

Dry Edible Bean SEED TREATMENT

Chemical	Application	Dosage ¹	Control ² of Seedling Blights ³	Remarks
Azoxystrobin Dynasty, 9.6%	Slurry	0.153-0.765 fl oz/cwt	X	For seed-borne and soil-borne fungi.
Captan Captan 4000, 38.4%	See label for rates of application, formulations and registered use	See label for amounts of formulated product to apply	X	
Chloroneb Chloroneb 65W, 65%	Slurry	4 oz/cwt	X	May be used as a supplemental seed treatment for improved suppression of Rhizoctonia and Pythium.
Fludioxonil Maxim 4FS, 40.3%	Slurry	0.08-0.16 fl oz/cwt	X	For seed-borne and soil-borne fungi. Registered for control of Rhizoctonia and Fusarium.
Fludioxonil + Mefenoxam Apron Maxx RFC 2.31%:3.46%	Slurry	1.5 fl oz/cwt	X	For Fusarium and Rhizoctonia control.
Mefenoxam Apron XL LS, 32.3%	Slurry or mist	0.32-0.64 fl oz/cwt	X	For Pythium control. For both commercial and on-farm use.

¹Dosage = Amount of formulated product to apply.

²X = Product labeled for crop and disease; Blank = product not labeled for specific disease.

³Seedling blights due to various fungal infections of seed.

Note: Some seed treatments may affect Rhizobia inoculants; read inoculant label for specific information.

Dry Edible Bean (continued)

SEED TREATMENT

Chemical	Application	Dosage ¹	Control ² of Seedling Blights ³	Remarks
Mefenoxam + Fludioxonil + Thiamethoxam Cruiser Maxx 1.7%:1.12%:22.61%	Slurry or mist	3 fl oz/cwt	X	
Metalaxyl Aquire, 28.35%	Mist or slurry	0.75 fl oz/cwt	X	Metalaxyl is only for Pythium damping control. For use only with commercial seed treatment equipment. Apron Dry Seed Protectant is for drill box application to seed not previously treated with Apron; thorough mixing of fungicide and seed is essential for good control.
Allegiance FL, 28.35% Sebring 318 FS, 28.35%	Mist or slurry	0.75 fl oz/cwt	X	
Allegiance Dry Seed Protectant, 12.5%	Drill box	4 oz/cwt	X	
Dyna-Shield, 28.35%	Slurry	0.75 fl oz/cwt	X	
Mefenoxam + Fludioxonil + Thiamethoxam CruiserMaxx 1.7%:1.12%:22.6%	Slurry or mist	3 fl oz/cwt	X	For seed-borne and soil-borne fungi and insects,
Metalaxyl + PCNB + Carboxin Prevail, 3.12%:15%:15%	Drill box	6-8 oz/cwt	X	Controls early season Pythium and Rhizoctonia.
Pyraclostrobin Stamina, 18.4%	Slurry or mist	0.38-1.52 fl oz/cwt	X	
Streptomycin 62.6% Agri-Strep 500, AS-50, or Agricultural Streptomycin	Slurry (5%)	.83 oz/cwt		Controls bacterial surface contamination on dry beans.
8 1/3 lb in 10 gal. water treats 16,000 lb. of seed. Do not use with Rhizobium inoculant. Triple treat process uses Fungicide + Insecticide + Streptomycin.				
Thiram 42-S Thiram, 42% Signet 480 FS, 42%	Liquid or slurry	2 fl oz/cwt	X	
Thiram 50WP Dyed, 50%	Drill box or slurry	2 oz/cwt	X	
Trifloxystrobin Trilex, 22%	Slurry	0.32 fl oz/cwt	X	For seed-borne and soil-borne fungi.
Trifloxystrobin + Metalaxyl Trilex 2000, 7.12%:5.69%	Slurry or mist	1.0 fl oz/cwt	X	For seed-borne and soil-borne fungi.

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Note: Some seed treatments may affect Rhizobia inoculants; read inoculant label for specific information.

