



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

December 1, 2016

Jessica Fernandez
Registration Manager
Bayer CropScience LP
2 TW Alexander Drive
PO Box 12014
Research Triangle Park, NC 27709

Subject: Label Amendment – Me-too new uses on asparagus, cucurbit vegetables, grasses grown for seed, hops, pome fruits, tropical fruits, and wheat; changes throughout to formatting and language; addition of the alternate brand name, “FLINT Extra”
Product Name: Gem 500 SC Fungicide
EPA Registration Number: 264-826
Application Date: 5/15/2016
Decision Number: 517624

Dear Ms. Fernandez:

The alternate brand name “Flint Extra” and amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, are acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. “To distribute or sell” is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Lindsay Roe by phone at 703-347-0506, or via email at roe.lindsay@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Tony Kish". The signature is written in a cursive style with a large, stylized initial "T".

Tony Kish, Product Manager 22 Fungicide Branch
Registration Division (7505P)
Office of Pesticide Programs

Enclosure

ACCEPTED

Dec 01, 2016

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 264-826

GROUP

11

FUNGICIDE

Gem[®] 500 SC Fungicide

[ABN:FLINT[®] Extra]

For: Control of certain diseases in almonds, artichokes, asparagus, citrus, cucurbits, fruiting vegetables, grapes and small vine fruits (except fuzzy kiwifruit), grasses grown for seed, head and stem brassica and leafy brassica greens, herbs and dill grown for seed, hops, leafy green vegetables, leaf petiole vegetables, peanuts, pecans, pistachios, pome fruits, potatoes and other tuberous and corm vegetables, rice, root vegetables (except radishes), soybean, stone fruit, strawberry and other low-growing berries (except cranberries), sugar beets, tree nuts, tropical fruits, and wheat.

ACTIVE INGREDIENT:

Trifloxystrobin, (E, E)-alpha-(methoxyimino)-2-[[[1-[3-(trifluoromethyl) phenyl] ethylidene] amino] oxy] methyl]-, methylester **42.60%**

OTHER INGREDIENTS: **57.40%**

TOTAL: **100.00%**

Contains 4.05 pounds Trifloxystrobin per U.S. gallon.

EPA Reg. No. 264-826

EPA Est. _____

**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)

[See additional precautionary statements and directions for use on label.]

Net Contents:

PRODUCED FOR



Bayer CropScience LP
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709
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.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give anything by mouth to an unconscious person.
In case of emergency, call the toll-free Bayer CropScience Emergency Response telephone number: 1-800-334-7577. Have a product container or label with you when calling a poison control center or doctor, or going for treatment.	
Note to Physician: Treat Symptomatically	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

- Harmful if inhaled.
- Causes moderate eye irritation.
- Avoid breathing vapor or spray mist. Avoid contact with eyes, skin, or clothing.
- Wear long sleeved shirt, long pants, gloves, and shoes plus socks.
- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.
- Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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.

Applicators and other handlers must wear:

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

ENGINEERING CONTROLS

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.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product.
- Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into 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.

CONDITIONS OF SALE AND LIMITATIONS OF WARRANTY AND LIABILITY

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.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROPSCIENCE'S ELECTION, THE REPLACEMENT OF PRODUCT.

DIRECTIONS FOR USE

**It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read the entire label before using this product.**

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), notification to workers, 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

PRODUCT INFORMATION

GEM® 500 SC FUNGICIDE:

- is a broad spectrum fungicide for the control of certain diseases in almonds, artichokes, asparagus, citrus, cucurbits, fruiting vegetables, grapes and small vine fruits (except fuzzy kiwifruit), grasses grown for seed, head and stem brassica and leafy brassica greens, herbs and dill grown for seed, hops, leafy green vegetables, leaf petiole vegetables, peanuts, pecans, pistachios, pome fruits, potatoes and other tuberous and corm vegetables, rice, root vegetables (except radishes), soybean, stone fruit, strawberry and other low-growing berries (except cranberries), sugar beets, tree nuts, tropical fruits, and wheat.

USE RESTRICTIONS

- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Not registered for aerial application in New York State.

Refer to the specific use directions and restrictions in each Crop, Crop Group or Crop Subgroup table.

APPLICATION INSTRUCTIONS

- Thorough coverage is necessary to provide good disease control.
- Use the higher rates and shorter intervals when disease pressure is severe.
- Applications using sufficient water volume to provide thorough and uniform coverage generally provide the most effective disease control.
- 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.
- For ground application equipment, a minimum of 50 gal./A is prescribed for tree crops and 10 gal./A for other crops.

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.

For aerial application equipment, a minimum of 2 gal./A is prescribed for soybeans, 10 gal./A for tree crops and 5 gal./A for other crops.

Not registered for aerial application in New York State.

Ground Application

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, and replace worn or damaged nozzles.

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.

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.

Chemigation

Apply GEM 500 SC FUNGICIDE 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.

