SNAP BEAN (*Phaseolus vulgaris* 'Delmonte 04-88', 'Pismo', 'Hystyle')
White mold; *Sclerotinia sclerotiorum*

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Evaluation of fungicides to control white mold in snap beans, Plover, WI, 2018.

A trial to evaluate the effectiveness of fungicides to control white mold on snap bean was established on 4 Jul at the Del Monte Research Farm in Plover, WI. Three commercially common cultivars, DMF 04-88 (Del Monte), Pismo, and Hystyle, were selected for the trial. Plots were seeded at approximately 10 seeds per ft. Plots were 25 ft long with 2 rows spaced 22 in. apart. Seed was treated with thiram for damping off and root rot protection. There were 4 replications per treatment, and plots were arranged in a randomized complete block design. Snap beans and sunflowers had been planted in this field in previous years with historically high levels of disease development. Sunflowers were planted between every 6 rows of beans in the trial area. Naturally occurring inocula was the only source for disease development. Fertility, insects, and weeds were managed during the growing season according to standard grower practices for the region. Sixteen fungicide treatments were evaluated for each cultivar. Three treatments included two experimental products (MBI-110 and MBI-10612) manufactured by Marrone Bio Innovations. Fungicide applications for control of white mold were applied once or twice (depending on fungicide treatment): either at 10% bloom (13 Aug), 7 d after 10% bloom (20 Aug), or both. Fungicides were applied using a CO_2-pressurizedbackpack sprayer with a 4-nozzle spray boom with 19 in. spacing between standard flat fan spray nozzles (Tee Jet 8002VS) at a rate of 35 gal/A at 40 psi. On the day of harvest, 11 Sep, both rows of each plot were evaluated for white mold with the total number of symptomatic plants for each plot being recorded. A single, 25-ft row of beans was machine-harvested and weighed. All data were analyzed using analysis of variance (ANOVA) (α=0.05) and Fisher's least significant difference (LSD) test at α=0.05 (SAS Version 9.2).

Weather conditions during bloom were only moderately conducive for infection of flowers and subsequent disease spread. Thus, the occurrence of infections was low in the flowers/pods with the highest disease incidence coming from infection through ground contact (anecdotal observation). There were no significant differences between treatments for yield or number of infected plants per plot for any of the three cultivars tested There were no phytotoxic symptoms observed with any of the fungicide programs throughout the duration of the trial.

		Yield (t/A)			# of Infected Plants/Plot		
Treatment and Rate/A	Application Timing*	DMF 04-88	Pismo	Hystyle	DMF 04-88	Pismo	Hystyle
Nontreated Control	N/A	2.4**	2.2	1.1	1.5	2.5	3.0
Topsin M 70WSB 1.0 lb	1	2.7	2.3	1.3	1.5	1.5	1.5
Topsin M 70WSB 1.0 lb	2	2.9	2.0	1.5	1.5	2.3	2.5
Topsin M 70WSB 1.0 lb	1,2	3.0	2.5	1.3	1.5	2.5	0.3
Endura 70WDG 8.0 oz + 0.1% v/v NIS	1	3.2	2.5	1.4	2.0	2.3	0.3
Endura 70WDG 8.0 oz + 0.1% v/v NIS	2	3.0	2.2	1.2	0.8	2.8	3.3
Endura 70WDG 8.0 oz + 0.1% v/v NIS	1,2	3.0	2.2	1.3	1.3	3.3	0.5
Proline 480SC 5.7 fl oz	1,2	3.3	2.3	1.1	2.0	3.8	1.0
Quadris 2.08SC 9.0 fl oz	1,2	3.1	2.4	1.4	1.3	2.5	3.3
MBI-110 AF5 64 oz	1,2	3.3	2.3	1.1	2.3	1.5	1.5
MBI-10612 32 oz	1,2	3.5	2.3	1.0	1.8	2.0	0.8
MBI-110 AF5 64 oz	1						
MBI-110 AF5 32 oz	2	3.0	2.0	1.0	1.8	2.0	2.5
OxiDate 2.0 2.5% v/v + WetCit 0.25%	1,2	3.3	2.3	1.2	2.0	2.8	1.0
OxiDate 2.0 1% v/v + WetCit 0.25%	1,2	3.2	2.0	1.1	2.0	2.5	1.0
Endura 70WDG 8.0 oz + 0.1% v/v NIS	1						
OxiDate 2.0 1% v/v + WetCit 0.25%	2	3.4	2.0	1.1	1.0	4.5	2.3
SaniDate 12.0 0.1% v/v + WetCit0.25%	1,2	2.8	2.4	1.1	2.8	4.8	2.3

* Foliar applications were applied at either the 10% bloom stage on 18 Aug (1) and/or 7 d later on 25 Aug (2).

** No letter(s) next to values in columns indicates that there were no significant differences between treatments using ANOVA (α=0.05) and Fisher's LSD at α=0.05.