Preplant Biofungicide Dip Treatment of Strawberry Transplants for Management of Crown and Root Rot

RootShield® *PLUS*+ WP

Crown and Root Rot in Strawberry Transplants

Crown and root rot in strawberry transplants may be caused by *Phytophthora cactorum*, *P. citricola*, *P. megasperma*, sans *P. parasitica.* It is also attributed to *Colletotrichum acutatum.* However, it is difficult to reliably distinguish crown and root necrosis caused by any of these pathogens. These diseases are responsible for serious loses in early plant establishment in California strawberry fields. Many growers spend additional resources to buy more transplants and to replant the areas with significant die out. Very often the nurseries are blamed for the infection which results in the need to replace significant number of transplants.

Features and Advantages of RootShield® *PLUS*+

- EPA registered biological fungicide based on *Trichoderma harzianum* strain T-22 and *Trichoderma virens* strain G-41
- Preventive root disease control
- 4-hr REI
- OMRI listed
- Lasts up to 3 months on plant's roots
- Compatible with many fungicides commonly used for preplant treatments

Benefits of RootShield® *PLUS*+

- Safe, cost-effective root disease control
- Unique MOA makes it an excellent resistance management tool
- Promotes plant health and root system development

Modes of Action

- Competitive exclusion: grows around the root system to block pathogens.
- Mycoparasitism: seeks out and consumes soil pathogens.
- Metabolite production: Both active ingredients strains T22 and G-41 produce metabolites to inhibit microbial growth.

Pathogens Controlled

- *Pythium*
- *Rhizoctonia*
- *Fusarium*
- *Cylindrocladium*
- *Thielaviopsis*
- *Phytophthora*

Recommendations for RootShield® *PLUS*+ WP Dip

- Preplant Dip Use rate: 3 lbs/160 gallons of water
- Can be tank mixed with industry standard fungicides such as azoxystrobin.
- Recommended in a tank mix with ON-Gard® 5-0-0 biological plant nutrient at a rate of 1% v/v.
- REI: 4 hours
- Agitate during application to maintain spores in suspension.
- Submerge roots for 30 seconds.
- Recommended re-application through drip irrigation 4 weeks after transplant at a rate of 1-2 lbs./ac.

Always read and follow label directions. 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.

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