



Product Compatibility

RootShield®

The compatibility of RootShield® PLUS⁺ WP with other products has been tested extensively. The impact of these products on the viability of RootShield PLUS⁺ active ingredients was evaluated. The results below are divided by product groups: Adjuvants, Fungicides, Insecticides, etc.

Even though the active ingredient in RootShield PLUS⁺ WP is a combination of two species of fungi (*Trichoderma harzianum* strain T-22, *Trichoderma virens* strain G-41), research has shown that it can be successfully tank-mixed with many other fungicides. For incompatible fungicides, BioWorks, Inc. recommends that unless specified otherwise, RootShield PLUS⁺ WP be applied 10 to 14 days before or after chemical fungicide application.

Tests were not carried out to evaluate impact on the partner product integrity or for plant phytotoxicity. Compatibility has been tested at labeled tank mix dilutions, not in concentrated stock tank dilutions, such as for injecting at 1:100, unless noted. Physical compatibility can be impacted by water quality, tank residues, or the addition of other materials in the spray or stock tank. All tank mix combinations have been tested as compatible for up to four hours.

- **Read and follow label directions for all tank mix materials.**
- Always maintain constant agitation in your spray tank.
- Make applications of tank mix solutions as soon as possible after mixing.

This compatibility guidance may be applied to the RootShield® family of products.

Adjuvants, Surfactants		
Active Ingredient(s)	Brand Name	Compatibility
-	AquaGro® 2000	Yes
-	AtPlus™ S-12	Yes
-	Bivert®	Yes
-	Capsil®	Yes
-	Flozine®	Yes
-	Latron® B 1956	Yes
-	PsiMatric	Yes
-	R-11®	Yes
-	Silwet® L-77	Yes
-	Silwet® Eco	Yes
-	Non-ionic surfactants	Yes



Bactericides		
Active Ingredient(s)	Brand Name	Compatibility
<i>Agrobacterium radiobacter</i> strain K84	Galltrol®	Yes
Streptomycin sulfate	Agri-Mycin®	Yes

Biocides		
Active Ingredient(s)	Brand Name	Compatibility
Chlorine dioxide	Selectroicide®	NO (Apply separately, at free chlorine levels of 5 ppm or less)
Didecyldimethyl ammonium chloride (quaternary ammonium compound)	KleenGrow™, Uptake™	NO (Apply separately; use only at 35 ppm or less)
Halogenated heterocyclic	Agribrom®	NO (Apply 1 day apart.)
Hydrogen Peroxide/Hydrogen Dioxide	PERpose Plus™	NO (At concentrations of 1:10,000 or lower, can apply constantly in irrigation water.)
Hydrogen dioxide/ peroxyacetic acid	ZeroTol®	NO (At concentrations of 1:200 or lower, can apply to media/roots containing established RootShield Plus ⁺ . At 1:10,000 or lower, can apply constantly in irrigation water.)

Fertilizers		
<i>In general fertilizers are compatible when tank mixed with RootShield:</i>		
<ul style="list-style-type: none"> <i>In concentrated stock solutions with RootShield WP, mix and use within 4 hours.</i> <i>For dry mixes with RootShield Granules, mix and use the same day</i> 		
Analysis	Brand Name	Compatibility
5-0-0	ON-Gard®	Yes
2-0-6	Verdanta® PL-2	Yes
Various analyses	Jack's Professional	Yes

Fungicides		
Active Ingredient(s)	Brand Name	Compatibility
Aluminum tris (O-ethyl phosphonate) Fosetyl-Al	Aliette®, Areca™	Yes
Azoxystrobin	Heritage®, Abound®, Quadris®	Yes
Azoxystrobin and Benzobindiflupyr	Mural®	Yes
<i>Bacillus amyloliquefaciens</i> strain D747	Triathlon® BA	NO (Apply 1 day apart.)
<i>Bacillus amyloliquefaciens</i> strain F727	Stargus™	NO (Apply 1 day apart.)



