SNAP BEAN (*Phaseolus vulgaris* 'Delmonte 04-88')
White Mold; *Sclerotinia sclerotiorum*

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Evaluation of fungicides to control white mold in snap beans, Hancock, WI, 2013.

A trial to evaluate the efficacy of fungicides to control white mold on snap bean was established 15 May using cultivar DM88-04 (Del Monte) seeded at approximately 10 per foot. Plots were 24 ft long with 4 rows spaced 15 in apart. Seed was commercially treated with thiram for damping off and root rot protection. There were 4 replications and plots were arranged in a randomized complete block design. Sunflowers were planted in the trial area in 2012 and the flowers were inoculated with *Sclerotinia sclerotiorum*. Infected debris and sclerotia were tilled into the soil in the fall of 2012 and served as a natural source of ascospore inoculum for this experiment in spring/summer 2013. Fungicide applications for control of white mold were applied twice (depending on fungicide treatment) at 30% bloom (26 Jun) and 7 days later at 100% bloom (3 Jul). Fungicides were applied using a backpack CO_2 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 gallons per acre at 40 psi. On the day of harvest, 19 Jul, the center 2 rows of each plot were evaluated for white mold with the total number of symptomatic plants for each plot being recorded. The 2 center rows from each plot (48 ft total) were mechanically harvested and bean pods were graded to determine yield and proportion of yield in different size classes based on pod diameter: 1-3 (<0.35 in. diam.), 4 (>0.35 in. but <0.43 in.) and 5 (> 0.43 in.). Precipitation in Hancock during the snap bean trial was 9.35 in. Supplemental irrigation was applied 17 times during the trial for an additional 8.85 in.

Weather conditions during bloom were moderately conducive for infection of flowers and subsequent disease spread. Thus, the occurrence of infections was very low. There were no significant differences between treatments among the three bean pod grade categories (data not shown) and no significant differences in total yield across treatments. There were significant differences in number of white mold symptomatic plants on day of harvest. Only the EF400 12.0 fl oz + 0.25% v/v NIS treatment resulted in a number of symptomatic plants that was not significantly different than the untreated control. No phytotoxicity was noted for any of the treatments included in this trial.

Product and rate/acre	Application Timing[z]	Number of Symptomatic Plants	Marketable Yield (ton/A)
Untreated Control……	NA	10.8 d[y]	3.96[x]
Experimental #1 57.5 fl oz…….……..	1, 2	3.8 abc	3.86
Experimental #1 19.2 fl oz…….....	1, 2	3.3 abc	3.38
Endura 70WDG 8.0 oz + 0.25% v/v NIS...….	1, 2	3.0 abc	3.35
Topsin M 70WSB 1.0 lb……..	1, 2	2.5 abc	3.58
Topsin M 70WSB 1.0 lb……..	1	1.3 abc	3.31
Topsin M 70WSB 1.0 lb……..	2	2.5 abc	3.13
Regalia 5SC 2.0 pt fb.	1		
Topsin M 70WSB 1.0 lb…….	2	0.3 a	3.45
Fontelis 1.67SC 1.5 pt…….	1, 2	2.0 abc	3.20
Experimental #2 12.0 fl oz……..	1, 2	1.5 abc	4.28
Quadris 2.08SC 9.0 fl oz…….	1, 2	1.3 abc	4.21
Priaxor 4.17SC 10.3 fl oz……	1, 2	1.3 abc	3.05
EF400 12.0 fl oz + 0.25% NIS……	1, 2	5.8 cd	3.98
Endura 70WDG 8.0 oz + 0.25% NIS……..	1	0.5 ab	3.77
Endura 70WDG 8.0 oz + 0.25% NIS……..	2	5.5 bc	3.64

[z] Foliar applications were applied at either the 30% bloom stage on 26 Jun (1) and/or at 100% flowering (7 days after 30% bloom) on 3 Jul (2).

[y] Column numbers followed by the same letter are not significantly different at P=0.05 as determined by Fisher's Least Significant Difference (LSD) test.

[x] There were no significant differences among treatments for marketable yield at P=0.05 as determined by Fisher's Least Significant Difference (LSD) test..