



2-3-2 COMPANION®

LIQUID BIOLOGICAL FUNGICIDE

Turf and Professional Landscape Use

- For Turf and Professional Landscape Use
- For Prevention, Control and Suppression of Soil and Foliar Diseases
- Activates ISR (Induced Systemic Resistance) in Plants

Active Ingredient:

Bacillus subtilis GB03*00.03%

Other Ingredients:99.97%

Total:100.00%

*Not less than 5.5 X 10¹⁰ Colony Forming Units (CFU) per gallon

Guaranteed Analysis:

Total Nitrogen (N)2%

2% Water Insoluble Nitrogen

Available Phosphate (P₂O₅) . .3%

Soluble Potash (K₂O)2%

Calcium (Ca)1%

Magnesium (Mg)0.5%

Derived From: Concentrated Fermented Plant Extracts

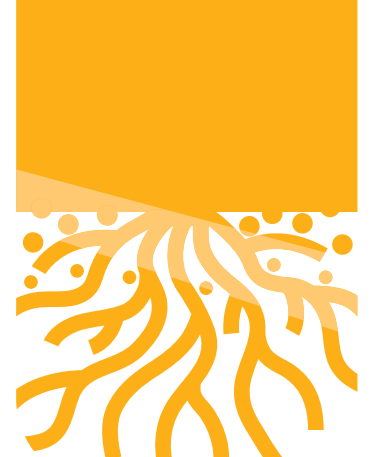
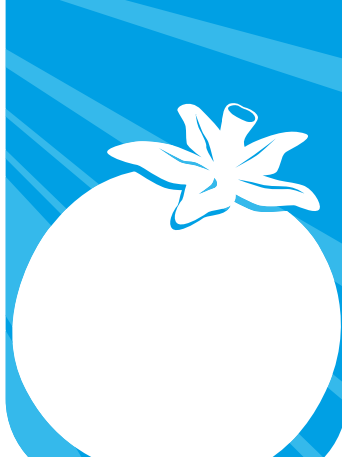
**KEEP OUT OF REACH OF CHILDREN
CAUTION**

(See back panel for additional precautionary statements)

FIRST AID

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 or clothing	<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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.



Another quality product from:
Growth Products, Ltd.
80 Lafayette Ave., White Plains, NY 10603 USA
Questions? Call (800) 648-7626
www.growthproducts.com
questions@growthproducts.com

EPA Registration No. 71065-3
EPA Establishment No. 71065-NY-001
Growth Products® and Companion® are Registered Trade-
marks of Growth Products, Ltd.

Net Contents: 1 Gallon 2.5 Gallon 5 Gallon

COMPANION® LIQUID BIOLOGICAL FUNGICIDE

PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals: Caution. Causes moderate eye and skin irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE): Applicators and other handlers must wear

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Mixer/loaders and applicators must wear a dust/mist-filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning / maintaining PPE. Keep and wash PPE separately from other laundry.

User Safety Recommendations: 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: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater.

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 the 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). There is a REI of four (4) hours for this product. 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 over long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks.

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

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

GENERAL INFORMATION – TURF AND PROFESSIONAL LANDSCAPE USE

- Use on Greens, Tees, Fairways and Roughs, Sports Turf, Parks, Cemeteries, (Residential) Lawns, Hydroseeding, Sod Farms and Seed Production Grasses
- Use on Annuals, Perennials, Woody Ornamentals, Flowering Shrubs, Tropicals, Palms, Herbs and Fruit and Nut Trees
- Use on all Interiorscape Plantings
- For Prevention, Control and Suppression of Root and Foliar Diseases
- Activates the Plant's Defense / Immune System (Induced Systemic Resistance [ISR])
- A Rhizosphere Bacterium
- Quickly Establishes Beneficial Colonies on Roots and Leaves
- Improves Nutrient Uptake
- Stimulates Healthier Roots and Accelerates Plant Growth

DIRECTIONS OR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. 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.