Types of irrigation systems

Apply this product only through sprinkler irrigation systems including hand move, solid set, wheel lines, linear, 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.

Uniform Water Distribution and System Calibration

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 chemigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The chemigation system must be calibrated to uniformly apply the rates specified in crop-specific label sections. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Chemigation Monitoring

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, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

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.

Required System Safety Devices

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

Using Water from Public Water Systems

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

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (**RPZ**) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

Spray Preparation

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

First prepare a suspension of Gem 500 SC Fungicide 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 500 SC FUNGICIDE and then the remaining volume of water. Start sprinkler and uniformly inject the suspension of GEM 500 SC FUNGICIDE into the irrigation water line so as to deliver the desired rate per acre. The suspension of GEM 500 SC FUNGICIDE 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.

When treatment with GEM 500 SC FUNGICIDE has been completed, further field irrigation over the treated area should be avoided for 24 hours to prevent washing the chemical off the crop.

SPRAY DRIFT MANAGEMENT

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:

If you are unsure of wind conditions, which result in drift, contact your local extension agent.

1. Do not spray if wind speeds are or become excessive. Do not spray if wind speed is 15 mph or greater. If non-target crops are located downwind, use caution when spraying if wind is present.
2. Do not spray if winds are gusty. Use caution when conditions are favorable for drift (high temperatures, drought, and 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.

Where states or local authorities have more stringent regulations, they must be observed.

COMPATIBILITY TESTING AND TANK MIX PARTNERS

Compatibility

Gem 500 SC Fungicide is compatible with most insecticide, fungicide, and foliar nutrient products. However, the physical compatibility of Gem 500 SC Fungicide with tank-mix partners should be tested before use. To determine the physical compatibility of Gem 500 SC Fungicide 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 listed on this label, the safety to the target crop must 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.

If using GEM 500 SC FUNGICIDE 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. Do not exceed labeled rates and observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. 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.

Order of Mixing

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:

1. Add approximately 1/2 of the required amount of water to the mix tank.
2. With the agitator running, add the GEM 500 SC FUNGICIDE to the tank.
3. Continue agitation while adding the remainder of the water.
4. Begin application of the solution after the GEM 500 SC FUNGICIDE has completely and uniformly dispersed into the mix water.

NOTE: Maintain agitation until all of the mixture has been applied.

GEM 500 SC FUNGICIDE+ Tank Mix Partners:

1. Add approximately 1/2 of the required amount of water to the mix tank.
2. Start the agitator running before adding any tank-mix partners.
3. In general, add tank-mix partners in this order: products packaged in water-soluble packaging*, wettable powders, wettable granules (dry flowables), and liquid flowables such as GEM 500 SC FUNGICIDE, liquids, and emulsifiable concentrates.
4. Provide sufficient agitation while adding the remainder of the water.

NOTES:

- Always allow each tank-mix partner to become fully and uniformly dispersed before adding the next product.
- Maintain agitation until all of the mixture has been applied.
- When using GEM 500 SC FUNGICIDE in tank mixtures, all products in water-soluble packaging should be added to the tank before any other tank mix partner, including GEM 500 SC FUNGICIDE. 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.

FUNGICIDE RESISTANCE MANAGEMENT RECOMMENDATIONS

Gem 500 SC Fungicide contains an active ingredient with a mode of action classified as a Group 11 Fungicide, i.e., a QoI. exhibits no known cross-resistance to other chemical classes including sterol inhibitors, dicarboximides, benzimidazoles, anilinopyrimidines, or phenylamides.

Trifloxystrobin (the active ingredient in Gem 500 SC Fungicide) 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.

Repeated use of any crop protection product may increase the development of resistant strains of fungal strains. To delay fungicide resistance:

- Use QoI fungicides in a preventative manner.
- 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.
- To determine the maximum number of sequential sprays or the total number of sprays per season for resistance management purposes, do not count seed treatment or in-furrow applications utilizing Group 11 fungicides as foliar applications.
- Follow the specific crop use directions 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 500 SC FUNGICIDE 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.
- 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 500 SC FUNGICIDE may be used in Agricultural Extension advisory (disease forecasting or risk assessment) programs that prescribe application timings based on environmental factors favorable for disease development.
- 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.

ROTATIONAL CROPS

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.

SPECIFIC CROP DIRECTIONS

ALMONDS		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Alternaria (<i>Alternaria alternata</i>) Anthracnose (<i>Colletotrichum acutatum</i>) Rust (<i>Tranzschelia discolor</i>) Scab (<i>Cladosporium carpophilum</i>) Shot hole (<i>Wilsonomyces carpophilus</i>)	3.0 - 3.8	Apply on a 7- to 14-day interval as needed.
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Brown rot blossom blight (<i>Monilinia</i> spp.)	2.0 - 3.8	Begin applications at pink bud stage (about 5% bloom). If conditions are favorable for disease development, apply again at full bloom and at petal fall, or on a 14- to 21-day spray interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 14 day(s) Minimum interval between applications: 7 days Maximum Gem 500 SC Fungicide allowed per year: 15.2 fluid ounces/Acre 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 500 SC Fungicide. 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 make more than four (4) applications of Gem 500 SC Fungicide or other QoI fungicides per acre per year. 		

