

264-826

4-30-2008

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

APR 30 2008

Mr. Melvin K. Tolliver
Bayer CropScience
2 T.W. Alexander Drive
P.O. Box 12014
Research Triangle Park, NC 27709

Subject: Label Notifications for Pesticide Registration Notice 2007-4

Dear Mr. Tolliver,

The Agency is in receipt of your Applications for Pesticide Notification under Pesticide Registration Notice (PRN) 2007-4 dated March 26, 2008, for the following products:

Bayleton Technical Fungicide	EPA Registration Number 264-736
Bayleton 50% Wettable Powder Fungicide	EPA Registration Number 264-737
Bayleton 50% Concentrate Fungicide	EPA Registration Number 264-740
Flint Fungicide	EPA Registration Number 264-777
Gem Fungicide	EPA Registration Number 264-781
Gem 500 SC Fungicide	EPA Registration Number 264-826
Distinguish 480 SC Fungicide	EPA Registration Number 264-1027

The Registration Division (RD) has conducted its review of these requests for their applicability under PRN 2007-4 and finds that the label changes requested fall within the scope of PRN 2007-4. The labels submitted with the applications have been stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

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If you have any questions, please call me directly at 703-305-6249 or Steve Schaible of my staff at 703-308-9362.

Sincerely,



Linda Arrington
Notifications & Minor Formulations Team Leader
Registration Division (7505P)
Office of Pesticide Programs

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United States
Environmental Protection Agency
 Washington, DC 20460

Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 264-826	2. EPA Product Manager Tony Kish	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Gem 500 SC Fungicide	PM# Team 22	
5. Name and Address of Applicant (Include ZIP Code) Bayer CropScience LP P.O. Box 12014, 2 T.W. Alexander Drive Research Triangle Park, NC 27709 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of label change per PR Notice 2007-4. See attached.

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container

3. Location of Net Contents Information
 Label Container

4. Size(s) Retail Container
32 fluid ounces and 2.5 gallons

5. Location of Label Directions

6. Manner in Which Label is Affixed to Product
 Lithograph Paper glued Stenciled Other _____

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

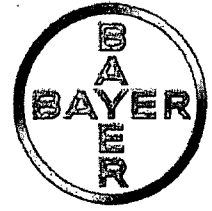
Name Melvin K. Tolliver	Title Registration Product Manager, Fungicides	Telephone No. (include Area Code) (919) 549-2631
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Certification
 I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature <i>Melvin K. Tolliver</i>	3. Title Registration Product Manager, Fungicides	6. Date Application Received (Stamped)
4. Typed Name Melvin K. Tolliver	5. Date March 26, 2008	

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Bayer CropScience



Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
Room S4900
One Potomac Yard
2777 S. Crystal Drive
Arlington, VA 22202

March 26, 2008

Bayer CropScience
2 T.W. Alexander Drive
P. O. Box 12014
RTP, NC 27709
Phone: (919) 549-2000

Subject: Gem 500 SC Fungicide, EPA Reg. No. 264-826
Notification per PR Notice 2007-4

Dear Sir/Madam:

Gem 500 SC Fungicide is currently registered with the Agency for control of fungi infecting a number of crops. With the enclosed application form, we are notifying the Agency of label changes per PR Notice 2007-4.

Since this is a notification, no fee under PRIA is required.

If you have any questions or need additional information, please contact me by phone at (919) 549-2631 or by e-mail at mel.tolliver@bayercropscience.com.

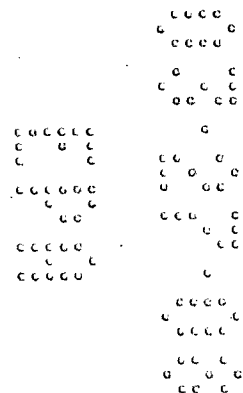
Sincerely,

Melvin K. Tolliver

Melvin K. Tolliver
Registration Product Manager, Fungicides

Enclosure:

1. EPA application form 8570-1
2. Draft labeling with changes highlighted in yellow
3. Final Printed labeling (two copies)



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Highlighted Copy

GROUP 11 FUNGICIDE

Gem™ 500 SC Fungicide

For control of certain diseases in citrus, leafy petiole vegetables, peanuts, potatoes, rice, root vegetables (except radishes), stone fruit, sugar beets, and tree nuts.

