

# PreFence™

Biofungicide

# PreFence™ BIOFUNGICIDE

For TURF and AGRONOMIC, VEGETABLE and ORNAMENTAL CROPS

ACTIVE INGREDIENT:

*Streptomyces* sp. Strain K61\* ..... 35.0%

OTHER INGREDIENTS: ..... 65.0%

TOTAL 100.0%

\*Contains a minimum of 10<sup>8</sup> cfu  
(colony forming units) per 1 g of product

KEEP OUT OF REACH OF CHILDREN

## CAUTION

See back panel for First Aid and  
additional Precautionary Statements.



**BioWorks®**

NET WEIGHT

0.176 oz (5 g)

0.88 oz (25 g)

3.53 oz (100 g)

EPA Reg. No. 64137-5-68539  
EPA Est. 091225-EST-001

**TURF, FIELD CROP, ORNAMENTAL, VEGETABLE, MUSHROOM AND FOREST SEEDLING USES**

PreFence Biofungicide can be used for the control of seed rot, root and stem rot and wilt diseases caused by *Fusarium*, *Alternaria* and *Phomopsis* in ornamentals, vegetables, tobacco\*, cotton\*, corn, peanuts\*, soybeans, wheat, sorghum, beans, peas, and tree and forest seedlings. PreFence Biofungicide can also be used for the control of seed rot, root rot and stem rot and wilt diseases caused by *Fusarium* in turf.

PreFence Biofungicide has shown suppression of *Botrytis* Gray Mold and root rots caused by *Pythium*, *Phytophthora* and *Rhizoctonia*. PreFence Biofungicide has shown suppression of Early Blight (*Alternaria solani*) on greenhouse Solanaceous plants; suppression of *Septoria* on tree seedlings in the field\*; and control of Dry Bubble (*Lecanicillium fungicola*) in mushrooms in mushroom cultivation\*.

PreFence Biofungicide can be used as a seed treatment for seed or soil-borne damping off and early root rot of vegetables, herbs, tobacco\*, legumes, corn, cotton\*, peanuts\*, wheat, sorghum, trees, conifers and ornamentals planted in the field or greenhouse.

\*Not for use in California.

**APPLICATION RATES**  
Refer to the table below for specific application rates.

Application	Target	Unit of Measure	Value for Given Unit of Measure per PreFence Biofungicide package PreFence Biofungicide Package Size		
			0.176 oz (5 g)	0.88 oz (25 g)	3.53 oz (100 g)
Dry seed treatment	Lettuce	Pound seeds	5	25	100
	Ornamentals, dill, leguminous plants, parsley, root crops, spinach, tomatoes, corn, tobacco*, cotton*, peanuts*, soybeans, wheat, sorghum, beans, peas, trees and conifers		2	10	40
	Brassica species (Cole crops), herbs, leeks and onions.		1.5	7.5	30
Seed soak and transplant or cutting dip	Seeds, transplants and cuttings	Gallon water	1.25-12.5	6.25-62.5	25-250
Incorporation	Growing medium	Cubic yard	2.5-5	12.5-25	50-100
Soil spray or drench	Bedding plants, foliage plants, flowering plants, trees, conifers, forest seedlings, woody ornamentals, tobacco*, cotton*, legumes, vegetable transplants or vegetables grown for production	Square foot	250-500	1250-2500	5000-10000
	Small seedlings		1000-2000	5000-10000	20000-40000
	Band or in-furrow application and side-dress application		500-1000	2500-5000	10000-20000
	Mushrooms*		125-1000	625-5000	2500-20000
	Turf		1000-1200	5000-6000	20000-24000
Drip irrigation	Ornamental and vegetable plants	Square foot	250-500	1250-2500	5000-10000
		Plant number	200-1000	1000-5000	4000-20000
	Mushrooms	Square foot	125-1000	625-5000	2500-20000
	Field crops (such as tobacco*, cotton*, corn, peanuts*, soybeans, wheat, sorghum, beans, peas, and tree and forest seedlings)	Square foot	250-500	1250-2500	5000-10000
Spray to suppress <i>Botrytis</i>	Ornamental and vegetable plants	Gallon water	12.5	62.5	250
Spray for potential growth enhancement/ yield increase*	Ornamental and vegetable plants	Square foot	2500	12500	50000

\*Not for use in California.