ARTICHOKE (GLOBE)		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery mildew (<i>Leveillula taurica</i>)	3.0 - 3.8	Apply on a 7- to 10-day interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 0 day(s) Minimum interval between applications: 7 days Minimum application volume: 30 gallons/Acre (Ground) Maximum Gem 500 SC Fungicide allowed per year: 7.6 fluid ounces/Acre To limit the potential for development of disease resistance alternate each application of Gem 500 SC Fungicide with a non-Group 11 containing fungicide.		

ASPARAGUS		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Stemphyllium Purple Spot (<i>Stemphyllium vesicarium</i>)	3.0 - 3.8	Apply on a 14-day interval as needed. Make applications to the fern stage only. Mow down the asparagus ferns (or allow the ferns to senesce) between the last fungicide application and harvest.
<p>Application Restrictions: All States Except California - Pre-Harvest Interval (PHI): 180 day(s) California - Pre-Harvest Interval (PHI): 90 day(s) Minimum interval between applications: 14 days Maximum Gem 500 SC Fungicide allowed per year: 11.6 fluid ounces/Acre Do not apply more than 3 applications of Gem 500 SC Fungicide or other QoI fungicide per year. To limit the potential for resistance to develop, do not make more than 2 sequential applications of Gem 500 SC Fungicide or other QoI-containing fungicide before alternating to a non-QoI fungicide for at least 2 applications.</p>		

CITRUS [Crops of Crop Group 10]		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Alternaria (<i>Alternaria alternata</i>) Greasy Spot (<i>Mycosphaerella citri</i>) Melanose (<i>Diaporthe citri</i>) Scab (<i>Elsinoe fawcettii</i>) Post-Bloom Fruit Drop (PFD) (<i>Colletotrichum acutatum</i>)	2.0 - 3.8	Apply on a 7- to 21-day interval as needed. 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. May be applied as a foliar spray with air-assisted sprayers, such as curtec.
<p>Application Restrictions: Pre-Harvest Interval (PHI): 7 day(s) Minimum interval between applications: 7 days Maximum Gem 500 SC Fungicide allowed per year: 15.2 fluid ounces/Acre</p> <ul style="list-style-type: none"> Do not make more than two (2) sequential applications of Gem 500 SC Fungicide. 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 make more than four (4) applications of Gem 500 SC Fungicide or other QoI fungicides per year. 		

CUCURBIT VEGETABLES

Chayote, Chinese Waxgourd, Citron Melon, Cucumber, Gherkin, Edible Gourds, Momordica spp., Muskmelon, Pumpkin, Summer Squash, Winter Squash, Watermelon.

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery Mildew (<i>Sphaerotheca fuliginea</i>) (<i>Erysiphe cichoracearum</i>)	2.0 – 3.8	Apply on a 7- to 14-day interval as needed.
Plectosporium Blight (<i>Plectosporium tabacinum</i>)		
Disease Suppressed	Product Rate (fl oz/A)	
Downy Mildew (<i>Pseudoperonospora cubensis</i>)	3.8	

Application Restrictions:

Pre-Harvest Interval (PHI): **7 day(s)**

Minimum interval between applications: **7 days**

Maximum Gem 500 SC Fungicide allowed per year: **15.2 fluid ounces/Acre**

Do not apply more than 4 applications of Gem 500 SC Fungicide per acre per year. To reduce the potential for resistance, alternate every Group 11 fungicide application with at least one application of a fungicide from a different Group.

FRUITING VEGETABLES

[Crops of Crop Group 8 Including:] Eggplant, Groundcherry, Pepino, Peppers, Tomatillo, Tomatoes.

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery Mildew (Peppers Only) (<i>Oidiopsis taurica</i>)	2.5	Apply on a 7- to 10-day interval as needed.
Early Blight (<i>Alternaria solani</i>)	2.5 – 3.0	
Gray Leaf Spot (<i>Stemphyllium</i> spp.)	3.8	
Late Blight (<i>Phytophthora infestans</i>)	Gem 500 SC Fungicide tank mixture: 3.8	Apply Gem 500 SC Fungicide in a tank mixture with 75% of the labeled rate of protectant fungicide registered for control of late blight making applications on a 7- to 10-day interval as needed. Alternate Gem 500 SC Fungicide (every other application) with a protectant fungicide registered for use against late blight on a 7- to 10-day interval as needed.
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Anthracoise (<i>Colletotrichum</i> spp.)	3.0 - 3.8	Apply on a 7- to 10-day interval as needed.
Septoria leaf spot (<i>Septoria lycopersici</i>)		
Powdery Mildew (Tomato Only) (<i>Oidiopsis taurica</i>)		

Application Restrictions:

Pre-Harvest Interval (PHI): **3 day(s)**

Minimum interval between applications: **7 days**

Maximum Gem 500 SC Fungicide allowed per year: **16 fluid ounces/Acre**

- Do not apply more than 5 applications of Gem 500 SC Fungicide per acre per year. To reduce the potential for resistance, alternate every Group 11 fungicide application with at least one application of a fungicide from a different Group. (Gem 500 SC Fungicide must be tank mixed and alternated with a protectant fungicide for control of late blight.)