Dry Edible Bean BIOLOGICAL SEED TREATMENT

Chemical	Application	Dosage ¹	Control ² of Seedling Blights ³	Remarks
Organism <i>Bacillus subtilis</i> GB 03 Kodiak, 2.75%	Slurry	0.125 oz/cwt	X	Suppression of root diseases caused by Rhizoctoria and fusarium.
<i>Bacillus pumilus</i> GB 34 Yield Shield, 0.28%	Slurry	0.102/cwt	X	

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Note: Some seed treatments may affect Rhizobia inoculants; read inoculant label for specific information.

Dry Bean SOIL APPLICATION

Chemical (Fungicide Group)	Application	Dosage ¹	Control ² of Rhizoctonia	Remarks
PCNB (14) Terraclor FL, 40%	In-furrow spray	2.2-3.3 fl oz/1,000 linear feet of row	X	Spray planting furrow and covering soil at planting. Do not apply to seed. Use lower rates on lighter soils.
Terraclor 75 WP, 75%	In-furrow spray	1.4-2.2 oz/1,000 linear feet of row	X	
Terraclor EC, 23.8%	In-furrow spray	4.4-6.6 fl oz/1,000 linear feet of row	X	Apply as a directed spray in the seed furrow and to covering soil at planting. Spray planting furrow and covering soil at planting. Do not apply directly to seed. Use lower rates on lighter soils.
PCNB 2 Spray, 24%	In-furrow spray	8.8 fl oz/1,000 linear feet of row	X	
Terraclor 10G, 10%	In-furrow granules	0.75-1 lb/1,000 linear feet of row	X	
PCNB (14) + Metalaxyl (4) Ridomil Gold PC GR 10%: 0.5%	In-furrow granules	0.75 lb/1,000 linear feet of row	X	Resistance statement 4 ³ . Adjust application equipment so granules are mixed with soil surrounding seed. See label for planting restrictions within 12 months of application.

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³See fungicide resistance management statements on Page 10.

Dry Edible Bean FOLIAR SPRAYS

Chemical (Fungicide Group)	Application ¹	Dosage ²	Disease Control ³				Remarks
			Anthracnose	Rust	Halo Blight	White Mold	
Bacillus subtilis strain QST 713 (44) Serenade ASO	Spray or fungigation	2-6 qt/A		X		X	Begin applications when environmental conditions and plant stage are conducive to disease development.
Boscalid (7) Endura, 70%	Spray or fungigation	8-11 oz/A		X		X	Apply at the beginning of flowering, prior to disease onset. Use higher rate for extended protection. Make a second application at full bloom if conditions continue to be favorable for disease development. Do not apply within 21 days of harvest.
Chlorothalonil (M5) Bravo 500, 40.4%	Spray or fungigation	2-3 pt/A	X	X			Do not apply chlorothalonil within 14 days of harvest. See publication PP-576, "Dry Edible Bean Diseases." Carefully monitor fields for disease. Bravo Zn, Bravo ZN, Echo Zn and Terranil Zn also contain zinc.
Bravo WeatherStik Echo, Echo 720, Chlorothalonil 720, 54%	Spray or fungigation	1 3/8-2 pt/A	X	X			
Bravo Ultrex DG, or Equus DF, 82.5%	Spray or fungigation	1.25-1.8 lb/A	X	X			
Echo Zn, Bravo ZN or Terranil Zn, 38.5%	Spray or fungigation	2-3 pt/A	X	X			
Echo 90 DF, 90%	Spray or fungigation	1.13-1.63 lb/A	X	X			
Copper (M) Basicop WP, 53%	Spray	2-4 lbs/A			X		
Champ DP, 57.6%	Spray or fungigation	0.66-2 lb/A			X		
Champ Formula 2 Flowable, 37.5%	Spray or fungigation	0.66-2 pt/A			X		
Cuprofix Ultra 40 Disprss 71.1%	Spray or fungigation	0.75-2 lbs/A			X		
Kocide 2000, 53.8%	Spray or fungigation	0.75-2.25 lb/A			X		
Kocide 3000, 46.1%	Spray or fungigation	0.5-1.25 lb/A			X		
Kocide 4.5 LF, 37.5%	Spray or fungigation	0.66-2 pt/A			X		

¹Spray = ground or aerial; Fungigation = application through sprinkler irrigation system.

