani)*	8.0 to 9.8	Apply from panicle differentiation to boot split at initial sign of disease. Rate and timing for sheath blight is dependent on rice growth stage, rice variety and disease severity. Consult with your local extension personnel or Bayer representative to determine if treatment is needed.	Use the higher rates when disease pressure is severe. Up to two applications can be made if conditions warrant.
Panicle Diseases: Rice Blast *(Pyricularia grisea)*	6.4 to 9.8	Begin applications prior to disease development. For panicle blast, an application should be applied at mid-boot to 5% heading (tips of panicles just emerging) but prior to full head emergence. If conditions favor neck blast, a second application should be made when panicles are 60 to 90% emerged from the boot (5 to 14 days later). Consult with your local extension personnel or Bayer representative to determine the best timing for your area.	Use the higher rates and shorter intervals when disease pressure is severe. Two applications are usually necessary for maximum control.
Restrictions: Do not apply more than 19.6 oz. of GEM per acre per crop. Do not apply GEM within 35 days of harvest. Do not apply in rice fields where commercial farming of crayfish will be practiced. Do not drain water from treated rice fields into ponds used for commercial catfish farming, to irrigate other crops, or use of treated water for livestock. To limit the potential for development of disease resistance: • Do not make more than two (2) applications of GEM or other QoIfungicides per season. • Do not make more than two (2) sequential applications of GEM. Then alternate to labeled, effective non-QoIfungicides with a different mode of action.			

SUGAR BEETS			
Disease Control	**Rate oz./Acre**	**Application Timing**	**Notes**
Foliar Diseases: Cercospora Leaf Spot (*Cercospora beticola*) Powdery Mildew (*Erysiphe polygoni*)	6.0 to 7.0	Begin applications preventively and continue as needed on a 10- to 14-day interval. Alternate GEM after each application with a fungicide that has a different mode of action.	Use the higher rates and shorter intervals when disease pressure is severe.
Restrictions: Do not apply more than 21 oz. of GEM per acre per season. Do not apply GEM within 21 days of harvest. To limit the potential for development of disease resistance: • Do not make more than three (3) applications of GEM or other QoIfungicides per season. • Do not make more than one (1) application of GEM before alternating to a labeled effective non-QoIfungicide with a different mode of action for at least one application.			

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If the container is leaking or material spilled for any reason or cause, carefully sweep material into a pile. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away. You may contact the Bayer Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Bayer Kansas City Emergency Response Telephone No. is 800-414-0244 or contact Chemtrec at 800-424-9300.

Pesticide Disposal: Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of federal law. If these wastes cannot be used according to label instruction, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

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

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IMPORTANT

Before using this product, read and carefully observe the directions, cautionary statements and other information appearing on the product packaging label. This product is sold subject to the Conditions of Sale set forth on the container label.