GRAPES AND SMALL VINE FRUITS (EXCEPT FUZZY KIWIFRUIT)

[Crops of Crop SubGroup 13-07F Including:] Amur river grape, Gooseberry, Grape, Hardy Kiwifruit, Maypop, Schisandra berry, and cultivars, varieties, and/or hybrids of these. Note: Do not apply or allow drift to Concord grapes or crop injury may occur.

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery mildew (<i>Uncinula necator</i>)	3.0 - 3.8	Apply on a 14- to 21-day interval as needed.
Botrytis Bunch Rot (<i>Botrytis cinerea</i>)	3.8	Research data shows a trend toward better control if fungicides are applied at bloom, preclose, and veraison. Apply on a 14- to 21-day interval as needed.
Phomopsis Cane and Leaf Spot (<i>Phomopsis viticola</i>)	3.5 - 3.8	Applications should begin at bud break and before 0.5 inch shoot length and again when shoots are 5 to 6 inches in length. Apply on a 14- to 21-day interval as needed.
Black Rot (<i>Guignardia bidwellii</i>)	3.5 - 3.8	Begin applications when shoots are 1-3 inches in length. Apply on a 14- to 21-day interval as needed.
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Downy Mildew (<i>Plasmopara viticola</i>)	3.8	Apply on a 7- to 21-day interval as needed.

Application Restrictions:

Pre-Harvest Interval (PHI): **14 day(s)**

Minimum interval between applications: **7 days**

Maximum Gem 500 SC Fungicide allowed per year: **23 fluid ounces/Acre.**

- Do not apply more than 6 applications of Gem 500 SC Fungicide per acre per year. To reduce the potential for resistance, limit Group 11 fungicides to two sequential applications and alternate with at least two applications of fungicides from a different Group before making a third application with a Group 11 fungicide.

GRASSES GROWN FOR SEED

(Northwest U.S. only)

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Rust (<i>Puccinia</i> spp.) Powdery Mildew (<i>Erysiphe graminis</i>)	3.0 - 3.8	Begin applications when rust and powdery mildew infections are noticeable and beginning to increase in number. Apply a second application on a 21 day interval if needed.

Application Restrictions:

Pre-Harvest Interval (PHI): **0 day(s)**

Minimum interval between applications: **21 days**

Maximum Gem 500 SC Fungicide allowed per year: **7.6 fluid ounces/Acre**

- Do not apply more than 2 sequential applications of Gem 500 SC Fungicide or other Group 11 containing fungicide without alternation to at least 2 applications of a fungicide from a different (not Group 11) mode of action.

HEAD AND STEM BRASSICA AND LEAFY BRASSICA GREENS

[Crops of SubCrop Group 5A and 5B Including:] Broccoli and Chinese (gai lon) broccoli, Broccoli raab (rapini), Brussels sprouts, cabbage, Chinese (bok choy and napa) cabbage, Chinese mustard (gai choy) cabbage, cauliflower, cavalo broccolo, collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, and rape greens.

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery mildew [*] (<i>Erysiphe polygoni</i>) (<i>Erysiphe cruciferarum</i>) Alternaria leaf spot[*] (<i>Alternaria</i> spp.)	3.0 - 3.8	Apply a second application on a 5- to 10-day interval if needed.

Application Restrictions:

Pre-Harvest Interval (PHI): **0 day(s)**

Minimum interval between applications: **5 days**

Maximum Gem 500 SC Fungicide allowed per year: **7.6 fluid ounces/Acre**

- To limit the potential for resistance to develop, do not apply more than 2 sequential applications of GEM 500 SC Fungicide or other Group 11 containing fungicide before rotating with a fungicide from a different group.

[*Not for use in CA [without a supplemental label].]

HERBS AND DILL GROWN FOR SEED

[Crops of Crop Group 19A Including:] Angelica; balm; basil; borage; burnet; camomile; catnip; chervil (dried); chive; chive, Chinese, clary; coriander (leaf); costmary; culantro (leaf); curry (leaf); dillweed; horehound; hyssop; lavender; lemongrass; lovage (leaf); marigold; marjoram (*Origanum* spp.); nasturtium; parsley (dried); pennyroyal; rosemary; rue; sage; savory, summer and winter; sweet bay; tansy; tarragon; thyme; wintergreen; woodruff; and wormwood; and dill grown for seed.

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery mildew[*] (<i>Erysiphe</i> spp.)	3.8	Apply a second application on a 7- to 10-day interval if needed.