Product Description:

Companion® Liquid Biological Fungicide is a broad-spectrum biological fungicide used for the prevention, control, and suppression of a broad range of important soil borne and foliar diseases. Companion® Liquid Biological Fungicide contains the active ingredient *Bacillus subtilis* GB03 for the control of Anthracnose (*Colletotrichum graminicola*), Brown Patch (*Rhizoctonia* spp.), Dollar Spot (*Sclerotinia*), Summer Patch (*Magnaporthe poae*), Fusarium Patch (*Fusarium nivale*), Pythium (*Pythium* spp.) and Root Rot (*Phytophthora*). Companion® Liquid Biological Fungicide's unique liquid formulation contains *Bacillus subtilis* GB03 spores that remain stable for more than two years. Companion® Liquid Biological Fungicide's rich organic solution acts as a food source to help the *Bacillus subtilis* multiply and establish colonies. *Bacillus subtilis* GB03 is a gram-positive (spore-forming) soil bacterium.

Companion® Liquid Biological Fungicide is most effective when applied prior to the onset of disease. Use Companion® Liquid Biological Fungicide in combination and rotation with chemical fungicides to enhance disease control. To insure optimal results in the field, it is important to store, handle, and apply the product in an appropriate manner.

Modes of Action:

Companion® Liquid Biological Fungicide has multiple modes of action in preventing and controlling plant diseases. It produces a broad-spectrum antibiotic (Iturin) that disrupts pathogen cell-wall formation. It is a competitive and fast colonizing rhizosphere bacterium, which occupies the plant's root hairs preventing the growth and antagonistic effects of soil borne pathogens. Companion® Liquid Biological Fungicide is known to stimulate phytohormones, which trigger the plant's systemic resistance to disease ISR (Induced Systemic Resistance), the defense mechanisms of the plant for prolonged periods of time. It is non-selective to plant materials.

PGPR (Plant Growth-Promoting Rhizobacteria):

Companion® Liquid Biological Fungicide's *Bacillus subtilis* GB03 is classified as a Plant Growth-Promoting Rhizobacteria (PGPR). PGPR are free-living bacteria that have beneficial effects on plants as they enhance rooting and stimulate growth.

INTEGRATED PEST (DISEASE) MANAGEMENT (IPM)

Companion® Liquid Biological Fungicide is an important tool in sound disease management whenever fungicide use is necessary. Apply Companion® Liquid Biological Fungicide alone or in combination and / or rotation with chemical fungicides. This will result in reduced susceptibility to disease and overall reduction in the use of chemical fungicides. Consult local agricultural authorities for specific IPM strategies developed for your crop (s) and location.

RESISTANCE MANAGEMENT

Companion® Liquid Biological Fungicide is an important tool to prevent the development of resistant pathogens that often occurs with chemical fungicide products. Companion® Liquid Biological Fungicide's multiple and unique modes of action inhibit the pathogen's ability to develop resistance. Use Companion® Liquid Biological Fungicide in combination with lower rates of chemical fungicide for improved efficacy and /or in rotation with chemical fungicides to reduce chemical applications.

MIXING INSTRUCTIONS

Tank Mixing:

SHAKE WELL before use and before mixing with water. Companion® Liquid Biological Fungicide must be diluted with water prior to use. It can be used in all commonly used spray and injection equipment. Special care should be taken when tank mixing. Be sure that all tanks have been cleaned before use. Add water to 3/4 level of the tank. Add specific amount of Companion® Liquid Biological Fungicide to the tank. Mix thoroughly. Maintain agitation while spraying. DO NOT let stand overnight. Companion® Liquid Biological Fungicide can be tank mixed and applied with both systemic and contact fungicides as part of a regular growth and maintenance program.

Compatibility:

Companion® Liquid Biological Fungicide is compatible with most high quality fertilizers, micronutrients, organic materials, wetting agents, and surfac-

tants. Companion® Liquid Biological Fungicide can also be mixed and applied with Contact and Systemic Fungicides. Do NOT mix with copper based fungicides, concentrated acids such as sulfuric acid, solvents, oxidizing agents or bactericides. Do not mix with products with a pH below 4 or above 9. Be sure to apply all of tank mix solution the same day to assure viability

of spores. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Consult your Growth Products representative for more information on Companion® Liquid Biological Fungicide compatibility.