Active Ingredient:

Trifloxystrobin 42.6%

Other Ingredients: 57.4%

Contains 4.17 pounds trifloxystrobin per gallon. 100.0%

EPA Reg. No. 264-826

EPA Est. No. 264-MO-02

**STOP - Read the label before use
KEEP OUT OF REACH OF CHILDREN
CAUTION**

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577
For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

FIRST AID

IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 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:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor for treatment advice. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.
<p>For <u>MEDICAL</u> Emergencies Call 24 Hours A Day 1-800-334-7577.</p> <p>Have the product container or label with you when calling a poison control center or doctor or going for treatment.</p>	
<p>NOTE TO PHYSICIAN: Treat Symptomatically.</p>	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if inhaled. Causes moderate eye irritation. Avoid breathing vapor or spray mist and contact with skin or clothing. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

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Personal Protective Equipment (PPE):

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.

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

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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 CropScience Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Bayer CropScience Emergency Response Telephone No. is 1-800-334-7577.

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: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Offer for recycling, if available. If not recycled, then 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.

GENERAL INFORMATION

Gem™ 500 SC Fungicide is a broad spectrum fungicide for the control of certain diseases in tree nuts, citrus, leafy petiole vegetables, peanuts, potatoes, rice, root vegetables (except radishes), stone fruit 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™ 500 SC Fungicide belongs to the QoI (Group 11) target site of action group and exhibits no known cross-resistance to other chemical classes including sterol inhibitors, dicarboximides, benzimidazoles, anilinopyrimidines, or phenylamides. Trifloxystrobin (the active ingredient in GEM) exhibits cross-resistance to other Group 11 fungicides such as azoxystrobin and kresoxim-methyl. When products with the same mode of action are used repeatedly, fungal pathogens can develop resistance to those products. 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 rotation and/or tank mixing with products having different modes of action, or limiting the total number of applications per season.

The North American Fungicide Resistance Action Committee - QoI Working Group (NA-FRAC) recommends: 1) QoI fungicides be used in a preventative manner. 2) When employing tank mixtures for resistance management, use fungicides from different target site Groups that are registered or permitted for the same use, are effective against the pathogen of concern, and are used at not less than the minimum labeled rates of each fungicide in the tank mix. 3) For resistance management purposes, seed treatment or in-furrow applications utilizing Group 11 fungicides are not counted as foliar applications to determine the maximum number of sequential sprays or the total number of sprays per season.

Follow the specific crop recommendations that limit the total number of sprays on a crop and the required alternations with fungicides from other resistance management groups as directed on this label. In situations requiring multiple fungicide sprays, develop season long spray programs for GEM and other Group 11 fungicides. In a program using a Group 11 fungicide as a solo product, the number of applications should be no more than 1/3 of the total number of fungicide applications per season. In programs in which tank mixes or pre-mixes of a Group 11 fungicide together with a fungicide of another Group are utilized, the number of Group 11 fungicide applications should be no more than 1/2 of the total number of fungicide applications per season. In programs in which applications of Group 11 fungicides are made with both solo products and mixtures, the number of Group 11 fungicide applications should be no more than 1/2 of the total number of fungicide applications per season. Bayer CropScience encourages responsible resistance management to ensure effective long-term control of the fungal diseases on this label.

IPM: Applications of fungicides should be integrated into an overall disease and pest management program. Cultural practices known to reduce disease development should be followed. Consult your local extension specialist, certified crop advisor and/or manufacturer representative for additional IPM strategies established for your area. GEM may be used in Agricultural Extension advisory (disease forecasting or risk assessment) programs that recommend application timings based on environmental factors favorable for disease development.

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Product performance: Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen by recording factors that may influence fungicide performance and/or disease development. If a fungicide appears to be less effective against a pathogen that it previously controlled or suppressed, contact a manufacturer representative, local extension specialist, or certified crop advisor for further investigation.

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.

Not registered for aerial application in New York State.

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.

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: Apply GEM through irrigation equipment only to crops and diseases for which the chemigation use is specified. Under preventative or light disease pressures the low rate may be applied. Under moderate disease pressures, apply the highest rate allowed and use the shorter spray intervals.