Application Restrictions:

Pre-Harvest Interval (PHI): **0 day(s)**

Minimum interval between applications: **7 days**

Maximum Gem 500 SC Fungicide allowed per year: **7.6 fluid ounces/Acre**

- To limit the potential for resistance to develop, do not apply more than 2 sequential applications of GEM 500 SC Fungicide or other Group 11 containing fungicide before rotating with a fungicide from a different group.

[*Not for use in CA [without a supplemental label].]

HOPS		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery Mildew (<i>Sphaerotheca macularis</i>)	<p>In a thorough coverage spray apply:</p> <p>1 oz with 15 - 30 gals/acre</p> <p>2 oz with 31 - 60 gals/acre</p> <p>3 oz with 61 - 90 gals/acre</p> <p>3.8 oz with 91 - 200 gals/acre</p> <p>These concentrations must be carefully followed for effective disease control.</p>	<p>In a fungicide program where Gem 500 SC Fungicide is alternated with a sterol inhibitor fungicide, apply on a 10- to 14-day interval as needed.</p> <p>Apply the sterol inhibitor fungicide on the interval specified on the product label.</p> <p>Alternate Gem 500 SC Fungicide applications with a sterol inhibitor fungicide registered for use against hop powdery mildew or apply Gem 500 SC Fungicide in a blocking program with no more than three sequential applications of Gem 500 SC Fungicide before alternating to a sterol inhibitor fungicide registered for use against hop powdery mildew.</p> <p>Applications must be made with ground equipment that has been carefully calibrated to deliver a known rate of water per acre. A thorough coverage spray refers to an application made just to the point of runoff.</p>
Disease Suppressed		
When used for hop powdery mildew control, Gem 500 SC Fungicide will provide suppression of downy mildew (<i>Pseudoperonospora humuli</i>).		
<p>Application Restrictions: Pre-Harvest Interval (PHI): 14 day(s) Minimum interval between applications: 10 days Maximum Gem 500 SC Fungicide allowed per year: 15.2 fluid ounces/Acre</p> <ul style="list-style-type: none"> Do not apply Gem 500 SC Fungicide using aerial application. Do not apply Gem 500 SC Fungicide using low volume applicators. Do not use on hops in California. Do not apply more than 4 applications of Gem 500 SC Fungicide per crop per year. Do not replant treated areas within 30 days of the last application. Do not graze cover crops within the area treated with Gem 500 SC Fungicide. Do not harvest cover crops within the area treated with Gem 500 SC Fungicide for silage and hay. To reduce the potential for resistance, alternate every Group 11 fungicide application with at least one application of a fungicide from a different Group. 		

LEAFY GREEN VEGETABLES

[Crops of Crop Group 4A Including:] Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Spinach [including New Zealand and vine (Malabar spinach, Indian spinach)].

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery mildew[*] <i>(Erysiphe cichoracearum)</i> Anthracnose[*] <i>(Colletotrichum spp.)</i> Alternaria leaf spot[*] <i>(Alternaria spp.)</i>	3.0 - 3.8	Apply a second application on a 5- to 10-day interval if needed. May be applied as a band.

Application Restrictions:

Broadcast foliar uses - Pre-Harvest Interval (PHI): **0 day(s)**

Banded applications - Pre-Harvest Interval (PHI): **20 day(s)**

Minimum interval between applications: **5 days**

Maximum Gem 500 SC Fungicide allowed per year: **7.6 fluid ounces/Acre**

- To limit the potential for resistance to develop, do not apply more than 2 sequential applications of GEM 500 SC Fungicide or other Group 11 containing fungicide before rotating with a fungicide from a different group.

[*Not for use in CA [without a supplemental label].]

LEAF PETIOLE VEGETABLES

[Crops of Crop Group 4B Including:] Cardoon, Celery, Chinese celery, Celtuce, Florence fennel, Rhubarb, Swiss chard.

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Early Blight <i>(Cercospora apii)</i> Late blight <i>(Septoria apiicola)</i> Rust <i>(Puccinia spp., Uromyces spp.)</i>	2.0 - 2.9	Apply on a 14 day interval as needed. May be applied via chemigation, for control of late blight of celery.

Application Restrictions:

Pre-Harvest Interval (PHI): **0 day(s)**

Minimum interval between applications: **14 days**

Minimum application volume: **30 gallons/Acre** (Ground)

Maximum Gem 500 SC Fungicide allowed per year: **11.6 fluid ounces/Acre**

- Do not apply more than 4 applications of Gem 500 SC Fungicide or other strobilurin fungicide per year. 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 Controlled	Product Rate (fl oz/A)	Product Instructions
Early Leaf Spot <i>(Cercospora arachidicola)</i> Late Leaf Spot <i>(Cercosporidium personatum)</i> Rust <i>(Puccinia arachidis)</i>	3.5	Apply on a 10- to 14-day interval as needed. Gem 500 SC Fungicide 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 R. solani. Make the second application 28 days later. Integrate routine leaf spot and rust applications on a 14 day spray interval at rate for foliar disease. Gem 500 SC Fungicide must be applied with a surfactant for peanut foliar disease control.
Application Restrictions: Pre-Harvest Interval (PHI): 14 day(s) Minimum interval between applications: 10 days Maximum Gem 500 SC Fungicide allowed per year: 14 fluid ounces/Acre. Do not make more than 4 applications (14 fl oz) of Gem 500 SC Fungicide per acre per year. 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 500 SC Fungicide with a non-Group 11 containing fungicide. • If 5 or more fungicide sprays are planned use a maximum of 2 consecutive applications of Gem 500 SC Fungicide alternated with at least 2 applications of a non-Group 11 containing fungicide. 		

