



Bulb Protection

RootShield® *PLUS*⁺

What is RootShield® *PLUS*⁺?

- An EPA registered, biological, dual active ingredient root protectant fungicide available in granules or wettable powder
- 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
- 0-hr REI when applied as a drench or incorporated (granular)
- 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

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)
- 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
Bulb Planting, Growth and Cold Storage	<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>
Post-Cold Storage and Crop Growth	<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>
Additional Root Protection	<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 technical sales representative. Always read and follow label directions.