



Product Compatibility

RootShield®

The compatibility of RootShield® with other inputs has been tested extensively. Products were evaluated for impact on viability of active ingredient spores. Even though the active ingredient in RootShield is a fungus; research has shown that it can be tank-mixed successfully with many other fungicides. The information below is divided into three (3) tables: (1) materials in the first table are fully tank mix compatible; (2) materials listed in the second table can be applied before or after the application of RootShield; (3) the third table lists incompatible fungicides. For incompatible fungicides, BioWorks, Inc. recommends that RootShield® be applied 10 to 14 days before or after chemical fungicide application. Make applications of tank mix solutions as soon as possible after mixing.

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 your 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.

TABLE 1: Tank Mix Compatible Products (Tank mix or rotation)	
Bactericides (Compatible)	
Brand Name(s)	Active Ingredient (a.i.)
Agri-Mycin®, Agrimycin	Streptomycin sulfate
Galtrol®	<i>Agrobacterium radiobacter</i> strain K84
Fertilizers (Compatible)	
In general fertilizers are compatible when tank mixed with RootShield: <ul style="list-style-type: none"> • In concentrated stock solutions with RootShield WP, mix and use within 4 hours. • For Dry mixes with RootShield Granules, mix and use the same day 	
Brand Name(s)	Analysis
ON-Gard®	5-0-0
Verdanta® PL-2	2-0-6
Jack's Professional	Various analyses
Fungicides (Compatible)	
Brand Name(s)	Active Ingredient (a.i.)
Aliette®	Aluminum tris (O-ethyl phosphonate) Fosetyl-Al
Heritage®, Abound®, Quadris®	Azoxystrobin
EcoGard® GN	<i>Bacillus licheniformis</i> strain 3086



TABLE 1: Tank Mix Compatible Products (Tank mix or rotation) - continued

Fungicides (Compatible) - continued	
Brand Name(s)	Active Ingredient (a.i.)
Pageant [®] Intrinsic	Boscalid plus Pyraclostrobin
Captan [®] 85 WP	Captan
Daconil [®] Ultrex	Chlorothalonil
Segway [®]	Cyazofamid
Stature [®]	Dimethomorph
Banrot [®]	Etridiazole and Thiophanate-methyl
Regalia [®]	Extract of <i>Reynoutria sachalinensis</i>
FenStop [®]	Fenamidone
Medallion [®] , Maxim [®]	Fludioxonil
Chipco 26019 Flo, Fungicide X, Rovral [®] , Ipridione Pro	Ipridione
Subdue [®] Maxx, Ridomil Ridomil Gold [®]	Mefanoxam
Hurricane [®]	Mefanoxam plus fludioxonil
PCNB, Terraclor [®] 400, Turfcide [®] , Penstar [®] . At labeled dilutions, not compatible in a 100X concentration.	Pentachloronitrobenzene (Quintozene)
Empress [®] , Cabrio [®] , Insignia [®] , Pristine [®] , Headline [®]	Pyraclostrobin
Mycostop [®] , PreFence [®] (use w/in 2 hours)	<i>Streptomyces griseoviridis strain K61</i>
Actinovate [®]	<i>Streptomyces lydicus WYEC 108</i>
Mertect [®] (When tank-mixed for 4 hours or less)	Thiabendazole
Cleary's 3336 [®]	Thiophanate methyl
Spotrete [®] , Vitavax [®] 200	Thiram
Bayleton [®] 25 T&O	Triadimefon
Ronilin [®] DF	Vinclozolin
Insecticides (Compatible)	
Brand Name(s)	Active Ingredient (a.i.)
Molt-X [®]	Azadirachtin
BotaniGard [®] ES, BotaniGard [®] 22WP, Mycotrol [®] ESO, Mycotrol [®] WPO	<i>Beauveria Bassiana strain GHA</i>
Gnatrol [®]	<i>Bacillus thuringiensis, subsp. Israelensis, strain AM 65-52</i>
Venerate [®] , Majestene [®]	Heat-killed <i>Burkholderia</i> spp. strain A396
Mainspring [®]	Cyantraniliprole
Citation [®]	Cyromazine
Safari [®]	Dinotefuran
Marathon [®] , Gaucho	Imidacloprid
Preferal [®]	<i>Isaria fumosorosae Apopka Strain 97</i>



TABLE 1: Tank Mix Compatible Products (Tank mix or rotation) - continued

Insecticides (Compatible) - continued	
Brand Name(s)	Active Ingredient (a.i.)
Pyganic®	Pyrethrins
Kontos®	Spirotetramat
Flagship®	Thiamethoxam
Microbial Inoculants (Compatible)	
Brand Name(s)	
EM-1	
Mycorrhizae (Compatible)	
Brand Name(s)	Active Ingredient (a.i.)
Various	<i>Glomus</i> spp.
Surfactants (Compatible)	
Brand Name(s)	
AquaGro® 2000	
AtPlus S-12	
Bivert®	
Capsil®	
Flozine®	
Latron® B 1956	
PsiMatric	
R-11	
Silwet	
Silwet Eco	
Many other non-ionic surfactants	

TABLE 2: Pre- and Post-Application Compatibility Products

(Incompatible when tank mixed. BioWorks recommends that these products be applied separately before or after RootShield.)

