



**BioWorks®**  
How You Grow Matters™



# Hydroponic Information

PlantShield® HC and RootShield® Granules have been successfully used in various types of hydroponic systems; including rockwool, soilless bags (peat, vermiculate, perlite), NFT (nutritive film technique) and Ebb-N-Flo, for preventative control of *Pythium*, *Fusarium*, *Rhizoctonia*, *Thielaviopsis*, and *Cylindrocladium*. In addition to disease control, PlantShield HC and RootShield Granules may provide enhanced root and shoot development and aid in the uptake of nutrients by the root system. Both products have 0-hour REI and are listed for organic food and fiber production.

**PlantShield® HC** (Will flow through watering systems with screen openings larger than 80-mesh)

**USE RATE:**

Suspend 5 - 6 ounces (approximately four, finger-leveled scoops) of PlantShield HC in 100 gallons of water and heavily drench young plants.

**FREQUENCY:**

PlantShield HC, at 3 - 4 ounces (approximately two, finger-leveled scoops) per 100 gallons should be applied every 10 - 12 weeks to fortify the protective barrier in the root zone for most hydroponic systems. For the NFT system, application should be made every 8 - 10 weeks.

**APPLICATION TO TRAYS:**

Trays can be individually treated with PlantShield HC, then added to the hydroponic system. Dip trays in a suspension of PlantShield HC (approximately 0.5 pounds in 5 gallons).

**COMPATIBILITY:**

The active ingredient in PlantShield HC, *Trichoderma harzianum*, strain T-22, is compatible with fertilizers, insecticides, algacides, disinfectants and most commonly used fungicides.

**RootShield® Granules**

RootShield Granules can be mixed into top-dressing medium, sprinkled directly under spray nozzles, can be added to the planting hole prior to sticking plug or can be placed between blocks and slabs.

**USE RATE:**

Estimate the amount of soilless media to be treated with a top dress mix. Incorporate RootShield Granules, at 1 – 1.5 lbs. per cubic yard of soilless media into the top dress mix and apply to the container. Water to activate the RootShield Granules. As an alternative, directly apply 0.5g of RootShield Granules per plant to each planting hole prior to sticking plugs or to the top of the container, preferably just under a spray nozzle, to wash the active ingredient into the media. Lastly, place 0.5g of RootShield Granules per plant between the block and slab. The RootShield Granules should be leveled by gently moving the block back and forth to form an even layer.

**FREQUENCY:**

Apply RootShield Granules or PlantShield HC at half rate every 10 – 12 weeks to fortify the protective barrier in the root zone for most hydroponic systems. More frequent applications can be made if disease pressure significantly increases due to environmental stress.

To find out more about the BioWorks family of products, please contact us at 800-877-9443 or visit [www.bioworksinc.com](http://www.bioworksinc.com). © 2008 BioWorks, Inc.

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