DIRECTIONS FOR USE THROUGH SPRINKLER IRRIGATION SYSTEMS

Apply this product only through sprinkler irrigation systems including Hand move, solid set, wheel lines and center pivot. Do not apply this product through any other type of irrigation system. Illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

For specific information about calibration, contact State Extension Service Specialists, equipment manufacturers or other irrigation experts.

SPRAY PREPARATION: Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

APPLICATION INSTRUCTIONS: First prepare a suspension of GEM in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of GEM and then the remaining volume of water. Start sprinkler and uniformly inject the suspension of GEM into the irrigation water line so as to deliver the desired rate per acre. The suspension of GEM should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. If you should have any other questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

NOTE: When treatment with GEM has been completed, further field irrigation over the treated area should be avoided for 24 hours to prevent washing the chemical off the crop.

GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to

prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment. If you are unsure of wind conditions which result in drift, contact your local extension agent.

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments should the need arise.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.

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™ 500 SC Fungicide Alone: Add approximately 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™ 500 SC Fungicide + Tank Mix Partners: Add approximately 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), liquid flowables such as Gem™, 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™ 500 SC Fungicide to the target crop in a small area and in accordance with label instructions for the target crop.

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™ 500 SC Fungicide provides control or suppression of several important diseases of citrus, leafy petiole vegetables, peanuts, potatoes, rice, root vegetables (except radishes), stone fruits, sugar beets and tree nuts. When reference is made to disease

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LEAFY PETIOLE VEGETABLES: Cardoon, Celery, Chinese celery, Celtuce, Florence fennel, Rhubarb, Swiss chard.			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Early Blight (<i>Cercospora apii</i>) Late blight (<i>Septoria apiicola</i>) Rust (<i>Puccinia</i> spp., <i>Uromyces</i> spp.)	1.9-2.9	Begin applications preventively and continue as needed on a 14-day interval.	Use the higher rates and shorter intervals when disease pressure is severe. A minimum spray volume of 30 gal/A is recommended. May be applied via chemigation, for control of late blight of celery. Use highest rate if disease is present in the field.
Restrictions: Do not apply more than 11.6 oz of GEM per acre per year. Do not apply GEM within 7 days of harvest. Do not apply more than 4 applications of GEM or other strobilurin fungicide per season. To reduce the potential for resistance, alternate every Group 11 fungicide application with at least one application of a fungicide from a different Group.			

PEANUTS			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Early Leaf Spot (<i>Cercospora arachidicola</i>) Late Leaf Spot (<i>Cercosporidium personatum</i>) Rust (<i>Puccinia arachidis</i>)	3.5	Begin applications when conditions are favorable for diseases but before infection.	Apply on a 10 to 14-day spray schedule. Gem must be applied with a surfactant for foliar peanut disease control.
Limb Rot (<i>Rhizoctonia solani</i>)	3.5	Apply 2 times – make the first application 56-60 days after planting for control of <i>R. solani</i> . Make the second application 28 days later.	Integrate routine leaf spot and rust applications on a 14-day spray schedule at rate for foliar disease. Gem must be applied with a surfactant for peanut foliar disease control.
Restrictions: Do not make more than 4 applications (14 fl. oz.) of GEM per acre per season. Do not apply GEM within 14 days of harvest. To limit the potential for development of disease resistance: <ul style="list-style-type: none"> • If 4 or less total fungicide sprays are planned then alternate each application of GEM with a non Group 11 containing fungicide. • If 5 or more fungicide sprays are planned use a maximum of 2 consecutive applications of GEM alternated with at least 2 applications of a non Group 11 containing fungicide. 			

PECANS			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Scab (<i>Cladosporium caryigenum</i>) Anthracnose (<i>Glomerella cingulata</i>)	1.9 to 3.8	Begin applications preventively. Begin at bud break and continue on a 14-day interval through pollination followed by cover sprays at 14- to 21-day intervals.	Use the shorter intervals and higher rates when disease pressure is severe.
Restrictions: Do not apply more than 22.5 fl. oz. of Gem™ per acre per season. Do not apply Gem™ after shuck split or within 30 days of harvest. To limit the potential for development of disease resistance: <ul style="list-style-type: none"> • 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-QoI fungicides with a different mode of action. • Do not apply more than six (6) applications of Gem™ or other strobilurin fungicides per acre per season. 			

