



APPLICATION/PRODUCTION: ROOTSHIELD[®] PLUS⁺

PROGRAMS FOR PREVENTATIVE ROOT DISEASE MANAGEMENT IN HYDROPONIC PRODUCTION

PROPAGATION PHASE

If you order your young plants from a propagator, ask them to drench RootShield PLUS⁺ WP at a rate of 1.6 grams/gallon (0.4g/L) at the time of sowing seed.

NEW CROP PLANTING PHASE

PERpose Plus: Dip or drench rooting media to saturation at 1 fl oz/gallon the day before introducing plant material. Hydrogen peroxide will break down overnight.

RootShield PLUS⁺ WP: If the bags are not pre-cut, slabs can be pre-charged with RootShield PLUS WP the evening before transplanting. Apply through the drip system at 1-2 lb./acre (0.07-0.1 grams/plant). Drain the following morning prior to placement of the blocks onto the slabs. If bags are pre-cut, apply RootShield PLUS to saturation before transplanting; use the same rates per acre. If *Fusarium* is your primary concern, use high rate of RootShield PLUS⁺.

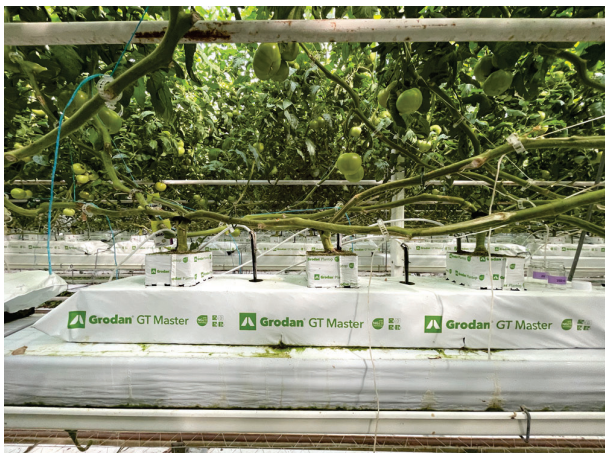
RootShield PLUS⁺ Granule: Apply 1.0 gram of granules/plant by spreading the granules at the center of the hole cut in the grow bag/slab. Then place the propagation cube directly on top of the granules sandwiching them between the block and slab.

GROWING PHASE

RootShield PLUS⁺ WP: Reapply half the full WP rate, i.e., 0.5-1.0 lb./acre (0.035-0.5 grams/plant) through drip irrigation. Reapply at an interval of 4 to 6 weeks depending on disease pressure.

RootShield PLUS⁺ Granule: Reapply granules at 0.5-1.0 grams/plant. Reapply at an interval of 8 to 10 weeks depending upon disease pressure.

PERpose Plus: Under constant feed, *Trichoderma* can be harmed at hydrogen peroxide rates > 30 ppm. The recommended rate is 10 ppm hydrogen peroxide at the dripper. Drenching frequently and/or at high rates can impact establishment of *Trichoderma* in RootShield PLUS⁺ as well as other beneficial microbes in the root zone; high rates can also damage root hairs, increasing risk of root infection. Best practice is to avoid application of PERpose Plus for 5-7 days after a RootShield application. Once established on roots, *Trichoderma* is difficult to kill.





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PROGRAMS FOR PREVENTATIVE ROOT DISEASE CONTROL IN HYDROPONIC PRODUCTION

ADDITIONAL DISEASE CONTROL OPTIONS:

CEASE[®]: Drench at 2-4 liters/acre once per month, alternating with RootShield PLUS⁺ applications. For example, 2 to 3 weeks after a RootShield PLUS⁺ application make a CEASE application.

ON-Gard[®] 5-0-0 specialty fertilizer and stress reducer. Can be applied as a drench together with RootShield PLUS⁺ WP applications at a rate of 1-2 liters/acre. ON-Gard will make plants more tolerant to stress and promote nutrient use efficiency. ON-Gard is absorbed through leaf tissue as well and can be added to many systemic and translaminar sprays to help increase efficacy.

Compatible fungicide: At planting or during production, compatible conventional fungicides can be applied to reduce disease pressure. RootShield PLUS⁺ is tank mix compatible with many synthetic and biological fungicides. Please visit our website compatibility tool for a full list of compatible fungicides.



Pepper plant recovering from *Fusarium* root infection (note: orange-colored infected roots). The rockwool slab was placed on top of a coco slab and roots grew through a layer of RootShield PLUS⁺ granules sprinkled on top of the coco slab. Healthy white root regrowth is visible in the coco slab. The plant regained vigor and productivity.

GOING ABOVE AND BEYOND

At BioWorks, we not only help eradicate harmful diseases and pests that threaten your crops, but we design and support integrated plant health management programs. And because we know how quickly some diseases can work, we respond to any questions you might have in just 48 hours. So you can get back to the business of successful growing.



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