TURF USE SITES

Turf Applications:

Use on all cool and warm season turf grass varieties such as Bentgrass, Bluegrass, Bermudagrass (common and hybrid), Fescue, Ryegrass, St. Augustine, Zoysia, Paspalum and Poa Annua. Use on Greens, Tees, Fairways and Roughs, Sports Turf, Parks, Cemeteries, (Residential) Lawns, Sod Farms, Seed Production Grasses and all ornamental grass varieties.

Application Timing:

Apply Companion® Liquid Biological Fungicide throughout the growing season on all types of soils and turfgrass varieties. Apply when ground temperature has reached 45° (7° C) or above and until late fall prior to light frost. Begin applications prior to when environmental conditions are conducive to disease develop and throughout periods of disease and stress.

TURF APPLICATIONS				
Target Diseases	Use Rate (fl. oz. product per 1,000 sq. ft.)	Application Interval	Spray Rates	Remarks
Anthracnose <i>(Colletotrichum graminicola)</i> Brown Patch <i>(Rhizoctonia spp.)</i> Dollar Spot <i>(Sclerotinia)</i> Summer Patch <i>(Magnaporthe poae)</i> Fusarium Patch <i>(Fusarium nivale)</i> Pythium Blight Pythium Root Rot Pythium Crown Rot <i>(Pythium spp.)</i>	4 – 6 fl. oz.	14 – 28 days	Root Diseases: Spray at a rate of 2 - 4 gal (7 ½ - 15 liters per 100 m ²) of tank mix per 1,000 sq. ft to assure soil penetration. Foliar Diseases: Spray at a rate of 1- 2 gal (4 – 7 ½ liters per 100 m ²) of tank mix per 1,000 sq. ft to provide thorough coverage.	Begin applications prior to when conditions are conducive to disease development. Continue applications throughout periods of disease and stress.

TURF ESTABLISHMENT APPLICATIONS FOR PATHOGEN/DISEASE CONTROL		
Application	Rate	Frequency
New Seeding, Over Seeding, Hydro Seeding	4 - 6 fl. oz. per 1000 sq. ft. (118 ml-177ml per 100 m ²)	Apply at time of seed germination. Repeat every 14 days during grow-in period.
Sod Installation	4 - 6 fl. oz. per 1000 sq. ft. (118 ml-177ml per 100 m ²)	Apply at time of installation and repeat in 14 - 28 days. Continue during disease and stress period.
Sod Production	1 – 2 gallons Per Acre of Sod (10 – 20 Liters per Hectare of sod)	Begin applications at time of seeding, plugging, or newly cut ribbons. Continue monthly during disease and stress periods.

FOR PROFESSIONAL LANDSCAPE USE

Applications:

Use Companion® Liquid Biological Fungicide on all ornamentals, landscape plants, trees, shrubs, annuals, perennials, ground covers, tropical plants, outdoors and interiorscapes for control of a broad spectrum of plant diseases.

Application Timing:

Apply Companion® Liquid Biological Fungicide throughout the growing season on all types of soils, turfgrass, lawns, woody ornamentals, trees, perennials and other landscape and horticultural materials. Apply when ground temperature has reached 45° (7° C) or above and until late fall prior to light frost. Begin applications prior to when environmental conditions are conducive to disease development and throughout periods of disease and stress.