PISTACHIOS			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Botryosphaeria Panicle and Shoot Blight (<i>Botryosphaeria dothidea</i>) Septoria Leaf Spot (<i>Septoria pistaciarum</i>)	1.9 to 3.8	Begin applications preventatively and continue as needed on a 14- to 21-day spray schedule.	Use the higher rate and shorter interval when disease pressure is severe.
Alternaria Late Blight (<i>Alternaria alternata</i>)	2.9 to 3.8		
<p>Restrictions: Do not apply more than 15.2 fl. oz. of Gem™ per acre per season. Do not apply Gem™ within 28 days of harvest. To limit the potential for development of disease resistance:</p> <ul style="list-style-type: none"> 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-QoI fungicides with a different mode of action. Do not apply more than four (4) applications of Gem™ or other strobilurin fungicides per acre per season. 			

POTATOES			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Early Blight (<i>Alternaria solani</i>)	2.9 to 3.8	Begin applications preventively and continue as needed on a 7- to 10-day spray schedule.	Use the higher rates and shorter intervals when disease pressure is severe.
Late Blight (<i>Phytophthora infestans</i>)	Gem™ Tank Mixture: 3.8	Begin applications preventively. Alternate Gem™ (every other application) with a protectant fungicide for use against late blight on a 7- to 10-day spray schedule. 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 spray schedule.	Use the shorter interval when disease pressure is severe.
<p>Restrictions: Do not apply more than 23 fl. 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:</p> <ul style="list-style-type: none"> Do not make more than one (1) foliar application of Gem™ for foliar diseases before alternating to a labeled effective non-QoI fungicide with a different mode of action for at least one application. Do not make more than six (6) applications of Gem™ or other QoI fungicides per season. 			

RICE			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Sheath/Stem Diseases: Sheath Blight <i>(Rhizoctonia solani)</i>	3.8 to 4.7	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 CropScience 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 <i>(Pyricularia grisea)</i>	3.1 to 4.7	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 CropScience 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.
<p>Restrictions: Do not apply more than 9.4 fl. 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 treated water for livestock. Do not allow release of irrigation or floodwater for at least 7 days after the last application.</p> <p>To limit the potential for development of disease resistance:</p> <ul style="list-style-type: none"> Do not make more than two (2) sequential applications of Gem™. Then alternate to labeled, effective non-QoI fungicides with a different mode of action. Do not make more than two (2) applications of Gem™ or other QoI fungicides per season. 			

ROOT VEGETABLES: Beet (garden), Burdock (edible), Carrot, Celeriac, Chervil (turnip-rooted), Chicory, Ginseng, Horseradish, Parsley (turnip-rooted), Parsnip, Rutabaga, Salsify, Salsify (black), Salsify (Spanish), Skirret, Turnip.			
Disease Control	Rate fl. oz/Acre	Application Timing	Notes
Leaf blight <i>(Alternaria dauci)</i> Leaf blight <i>(Cercospora carotae)</i> Powdery mildew <i>(Erysiphe spp.)</i> Rust <i>(Puccinia spp., Uromyces spp.)</i>	1.9 – 2.9	Begin applications preventively and continue as needed on a 14-day interval.	Use the higher rates and shorter intervals when disease pressure is severe. Use sufficient water to obtain thorough coverage. May be applied via chemigation for control of leaf blight of carrots. Use highest rate if disease is present in the field.
<p>Restrictions: Do not apply more than 11.5 fl. oz of Gem™ per acre per year. Do not apply Gem™ within 7 days of harvest. To limit the potential for development of disease resistance:</p> <ul style="list-style-type: none"> Do not make more than one foliar application of Gem™ for foliar diseases before alternating to a labeled, effective non-QoI fungicide with a different mode of action for at least one application. Do not make more than four (4) applications of Gem™ or other strobilurin fungicide per season. 			

