



Bulb Protection

RootShield® PLUS⁺

When planning your next bulb crop, give your plants a healthy start and prevent soil-borne diseases with RootShield® PLUS⁺ WP or RootShield® PLUS⁺ Granules.

What is RootShield® PLUS⁺?

- An organic biological fungicide with dual active ingredients that prevent a broad spectrum of root diseases and promote healthy root systems
- Prevents attack from diseases by growing on the roots and forming a protective “shield” against disease and environmental stress
- Proven efficacy that equals chemical fungicides and is non-toxic to workers
- RootShield PLUS⁺ Granules can be mixed into your growing media (most media companies will incorporate).
- RootShield PLUS⁺ WP is a wettable powder that can be dusted, used in dips or drenched onto potted bulbs.
- EPA registered, with a 4-hour REI (restricted-entry interval)
Exception: 0-hour REI if product is soil injected or soil incorporated; workers may enter the area without PPE if they will not contact anything that has been treated.

Protection from Root Rots

- Protects bulb crops like Lilies, Tulips, Gladiolus and Narcissus
- Attacks pathogens like *Pythium*, *Fusarium*, *Rhizoctonia* and *Phytophthora*
- Stops pathogens from damaging roots

Chemical Compatibility

- Compatible with many chemical fungicides (See the RootShield PLUS⁺ Compatibility Sheet for specific information: <https://www.bioworksinc.com/>.)
- Used as a stand-alone fungicide for root disease control
- RootShield PLUS⁺ is a preventative fungicide; to “cure” existing problems, use appropriate chemical treatment, then follow-up with RootShield PLUS⁺ WP.

Soil Temperatures

- Storage conditions for the cooling period (vernalization) will not harm the active fungal ingredients, *Trichoderma harzianum* strain T-22 and *Trichoderma virens* strain G-41, found in RootShield PLUS⁺.

Watering and Leaching

- Heavy watering increases the risk of root disease problems, and should be avoided.
- Watering will not leach RootShield PLUS⁺ away from the crop’s root zone; it will continue to grow on the roots as it expands through the growing media for up to 3 months.



RootShield PLUS⁺ Management Program: Bulb Crops

Crop Production Phase	Product and Application	Rates
<p>Bulb Planting, Growth and Cold Storage</p>	<p>Pre-blend RootShield PLUS⁺ Granules into your soil mix at the time of planting or drench with RootShield PLUS⁺ WP immediately after planting.</p> <p>Bulbs may be dusted with RootShield PLUS⁺ WP immediately before planting or may be dipped into a drench slurry (dip).</p> <p>Treated bulbs can be pot or case cooled.</p> <p>Applying RootShield PLUS⁺ at this time is critical for basal root protection, especially if the bulbs are placed at temperatures above 50° F for 2- 3 weeks. If bulbs are immediately placed in the cooler, the most effective treatment would be with RootShield PLUS⁺ granules incorporated into the media or the use of the dry bulb dust.</p>	<p>Granules: 1.5 – 3 lb/cu. yd.</p> <p>Drench (WP): 6 – 8 oz/100 gal</p> <p>Bulb dusting: 1.0 – 3.0 lbs/100 lbs.</p> <p>Bulb dip (drench): 0.5 lb/20 gal</p>
<p>Post-Cold Storage and Crop Growth</p>	<p>Apply RootShield PLUS⁺ WP immediately after removing the crop from cold storage, or replant into media containing RootShield PLUS⁺ Granules.</p>	<p>Drench (WP): 6 – 8 oz/100 gal</p> <p>Granules: 1.5 – 3 lb/cu. yd.</p>
<p>Additional Root Protection</p>	<p>A second application of RootShield PLUS⁺ should be made using the WP formulation:</p> <ul style="list-style-type: none"> • If treated before cold storage – treat within 3 weeks after placement in the greenhouse • If treated after cold storage – retreat in 10-11 weeks depending upon the crop 	<p>Drench (WP): 6 – 8 oz/100 gal</p>

Protection of the stem root system is essential for optimal plant growth and development. Long term protection of the stem root system against disease and environmental stress is optimized with a second application of RootShield PLUS⁺. The root disease protection will carry over to the customer buying your product. A full application of RootShield PLUS⁺ costs less than 2 cents per 6-inch pot.

Refer to product labels for complete application details. Additional technical information is available on our website (bioworksinc.com) or from your BioWorks biological solutions advisor. RootShield® PLUS⁺ is a registered trademark of BioWorks, Inc. Always read and follow label directions.