

## **PISTACHIOS - BOTRYOSPHERA PANICLE, ETC.**

### General Information

#### PRODUCT INFORMATION

Gem 500 SC Fungicide is a broad spectrum fungicide for the control of certain diseases in artichokes, tree nuts, citrus, fruiting vegetables, leafy petiole vegetables, potatoes, rice, root vegetables (except radishes), stone fruit and sugar beets. Gem 500 SC Fungicide works by interfering with respiration in plant pathogenic fungi. Gem 500 SC Fungicide 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 THE 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 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. 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 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 the 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 the 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 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.

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

Not registered for aerial application in New York State.

### 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 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. 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 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 the 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 the 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 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.

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

Not registered for aerial application in New York State.

## USE DIRECTIONS FOR SPECIFIC CROPS

Gem 500 SC Fungicide provides control or suppression of several important diseases of artichokes, citrus, fruiting vegetables, leafy petiole vegetables, potatoes, rice, root vegetables (except radishes), stone fruits, sugar beets, and tree nuts. When reference is made to disease suppression, suppression can mean either erratic control from good to fair or consistent control at a level below that obtained with the best commercial disease control products.

## Limitations, Restrictions, and Exceptions

### PISTACHIOS

Notes: Use the higher rate and shorter interval when disease pressure is severe.

Restrictions: To limit the potential for development of disease resistance:

- 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.

### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Foliar spray](#)

### Pre-Harvest Interval

28 days

### Rates

[field rates 0](#)

•

### Restricted Entry Interval

12 hours

### Timings

[Begin applications preventatively and continue as needed on a 14- to 21-day spray](#)

[schedule.](#)