Plant Material	Target Diseases	Product Rate	Intervals
All Types of Ornamentals, Trees, Shrubs, And Flowering Plants Annuals Perennials Bedding Plants Ground Covers Potted Flowers Foliage Plants Woody Ornamentals Deciduous Trees & Shrubs Evergreen Trees & Shrubs Tropical Foliage Palms Container Grown Plants <i>(Indoors, Outdoors, Fields, Landscape areas)</i>	Anthracnose <i>(Colletotrichum graminicola)</i> Stem and Root Rot Aerial blight <i>(Rhizoctonia spp.)</i> <i>(Sclerotinia)</i> Damping off <i>(Fusarium nivale)</i> Pythium Blight Pythium Root Rot Pythium Crown Rot <i>(Pythium spp.)</i> Stem & Root Rot <i>(Phytophthora)</i> Golovinomyces cichoracearum, formerly called Erysiphe cichoracearum Powdery Mildew <i>(Golovinomyces cichoracearum, formerly called Erysiphe cichoracearum)</i>	Soil Drench: 16 to 32 fl. oz. per 100 gallons of water. (1/2 – 1 Liter per 400 Liters water). Thoroughly drench soil around, plug, planting hole, tree canopy, root ball, or container. For smaller volumes mix 1- 2 tsp. per gallon water (5-10 ml per 4 liters water). Foliar Spray: 1 to 2 quarts per 100 gallons water. (1 - 2 Liters per 400 Liters water). Thoroughly spray foliage until run-off. For smaller volumes mix 2- 4 tsp. per gallon water (10-20 ml per 4 liters water). Interiorscape Plants: 1 tsp. per gallon water. (5 ml per 4 Liters). For larger volumes 1.6 fl. oz. per 10 gallons water. (45 ml per 40 Liters water). Thoroughly drench plants.	New Plantings and Transplants: Apply at time of planting to prevent disease. Reapply 14 – 28 days through growing season. Established Plantings: Apply prior to disease pressure at 14-28 day intervals. While disease conditions persist, re-treat at 7-14 day intervals.

TREE ROOT INJECTION DBH METHOD

Application Type	Rate	Frequency
Maintenance	1 qt .per 100 gallons water	Apply 5 gallons (18-19 liters) of tank mix per inch (25 mm) DBH starting approximately 3 feet (1 meter) from base of tree and in grid pattern at 2 to 2 1/2 feet (.61-.76 meter) intervals. Apply as soon as stress from heat/drought is observed or prior to disease becomes evident. Apply at monthly intervals.
Stress Correction	1 – 2 qt. per 100 gallons water.	

CHEMIGATION

General Requirements -

- 1) Apply this product only through a drip system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, flood (basin), furrow, border or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) 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.
- 5) 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.

Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 1) 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.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow 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.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) 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.
- 5) 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.
- 6) 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.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Requirements for Sprinkler Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) 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.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) 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.
- 6) 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 filled with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Requirements for Flood (Basin), Furrow and Border Chemigation -

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- 2) The systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - a. 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.
 - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

c. 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.

d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

e. 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.

f. 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 filled with a system interlock.

Specific Requirements for Drip (Trickle) Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) 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.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) 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.
- 6) 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 filled with a system interlock.

Application Instructions for All Types of Chemigation-

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions. Product can be applied continuously or at any time during the water application.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. The product will immediately go into suspension without any required agitation.

Notice - Read carefully conditions of sale and limited warranty statement.

As its sole express warranty, Growth Products, Ltd., warrants that this product conforms to the microbial description on the label and is reasonably fit for purposes stated on the label only when used in accordance with directions and instructions specified on the label, subject to the inherent risks set forth above. To the extent consistent with applicable law, Growth Products, Ltd. neither makes nor authorizes any of its distributors to make any warranty of fitness or merchantability, guaranty or representation, express or implied, concerning this material. Buyer assumes the responsibility to handle, use and store this product in accordance with the safety instructions and use directions contained on the label. To the extent consistent with applicable law, the Buyer/User purchases this product to the foregoing Conditions of Sale and Warranty which may be varied only by a written agreement signed by a duly authorized representative of Growth Products, Ltd., and if these terms are not acceptable, return all product to the place of purchase, unopened for a full refund.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a dry place out of direct sunlight and away from heat sources. Keep from overheating or freezing.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Non-refillable container. Do not reuse or refill this container. Triple rinse (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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.