PECANS		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Scab <i>(Cladosporium caryigenum)</i> Anthracnose <i>(Glomerella cingulata)</i>	2.0 - 3.8	Begin at bud break and continue on a 14 day interval through pollination followed by cover sprays on a 14- to 21-day interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 30 day(s) Minimum interval between applications: 14 days Maximum Gem 500 SC Fungicide allowed per year: 22.5 fluid ounces/Acre 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 500 SC Fungicide. 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 500 SC Fungicide or other strobilurin fungicides per acre per year. 		

PISTACHIOS		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Botryosphaeria Panicle and Shoot Blight (<i>Botryosphaeria dothidea</i>) Septoria Leaf Spot (<i>Septoria pistaciarum</i>)	2.0 - 3.8	Apply on a 14- to 21-day interval as needed.
Alternaria Late Blight (<i>Alternaria alternata</i>)	3.0 - 3.8	
Application Restrictions: Pre-Harvest Interval (PHI): 28 day(s) Minimum interval between applications: 14 days Maximum Gem 500 SC Fungicide allowed per year: 15.2 fluid ounces/Acre 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 500 SC Fungicide. 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 500 SC Fungicide or other strobilurin fungicides per acre per year. 		

POME FRUIT		
Apples, Pears, Crabapples, Loquat, Mayhaw, Quince		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Scab (<i>Venturia spp.</i>)	2.5 - 2.9	Begin applications at green tip and continue on a 7- to 10-day interval as needed. Do not use in Lake and Mendocino counties (California) to control pear scab.
Cedar Apple Rust (<i>Gymnosporangium juniperivirginianae</i>)	2.0 - 2.9	Apply on a 7- to 10-day interval as needed. Alternate (every other application) with a sterol inhibitor fungicide.
Fly Speck (<i>Schizothyrium pomi</i>) Powdery mildew (<i>Podosphaera leucotricha</i>) Sooty Blotch (<i>Gloeodes pomigena</i>)	2.0 - 2.9	Apply on a 10- to 14-day interval as needed. Alternate (every other application) with a sterol inhibitor fungicide.
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Bitter Rot (<i>Glomerella cingulata</i>)	2.9	Begin applications preventively using Gem 500 SC Fungicide solo at the specified rate or use a tank mix of Gem 500 SC Fungicide with 1.2 lbs of the active ingredient captan per acre. Apply on a 10- to 14-day interval as needed. Captan must be used in accordance with all directions and restrictions on that product's label.
White Rot (<i>Botryosphaeria dothidea</i>)	Tank mix with Captan: 1.5	
Application Restrictions: Pre-Harvest Interval (PHI): 14 day(s) Minimum interval between applications: 7 days Maximum Gem 500 SC Fungicide allowed per year: 10.5 fluid ounces/Acre <ul style="list-style-type: none"> To reduce the potential for resistance, limit Group 11 fungicides to two sequential applications and alternate with at least two applications of fungicides from a different Group before making a third application with a Group 11 fungicide. Do not apply more than 4 applications of Gem 500 SC Fungicide or any other Group 11 fungicide per year. Do not apply Gem 500 SC Fungicide where spray drift may reach Concord grapes or crop injury may occur. Spray equipment must be rinsed after applying Gem 500 SC Fungicide before application of other products to Concord grapes or crop injury may 		

occur.

POTATO AND OTHER TUBEROUS AND CORM VEGETABLES

[Crops of SubCrop Group 1C Including:] Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (Edible), Cassava (Bitter & Sweet), Chayote (Root), Chufa, Dasheen (Taro), Ginger, Leren, Potato, Sweet Potato, Tanier, Turmeric, Yam Bean, Yam (True).

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Early Blight (<i>Alternaria solani</i>)	3.0 - 3.8	Apply on a 7- to 10-day interval as needed.
Late Blight (<i>Phytophthora infestans</i>)	Gem 500 SC Fungicide Tank Mixture: 3.8	Alternate Gem 500 SC Fungicide (every other application) with a protectant fungicide for use against late blight on a 7- to 10-day spray interval as needed. Gem 500 SC Fungicide 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 interval as needed.