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STONE FRUITS: Apricots, Cherries, Nectarines, Peaches, Plums, Plumcots, Prunes (fresh)			
Disease Control	Rate oz/Acre	Application Timing	Notes
Cherry Leaf Spot (<i>Blumeriella jaapii</i>) Powdery Mildew (<i>Podosphaera</i> spp. and <i>Sphaerotheca pannosa</i>) Rust (<i>Tranzschelia discolor</i>) Scab (<i>Cladosporium carpophilum</i>)	1.9-3.8	Begin applications preventively. Apply at petal fall and continue on a 7- to 14-day interval.	User the higher rates and shorter intervals when disease pressure is severe.
Shot hole (<i>Wilsonomyces carpophilus</i>)	2.9-3.8	Begin applications preventively and continue on a 7- to 14-day interval.	
Disease Suppression	Rate Oz/Acre	Application Timing	Notes
Blossom Blight (<i>Monilinia</i> spp.)	1.9-3.8	Begin applications at bud stage. If conditions are favorable for disease development, apply again at full bloom and at petal fall, or on a 14- to 21-day spray schedule.	Use the higher rates and shorter intervals when disease pressure is severe.
<p>Restrictions: Do not apply more than 15.2 fl. oz of GEM per acre per season. Do not apply GEM within 1 day of harvest. To limit the potential for development of disease resistance:</p> <ul style="list-style-type: none"> 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-QoI fungicides with a different mode of action. Do not apply more than four (4) applications of Gem™ or other QoI fungicides per season. 			

SUGAR BEETS			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Foliar Diseases: Cercospora Leaf Spot (<i>Cercospora beticola</i>) Powdery Mildew (<i>Erysiphe polygoni</i>)	2.9 to 3.6	Begin applications preventively and continue as needed on a 10- to 14-day spray schedule. 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.
Soilborne Diseases: Disease Suppression Rhizoctonia Stem Canker, Crown Rot (<i>Rhizoctonia solani</i>)		Begin either foliar broadcast or banded applications at the 4-leaf to row closure growth stage. Apply as needed on a 10- to 14-day spray schedule.	
<p>Restrictions: Do not apply more than 10 fl. 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:</p> <ul style="list-style-type: none"> One application of a Group 11 fungicide may be made up to the 4 leaf stage of plant growth. An additional Group 11 fungicide application may be made after the 4th leaf stage, but it must be alternated with at least one application of a fungicide from a different group before any additional applications of a Group 11 fungicide are allowed. Do not make more than three (3) applications of Gem™ or other QoI fungicides per season. 			

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TREE NUTS: Almonds*, Beechnuts, Brazil Nuts, Butternuts, Cashew, Chestnuts, Chinquapins, Filberts, Hickory Nuts, Macadamia Nuts, Pecans*, Pistachios*, Walnuts (* See Specific Use Instructions)			
Disease Control	Rate fl. oz./Acre	Application Timing	Notes
Botryosphaeria Panicle and Shoot Blight (<i>Botryosphaeria dothidea</i>)	1.9 to 3.8	Begin applications preventively and continue as needed on a 14- to 21-day spray schedule.	Use the higher rates and shorter intervals when disease pressure is severe.
Eastern Filbert Blight (<i>Anisogramma anomala</i>)	1.9 to 3.8	Begin applications preventively and continue as needed on a 7- to 14-day interval.	
Alternaria Late Blight (<i>Alternaria alternata</i>) Anthracnose (<i>Colletotrichum acutatum</i> , <i>Glomerella cingulata</i>) Rust (<i>Tranzschelia discolor</i>) Scab (<i>Cladosporium carpophilum</i> , <i>Cladosporium caryigenum</i>) Shothole (<i>Wilsonomyces carpophilus</i>)	2.9 to 3.8	Begin applications preventively and continue as needed on a 7- to 14-day spray schedule.	
<p>Restrictions: Do not apply more than 15.2 fl. oz. of Gem™ per acre per season. Do not apply Gem™ within 60 days of harvest. To limit the potential for development of disease resistance:</p> <ul style="list-style-type: none"> • 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-QoI fungicides with a different mode of action. • Do not apply more than four (4) applications of Gem™ or other QoI fungicides per season. 			

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.

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IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

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NET CONTENTS: 2.5 GALLONS

PRODUCED FOR



Bayer CropScience

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