Biocides (Pre and Post Application)	
Brand Name(s)	Active Ingredient (a.i.)
Selectocide (At free chlorine levels of 5 ppm or less)	Chlorine dioxide
KleenGrow™ (Use only at 35 ppm or below) Uptake (Use only at 35 ppm or below)	Didecyltrimethyl ammonium chloride (quaternary ammonium compound)



TABLE 2: Pre- and Post-Application Compatibility Products - continued
(Incompatible when tank mixed. BioWorks recommends that these products be applied separately before or after RootShield.)

Biocides (Pre and Post Application) - continued	
Brand Name(s)	Active Ingredient (a.i.)
Agribrom [®]	Halogenated heterocyclic
ZeroTol [®] (Do not tank mix. At concentrations of 1:200 or lower can be applied to media/roots containing established RootShield Plus. At concentrations of 1:10,000 or lower can be constantly applied in irrigation water)	Hydrogen dioxide/ peroxyacetic acid
Fungicides (Pre and Post Application)	
Brand Name(s)	Active Ingredient (a.i.)
Triathlon [®] BA	<i>Bacillus amyloliquefaciens</i> strain D747
CEASE [®] , Rhapsody [®] , Serenade [®] (wait 1 day)	<i>Bacillus subtilis</i> strain QST 713
Companion [®] , Subtilex [®] , Taegro [®]	<i>Bacillus subtilis</i> (various)
Vitavax 34 [®] , Vitavax [®] 200	Carboxin
Chloroneb [®] , Demosan [®] , Terraneb [®] , Terramec [®]	Chloroneb
Phyton-27 [®]	Copper sulfate
Botran [®]	Dicloran
Truban [®]	Etridiazole
Rubigan [®] , Lesco Twosome	Fenarimol
Adorn [®]	Fluopicolide
Moncut [®]	Flutolanil
Chipco [®] 26019, Roval [®] , Iprodione [®] Pro	Iprodione
Fore [®] , Pace [®] 70W, Zyban [®] , Dithane [®]	Mancozeb
Maneb [®] , Manex [®]	Maneb
Apron [®] , Subdue, Allegiance	Metalaxyl
Eagle [®]	Myclobutanil
Alude [®] , Agrifos [®] , Fosphite [®] , Topaz [®]	Phosphorus acid
Banol [®] , Previcur Flex	Propamocarb hydrochloride
Prostar [®]	Propanil
Mertect [®] (can tank mix for 4 hour or less, otherwise pre & post application)	Thiabendazole
Bayleton [®]	Triadimefon
Baytan [®]	Triadimenol



TABLE 2: Pre- and Post-Application Compatibility Products - continued
(Incompatible when tank mixed. BioWorks recommends that these products be applied separately before or after RootShield.)

Growth Regulators (Pre and Post Application)	
Brand Name(s)	Active Ingredient (a.i.)
A-Rest [®]	Ancymidol
Cycoce [®]	Chlormequat chloride
B-Nine [®]	Diaminozide
Bonzi [®]	Paclobutrazol
Sumagic [®]	Uniconazole
Herbicides (Pre and Post Application)	
Brand Name(s)	Active Ingredient (a.i.)
Roundup [®]	Glyphosate
Prowl [®] , Pendulum [®]	Pendimethalin
Insecticides (Pre and Post Application)	
Brand Name(s)	Active Ingredient (a.i.)
Orthene [®]	Acephate
Gnatrol [®]	<i>Bacillus thuringiensis</i> , subsp. <i>israelensis</i> , strain AM 65-52
Lorsban [®]	Chlorpyrifos
Diazinon	Diazinon
Marathon [®] , Gaucho	Imidacloprid
Lindane [®]	Lindane
Malathion [®]	Malathion
Methoxychlor [®]	Methoxychlor
Sevin [®]	Carbaryl
Miticides (Pre and Post Application)	
Brand Name(s)	Active Ingredient (a.i.)
Kelthane [®]	Dicofol



TABLE 3: Incompatible Fungicides

(Incompatible when tank mixed. BioWorks recommends that RootShield be applied 10 to 14 days before or after applying the products in this table.)

Fungicides (Incompatible)	
Brand Name(s)	Active Ingredient (a.i.)
Benlate [®] , Tersan [®] 1991, Bonide [®] Lawn Fungicide	Benomyl
KleenGrow [™] (At concentrations above 35 ppm)	Didecyldimethyl ammonium chloride (quaternary ammonium compound)
ZeroTol [®] (At concentrations above 1:10,000)	Hydrogen dioxide/ peroxyacetic acid
Fungaflor [®] , Flo-Pro [®] Nuzone	Imazalil
Banner [®]	Propiconazole
Folicur [®] 3.6 F	Tebuconazole
Terraguard [®]	Triflumizole
Insecticides/Miticides (Incompatible)	
Brand Name(s)	Active Ingredient (a.i.)
Green Cleaner	Corn Oil & Soybean Oil

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.