Application Restrictions:

Pre-Harvest Interval (PHI): **7 day(s)**

Minimum interval between applications: **7 days**

Maximum Gem 500 SC Fungicide allowed per year: **23 fluid ounces/Acre**

To limit the potential for development of disease resistance:

- Do not make more than one (1) foliar application of Gem 500 SC Fungicide 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 500 SC Fungicide or other QoI fungicides per year.

RICE

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Sheath/Stem Diseases: Sheath Blight (<i>Rhizoctonia solani</i>)	3.8 - 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. Up to two applications can be made if conditions warrant.
Panicle Diseases: Rice Blast (<i>Pyricularia grisea</i>)	3.1 - 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 - 14 days later). Consult with your local extension personnel or Bayer CropScience representative to determine the best timing for your area. Two applications are usually necessary for maximum control.

Application Restrictions:

Maximum Gem 500 SC Fungicide allowed per year: **9.4 fluid ounces/Acre**

Pre-Harvest Interval (PHI): **35 day(s)**

- 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.
- To limit the potential for development of disease resistance:
 - Do not make more than two (2) sequential applications of Gem 500 SC Fungicide. Then alternate to labeled, effective non-QoI fungicides with a different mode of action.
 - Do not make more than two (2) applications of Gem 500 SC Fungicide or other QoI fungicides per year.

ROOT VEGETABLES

[Crops of SubCrop Group 1B Including:] Beet (garden), Burdock (edible), Carrot, Celery, Chervil (turnip-rooted), Chicory, Ginseng, Horseradish, Parsley (turnip-rooted), Parsnip, Rutabaga, Salsify, Salsify (black), Salsify (Spanish), Skirret, Turnip.

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
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>	2.0 - 2.9	Apply on a 14 day interval as needed. May be applied via chemigation for control of leaf blight of carrots. Use highest rate if disease is present in the field.

Application Restrictions:

Pre-Harvest Interval (PHI): **7 day(s)**

Minimum interval between applications: **14 days**

Maximum Gem 500 SC Fungicide allowed per year: **11.5 fluid ounces/Acre**

To limit the potential for development of disease resistance:

- Do not make more than one foliar application of Gem 500 SC Fungicide 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 500 SC Fungicide or other strobilurin fungicide per year.

SOYBEAN

Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Aerial blight <i>(Rhizoctonia solani)</i> Anthracnose <i>(Colletotrichum truncatum)</i> Alternaria leaf spot <i>(Alternaria spp.)</i> Asian soybean rust <i>(Phakopsora spp.)</i> Brown spot <i>(Septoria glycines)</i> Cercospora blight and leaf spot <i>(Cercospora kikuchii)</i> Frogeye leaf spot <i>(Cercospora sojina)</i> Pod & stem blight <i>(Diaporthe phaseolorum)</i>	3.0 - 3.5	Apply on a 10- to 21-day interval as needed. Use of adjuvants may enhance performance of Gem 500 SC Fungicide. If utilized, apply the lowest recommended rate of the spray adjuvant. For control of Asian soybean rust, apply Gem 500 SC Fungicide prior to infection. If Asian soybean rust is already present in the field, Gem 500 SC Fungicide must be applied with an EPA-approved triazole fungicide with known curative activity.

Application Restrictions:

Pre-Harvest Interval (PHI): **21 day(s)**

Minimum interval between applications: **10 days**

Minimum application volume: **10 gallons/Acre** (Ground); **2 gallons/Acre** (Aerial)

Maximum Gem 500 SC Fungicide allowed per year: **10.5 fluid ounces/Acre**

- Do not apply more than 2 applications of Gem 500 SC Fungicide or other Group 11 fungicides before alternating with a fungicide that is not in Group 11.
- Do not graze or feed soybean forage or hay.

STONE FRUIT [Crops of Crop Group 12 Including:] Apricots, Cherries, Nectarines, Peaches, Plums, Plumcots, Prunes (fresh)		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
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>)	2.0 - 3.8	Apply on a 7- to 14-day interval as needed.
Shot hole (<i>Wilsonomyces carpophilus</i>)	3.0 - 3.8	
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Blossom Blight (<i>Monilinia</i> spp.)	2.0 - 3.8	Begin applications at bud stage. Apply on a 7- to 21-day interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 1 day(s) Minimum interval between applications: 7 days Maximum Gem 500 SC Fungicide allowed per year: 15.2 fluid ounces/Acre 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 500 SC Fungicide. 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 500 SC Fungicide or other QoI fungicides per year. 		

STRAWBERRY AND OTHER LOW-GROWING BERRIES (EXCEPT CRANBERRIES) Crops of SubCrop Group 13-07G (except cranberries) Including: Bearberry, bilberry, blueberry (low-bush), cloudberry, lignonberry, muntries, partridgeberry, strawberry.		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery mildew (<i>Sphaerotheca maculans</i>)	2.5 - 3.0	Begin applications at bud stage. Apply on a 7- to 14-day interval as needed.
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Gray Mold (<i>Botrytis cinerea</i>) Anthracnose (<i>Colletotrichum acutatum</i>) Phomopsis Leaf Blight and Soft Rot (<i>Phomopsis obscurans</i>)	2.5 - 3.0	Begin applications at bud stage. Apply on a 7- to 14-day interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 0 day(s) Minimum interval between applications: 7 days Maximum Gem 500 SC Fungicide allowed per year: 18 fluid ounces/Acre To reduce the potential for resistance, limit Group 11 fungicides to two sequential applications and alternate with at least two applications of fungicides from a different Group before making a third application with a Group 11 fungicide.		