**Seed Treatment**

- PreFence Biofungicide can be applied as a treatment to vegetable, herb, tobacco\*, corn, cotton\*, peanut\*, wheat, sorghum, ornamental, legume, tree and conifer seeds.
- PreFence Biofungicide may be dry mixed with seed in a planter box or other suitable mixing container. Fill the planter box or container half full of seed, add half the required amount of PreFence Biofungicide and thoroughly mix with a stick or paddle. Add remainder of seed and PreFence Biofungicide and thoroughly mix.
- To mix in a small container such as a jar, add the required amount of PreFence Biofungicide and seeds, shake until the seeds become coated with powder, then pour into planter box.
- Sow treated seed without delay, but at least within a week if kept cool and dry.
- Do not treat damp or wet seed with PreFence Biofungicide powder.
- Do not treat seeds of Dusty Miller or melons with PreFence Biofungicide.

PreFence Biofungicide has also been proven effective when used as a 0.01% to 0.1% by weight seed soak where soaking seed for 5-15 minutes immediately prior to planting is practical. Because many ornamentals and vegetables have not been tested using a seed soak, first check emergence on a small quantity of seed.

**Incorporation in Potting Media**

PreFence Biofungicide can be mixed into potting media. Apply PreFence Biofungicide in a concentrate spray to the growth media when the media is being mechanically blended, or rake in by hand in beds. It is important that PreFence Biofungicide be evenly incorporated to ensure best performance. Use potting media containing PreFence Biofungicide within 2 days after incorporation. Do not store above 85°F. A drench or spray application of PreFence Biofungicide is recommended within 2-6 weeks as described below under *Soil Spray or Drench Applications*.

**Transplant Dip or Cutting Dip**

PreFence Biofungicide may be applied by dipping roots of transplants or cuttings (including bare root seedlings), such as carnations, in a suspension shortly before planting. Use a suspension of 0.01% to 0.1% by weight. Use the higher rate for high disease pressure.

**Soil Spray or Drench Application**

PreFence Biofungicide may be applied to bedding plants, foliage plants, flowering plants, cotton\*, tobacco\*, legumes, trees, conifers, forest seedlings, woody ornamentals, vegetable transplants or vegetables grown for production. Examples of ornamental crops include carnation, gerbera, African violet, cyclamen, geranium, pine and others. Examples of vegetable crops include cabbage, cucumbers, melons, peppers, tomatoes and others.

- **Soil Spray/Drench** — Uniformly apply PreFence Biofungicide over the area to be treated. For example, use 0.176 oz/1.3 gal/400 sq ft. Follow with normal irrigation or sufficient water (1/8-1/4 inch) within 6 hours to move PreFence Biofungicide into the plant root zone.
- **Small Seedling Production** — Uniformly apply PreFence Biofungicide over the area to be treated.

Repeat spray or drench application every 2-6 weeks or as needed for disease control. Use the higher rate and more frequent application for high disease pressure and for larger plants.

**Band or In-Furrow Application**

Apply PreFence Biofungicide shortly before or at the time of planting in 0.5-1 pints of water/treated 100 sq ft. A 7-inch band is recommended for banded applications. Lightly incorporate into the top 2-3 inches of soil. An in-furrow application of PreFence Biofungicide may also be made at the same rates. Spray all the soil that surrounds and covers the seed.

**Side-Dress Application**

Apply PreFence Biofungicide in 0.5-1 pints of water/treated 100 sq ft. as a side-dress application to the plant bed. Direct spray to base of plant and root zone. Repeat treatment every 2-4 weeks or as needed.

**Botrytis Suppression**

A 0.1% by weight (0.14 oz/gal of water) PreFence Biofungicide spray will help suppress *Botrytis* infection. Direct spray to susceptible leaves, flowers and fruits to the point of run-off. Apply every 2-3 weeks or as needed depending on disease pressure.

#### Control of Dry Bubble (*Lecanicillium fungicola*) in Mushroom Houses\*

As a direct spray or soil drench, apply PreFence Biofungicide at a rate of 0.18 – 1.40 ounces/1000 sq. ft. in 20 – 30 gal of water/1000 sq ft depending on disease pressure. Repeat as needed for control.

#### Suppression of Early Blight (*Alternaria solani*) on Greenhouse Solanaceous Plants

Apply PreFence Biofungicide at a rate of 0.13 oz/gal of water to suppress Early Blight (*Alternaria solani*) in greenhouse tomatoes and other Solanaceous crops. Spray to the point of runoff. Repeat every 2-6 weeks as needed.