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⁴See fungicide resistance management statements on Page 9.

Dry Edible Bean (continued)

FOLIAR SPRAYS

Chemical (Fungicide Group)	Application ¹	Dosage ²	Disease Control ³				Remarks
			Anthracnose	Rust	Halo Blight	White Mold	
Cyprodinil (9)+ Fludioxonil (12) Switch 62.5 WG 37.5%:25.0%	Spray	11-14 oz/A				X	Make first application at 10-20% bloom. A 2 (ee) label allows Switch to be applied in tank mix with Thiophonate-methyl for improved white mold control.
Iprodione (2) Rovral 4F, 41.6%	Ground spray or fungigation	1.5-2.0 pt/A				X	Resistance statement 2 ⁴ . Apply at first bloom (10% of plants with 1 open blossom) and again at peak bloom, if needed. Do not apply after full bloom. Use 50-100 psi and 3 nozzles, 1 over the row and one on each side. If pH of spray water exceeds 7.0, buffer it to pH 5.0-7.0.
Maneb (M3) Maneb 80, 80%	Spray or fungigation	1.5-2 lb/A	X	X	X		
Maneb 75 DF, 75%	Spray or fungigation	1.5-2 lb/A	X	X	X		
Manex, 37%	Spray or fungigation	1.2-1.6 qt/A	X	X	X		
Prothioconazole (3) Proline 480 SC, 41%	Spray	5.7 fl oz/A		X		X	Apply Proline prior to disease onset or at 15-25 % flowering when conditions are favorable for disease development. Do not make more than 3 applications per year. Repeat applications as needed on a 5-14 day interval. For maximum disease control, apply in 20 or more gpa by ground. Do not apply within 7 days of cutting or swathing for harvest.
Tebuconazole (3), 38.7% Folicur 3.6F Orius 3.6F Tebuzol 3.6F, Monsoon	Spray or fungigation	4-6 fl oz/A		X			See labels for information on spray scheduling, preharvest intervals and re-entry intervals. Do not apply more than 12 fl oz per year.

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Dry Edible Bean (continued)

FOLIAR SPRAYS

Chemical (Fungicide Group)	Application ¹	Dosage ²	Disease Control ³				Remarks
			Anthracnose	Rust	Halo Blight	White Mold	
QoIs Azoxystrobin (11) Quadris, 22.9%	Spray or fungigation	6.2 fl oz/A for rust 6.2-15.4 fl oz/A for other leaf diseases	X	X			Resistance statement 2 ⁴ .
Azoxystrobin (11) + Chlorothalonil (M5) Quadris Opti, 4.6% : 46%	Spray	1.6-2.4 pt/A	X	X			
Pyraclostrobin (11) Headline, 23.6%	Spray or fungigation	6-9 fl oz/A	X	X			Apply prior to onset of disease. Maximum of 2 applications per season. 21- day PHI.
Sulfur (M) Microthiol Disperss, 80%	Spray	7 lb/A		X			
Thiophanate- methyl (1) Topsin M WSB, or T-methyl 70W WSB or T-Methyl WSB E- AG	Spray or fungigation	1.5-2 lb/A- 1 application or 1-1.5 lb/A - 2 applications	X			X	Resistance statement 2 ⁴ . Apply 1.5-2 lb once when 70- 100% of the plants have at least one open blossom. Or apply 1-1.5 lb twice, with the first application when 10-30% of the plants have at least one open blossom and the second application 4-7 days later. Complete coverage of all parts of plant is essential for control of white mold. Do not apply more than 4 lbs product/acre/season. Do not apply thiophanate-methyl within 14 days of harvest.
Topsin or T-Methyl E-AG, 46.2%	Spray or fungigation	30-40 fl oz/A 1 application or 20-30 fl oz/A if two applications	X			X	
Thiophanate Methyl 85 WDG, 85%	Spray or fungigation	0.8-1.6 lb/A	X			X	

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