Fungicides continued		
Active Ingredient(s)	Brand Name	Compatibility
<i>Bacillus licheniformis</i> strain SB3086 and Indole 3-butiric Acid	EcoGuard® GN	Yes
<i>Bacillus subtilis</i> (various)	Companion®, Subtilex®, Taegro®	NO (Apply 1 day apart.)
<i>Bacillus subtilis</i> Strain QST 713	CEASE ®, Rhapsody®, Serenade®	NO (Apply 1 day apart.)
Benomyl	Benlate®, Tersan® 1991, Bonide® Lawn Fungicide	NO (Apply 10-14 days apart.)
Boscalid and Pyraclostrobin	Pageant® Intrinsic, Pristine®	Yes
Captan	Captan® 85 WP	Yes
Carboxin	Vitavax 34®, Vitavax® 200	NO (Apply 1 day apart.)
Chlorothalonil	Bravo®, Daconil®	Yes
<i>Chromobacterium subtsugae</i> strain PRAA4-1-T	Grandevo®	Yes
Copper sulfate	Phyton®27, Phyton®35	NO (Apply 1 day apart.)
Cyazofamid	Segway®	Yes
Dicloran	Botran®	NO (Apply 1 day apart.)
Didecyldimethyl ammonium chloride (quaternary ammonium compound)	KleenGrow™ (At concentrations above 35 ppm)	NO (Apply 10-14 days apart.)
Dimethomorph	Stature DM®, Acrobat® 50 WP, Forum®	Yes
Etridiazole and thiophanate-methyl	Banrot®	Yes
Etridiazole	Truban®	NO (Apply 1 day apart.)
Fenamidone	FenStop®	Yes
Fenarimol	Rubigan®	NO (Apply 1 day apart.)
Fludioxonil	Maxim®, Medallion® WDG	Some inhibition of Root-Shield at high Fludioxonil rates (4 oz/100 gal)
Fluopicolide	Adorn®, Presidio®	NO (Apply 1 day apart.)
Flutolanil	Moncut®, Prostar®	NO (Apply 1 day apart.)
Flutriafol	Rhyme®	NO (Apply 10-14 days apart.)
Imazalil	Fungaflor®, Flo-Pro®	NO (Apply 10-14 days apart.)
Iprodione	Chipco® 26019 FLO, Rovral®, Fungicide X, Iprodione® Pro	NO (Apply 1 day apart.)
Mancozeb	Fore®, Pace® 70W, Zyban®, Dithane®	NO (Apply 1 day apart.)
Maneb	Maneb®, Manex®	NO (Apply 1 day apart.)
Mefenoxam	Subdue® Maxx, Ridomil Gold®	Yes
Mefenoxam and fludioxonil	Hurricane®	Yes

Fungicides <i>continued</i>		
Active Ingredient(s)	Brand Name	Compatibility
Metalaxyl	Apron®, Allegiance®	NO (Apply 1 day apart.)
Myclobutanil	Eagle®	NO (Apply 1 day apart.)
Oxathiapiprolin and mefenoxam	Orondis Gold®	Yes
Oxathiapiprolin	Segovis®	Yes
Pentachloronitrobenzene (Quintozene)	PCNB, Terraclor® 400, Turfcide®, Penstar®	Yes, at labeled dilutions; NOT compatible in a 100X concentration.
Penthiopyrad	Fontelis®	Yes
Phosphorus acid	Alude®, Agrifos®, Fosphite®	NO (Apply 1 day apart.)
Potassium phosphite	ProPhyt	Yes
Propamocarb hydrochloride	Banol®, Previcur® Flex	NO (Apply 1 day apart.)
Propanil	Prostar®	NO (Apply 1 day apart.)
Propiconazole	Banner Maxx II®, Topaz®	NO (Apply 10-14 days apart.)
Pydiflumetofen and fludioxonil	Miravis® Prime	NO (Apply 10-14 days apart.)
Pyraclostrobin	Empress®, Cabrio®, Insignia®, Pristine®, Headline®	Yes
<i>Reynoutria sachalinensis</i> extract	Regalia®	Yes
<i>Streptomyces griseoviridis</i> strain K61	Mycostop®	Yes (use within 2 hours)
<i>Streptomyces lydicus</i> WYEC 108	Actinovate®	Yes
Tebuconazole	Folicur® 3.6 F	NO (Apply 10-14 days apart.)
Thiabendazole	Mertect®	NO (Can be tank mixed for 4 hours or less; otherwise apply separately.)
Thiophanate methyl	AllBan®, Cleary's 3336®, Fungo Flo®, Topsin M®, Top 5®	Yes
Thiram	Spotrete®, Vitavax® 200	Yes
Triadimefon	Bayleton®	NO (Apply 1 day apart.)
Triadimenol	Baytan®	NO (Apply 1 day apart.)
Triflumizole	Terraguard®	NO (Apply 10-14 days apart.)
<i>Ulocladium oudemansii</i> (U3 Strain)	BotryStop™	NO (Apply 1 day apart.)
Vinclozolin	Ronilin® DF, Touche®, Curalan®	Yes