SUGAR BEETS		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Foliar Diseases: Cercospora Leaf Spot <i>(Cercospora beticola)</i> Powdery Mildew <i>(Erysiphe polygoni)</i>	3.0 - 3.6	Apply on a 10- to 14-day interval as needed. Alternate Gem 500 SC Fungicide after each application with a fungicide that has a different mode of action. May be applied via chemigation for control of powdery mildew.
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Soilborne Diseases: Rhizoctonia Stem Canker, Crown Rot <i>(Rhizoctonia solani)</i>	3.0 - 3.6	Begin either foliar broadcast or banded applications at the 4-leaf to row closure growth stage. Apply on a 10- to 14-day interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 21 day(s) Minimum interval between applications: 10 days Maximum Gem 500 SC Fungicide allowed per year: 10 fluid ounces/Acre To limit the potential for development of disease resistance: <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 500 SC Fungicide or other QoI fungicides per year. 		

TREE NUTS		
[Crops of Crop Group 14 Including:] Beechnuts, Brazil Nuts, Butternuts, Cashew, Chestnuts, Chinquapins, Filberts, Hickory Nuts, Macadamia Nuts, Walnuts (See Specific Use Directions for Almonds, Pecans, and Pistachios)		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Botryosphaeria Panicle and Shoot Blight <i>(Botryosphaeria dothidea)</i> Eastern Filbert Blight <i>(Anisogramma anomala)</i>	2.5 - 3.8	Apply on a 14- to 21-day interval as needed. Apply on a 7- to 14-day interval as needed.
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>	3.0 - 3.8	Apply on a 7- to 14-day interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 60 day(s) Minimum interval between applications: 7 days Maximum Gem 500 SC Fungicide allowed per year: 15.2 fluid ounces/Acre 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 500 SC Fungicide. 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 500 SC Fungicide or other QoI fungicides per year. 		

TROPICAL FRUITS		
Papaya, Black Sapote, Canistel, Mamey Sapote, Mango, Sapodilla, Star Apple		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Powdery Mildew (<i>Erysiphe</i> spp., <i>Sphaerotheca</i> spp.)	3.9	Apply on a 7 day interval as needed.
Application Restrictions: Pre-Harvest Interval (PHI): 0 day(s) - Fruit may be harvested on the day of the last application once the spray has dried. Minimum interval between applications: 7 days Minimum application volumes: 50 gallons/Acre (Ground); Maximum Gem 500 SC Fungicide allowed per year: 15.2 fluid ounces/Acre <ul style="list-style-type: none"> Do not apply more than 4 applications of Gem 500 SC Fungicide or other QoI fungicide per year. To limit the potential for resistance to develop, do not make more than 2 sequential applications of Gem 500 SC Fungicide or other QoI-containing fungicide before alternating to a non-QoI fungicide for at least 2 applications. 		

WHEAT		
Disease Controlled	Product Rate (fl oz/A)	Product Instructions
Rust (<i>Puccinia</i> spp.) Powdery mildew (<i>Erysiphe graminis</i>) Leaf blight (<i>Septoria tritici</i>) Tan spot (<i>Pyrenophora tritici-repentis</i>)	3.3	Apply a second application on a 14 day interval if needed.
Glume blotch (<i>Stagnospora nodorum</i>)	3.3	Make an application at the early heading stage. Apply a second application on a 14 day interval if needed. Head disease control may be enhanced when preceded by a foliar application prior to heading.
Disease Suppressed	Product Rate (fl oz/A)	Product Instructions
Fusarium head scab (<i>Fusarium</i> spp.)	3.3	Make an application when 50% of the heads have begun flowering. Apply a second application on a 14 day interval if needed. Head disease control may be enhanced when preceded by a foliar application prior to heading.
Application Restrictions: Pre-Harvest Interval (PHI): 35 day(s) Minimum interval between applications: 14 days Maximum Gem 500 SC Fungicide allowed per year: 6.6 fluid ounces/Acre <ul style="list-style-type: none"> Grazing Restrictions: (a) If 2 applications or a total of 6.6 oz of Gem 500 SC Fungicide per acre per year are applied, do not allow livestock to graze within the treated area and do not harvest the treated crop for forage or hay. (b) If 1 application or a total of 3.3 fl oz of Gem 500 SC Fungicide per acre per year are applied, do not allow livestock to graze within the treated area within 30 days after application, and do not harvest the treated crop for forage within 30 days after application or for hay within 45 days after 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 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 handling

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 ¼ 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.