#### Suppression of *Septoria* on Tree Seedlings\*

Apply 0.05% (0.07 oz/gal of water) PreFence Biofungicide water suspension on tree seedlings after emergence and at nursery stage by foliar spraying. Spray to the point of runoff. Repeat every 4 weeks as needed.

#### Turf

Apply PreFence Biofungicide in 1-3 pints of water 100/sq ft. Repeat treatment every 4-6 weeks or as needed depending on disease pressure.

#### Potential Growth Enhancement/Yield Increase\*

PreFence Biofungicide has been shown to promote the growth and yield of plants even in healthy crops. Repeat the treatment monthly during the life of the crop.

\*Not for use in California.

#### DRIP IRRIGATION – CHEMIGATION

##### General

1. Apply PreFence Biofungicide only through drip irrigation system. Do not apply PreFence Biofungicide through any other type of irrigation system.
2. A pesticide supply tank is recommended. Continuous agitation of PreFence Biofungicide in the supply tank is required. Begin application of PreFence Biofungicide during the beginning of irrigation.
  - For Agronomic Crops**
    - Apply in sufficient water to move into root zone.
    - Repeat every 2-6 weeks as needed for disease control.
  - For Vegetable and Ornamental Crops, and Mushrooms**
    - Use higher rate and more frequent application for large plants and pots, and for high disease pressure.
    - Apply in sufficient amount of water to move into root zone. Repeat every 2-6 weeks as needed for disease control.
3. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
4. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
5. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Special Instructions for Use of Public Water Sources

1. 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 from public water systems are in place.
2. 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.
3. 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 flow 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.
4. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
5. 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.
6. 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.
7. 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.

#### Special Instructions for Drip Irrigation (Chemigation) Systems

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 shutdown.
4. The system must contain a functional interlocking control 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 that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. System 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.

#### STORAGE AND DISPOSAL

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

**Pesticide Storage:** PreFence Biofungicide consists of living microbes that are packed in moisture- and air-proof unit packages. Store in a cool (below 46°F, 8°C), dry place. Use all contents in packet the same day. Do not store opened packets since product will lose its activity. **Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. **Container Handling:** Nonrefillable container; do not reuse or refill this container. Completely empty packet into application equipment, then offer for recycling, if available; otherwise, dispose of empty packet in a sanitary landfill or by incineration.

Lot Number: \_\_\_\_\_

#### NOTICE TO USER

BioWorks, Inc. warrants only that this product conforms to the product description on this label and is reasonably fit for the purposes set forth in the Directions for Use when used in accordance with them. However, ineffectiveness or other unintended consequences may result because of such factors as the use, storage or handling of the product contrary to the label instructions, all of which are beyond the control of BioWorks, Inc. To the extent consistent with applicable law, BioWorks, Inc. shall not be liable for indirect or consequential damages resulting from the use, storage or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BIOWORKS MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

Not for sale or use after (insert date 6 months after manufacture)

PreFence® Biofungicide is a registered trademark of BioWorks, Inc.

#### FIRST AID

If Inhaled	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
If in Eyes	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
If on Skin or Clothing	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Immediately rinse skin with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	

#### EMERGENCY INFORMATION

For spill, leak, fire, exposure or accident call CHEMTREC at 1-800-424-9300.

#### PREFENCE® BIOFUNGICIDE PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals

**CAUTION:** Harmful if inhaled. Avoid breathing dust or spray mist. Causes moderate eye irritation. Avoid contact with skin, eyes 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. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear: Long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, protective eyewear, and a NIOSH-approved particulate respirator with any N, P or R filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. (Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.) Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions are given for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Users should:

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

#### ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the state or Tribal agency responsible for pesticide regulation.

#### AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours. 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.

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
- Protective eyewear
- Waterproof gloves
- Shoes plus socks
- NIOSH-approved particulate respirator with any N, P or R filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.

#### 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 and greenhouses. Do not enter treated area without protective clothing until sprays have dried.

#### MIXING INSTRUCTIONS

To make a suspension of PreFence Biofungicide, mix in a small volume of water, such as 0.25-1.0 gallon, and let stand for approximately 30 minutes. Agitate as needed to evenly disperse PreFence Biofungicide before diluting to final volume. Do not tank mix PreFence Biofungicide with any pesticides or with concentrated fertilizers.

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