Herbicides		
Active Ingredient(s)	Brand Name	Compatibility
Glyphosate	Roundup®	NO (Apply 1 day apart.)
Napropamide	Devrinol®	Yes
Pendimethalin	Prowl®, Pendulum®	NO (Apply 1 day apart.)

Insecticides, Miticides		
Active Ingredient(s)	Brand Name	Compatibility
Acephate	Orthene®	NO (Apply 1 day apart.)
Azadirachtin	Molt-X®	Yes
<i>Bacillus thuringiensis</i> , subsp. <i>israelensis</i> , strain AM 65-52	Gnatrol®	NO (Apply 1 day apart.)
<i>Beauveria bassiana</i> strain GHA	BotaniGard® ES, BotaniGard® 22WP, Mycotrol® ESO, Mycotrol® WPO	Yes
Carbaryl	Sevin®	NO (Apply 1 day apart.)
Chlorpyrifos	Lorsban®	NO (Apply 1 day apart.)
Cyantraniliprole	Mainspring®, Verimark®	Yes
Cyromazine	Citation®	Yes
Diazinon	Diazinon	NO (Apply 1 day apart.)
Dicofol	Kelthane®	NO (Apply 1 day apart.)
Dinotefuran	Safari®, Venom®	Yes
Heat-killed <i>Burkholderia</i> spp. strain A396	Venerate®, Majestene®	Yes
Imidacloprid	Marathon®, Gaucho®, Admire® Pro	NO (Apply 1 day apart.)
<i>Isaria fumosorosae</i> Apopka Strain 97	Preferal®	Yes
Malathion	Malathion®	NO (Apply 1 day apart.)
Pyrethrins	Pyganic®	Yes
Soybean Oil and Sodium Lauryl Sulfate	Green Cleaner	NO (Apply 10-14 days apart.)
Spirotetramat	Kontos®, Movento®	Yes
<i>Steinernema feltiae</i>	NemaShield®	Yes
<i>Heterorhabditis bacteriophora</i>	NemaShield® HB	Yes
Thiamethoxam	Flagship®, Platinum®	Yes



Microbial Inoculants		
Active Ingredient(s)	Brand Name	Compatibility
<i>Glomus</i> spp.	Various mycorrhizae	Yes
Microorganisms, Lactic Acid Bacteria	EM-1	Yes

Plant Growth Regulators (PGRs)		
Active Ingredient(s)	Brand Name	Compatibility
Ancymidol	A-Rest®	NO (Apply 1 day apart.)
Chlormequat chloride	Cycocel®	NO (Apply 1 day apart.)
Diaminozide	B-Nine®	NO (Apply 1 day apart.)
Flurprimidol	Topflor®	NO (Apply 1 day apart.)
Paclobutrazol	Bonzi®	NO (Apply 1 day apart.)
Uniconazole	Sumagic®	NO (Apply 1 day apart.)

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. Always read and follow label directions.