

POTATO (*Solanum tuberosum* ‘Atlantic’)
White Mold; *Sclerotinia sclerotiorum*
Early blight; *Alternaria solani*

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Evaluation of fungicides for control of white mold and foliar early blight on potato in Antigo, Wisconsin, 2025.

A trial was established on 27 May at the University of Wisconsin Madison Division of Extension Langlade County Research Area in Antigo, Wisconsin to evaluate treatments for the management of white mold and foliar early blight. Two-ounce-sized seed pieces were mechanically cut from US#1 ‘Atlantic’ seed tubers and healed for 7 days prior to planting under conditions of 55°F and ample air flow to support suberization. A randomized complete block design with four replications was used and treatment plots consisted of two 24-ft-long rows spaced 36 in. apart with 12 in. spacing in the row. Plots were not inoculated for white mold or early blight, but relied on natural dispersal of inocula from field and regional history of susceptible crops. Seed treatments were applied to tubers using a 1.06 qt Solo Hand Pump Sprayer at a rate equivalent to 3.70 L water/ton seed. The soil type was Antigo silt loam. Standard grower practices were used for field maintenance, fertility, insect, and weed management as per the production region. Crop emergence was evaluated on 16 June and 14 July by counting vines from 24 linear feet of each of the center two rows of each plot (% seed emergence = number of emerged plants /maximum possible # of plants (48*100). Foliar fungicides were started at row closure, starting on 7 Jul, and were sprayed every week for early blight and white mold control (7 Jul, 14 Jul, 21 Jul, 28 Jul, 4 Aug, 11 Aug, 19 Aug, 25 Aug, 1 Sep, and 8 Sep). Foliar fungicides were applied with a plot sprayer consisting of a tractor-mounted boom, pressurized with an air compressor, using flat fan nozzles with a carrier volume of 20 gal per acre. White mold symptoms or ‘strike counts’ and early blight severity across 24 ft of all four rows were rated on 14 Jul, 31 Jul, 12 Aug, 4 Sep, and 18 Sep, using the Horsfall-Barratt rating scale (0-11 rating with 0=no disease, 11=100% disease severity). For early blight evaluation, the Area Under the Disease Progress Curve (AUDPC) was determined by trapezoidal integration and then converted into Relative AUDPC (RAUDPC), i.e. percentage of the maximum possible AUDPC for the whole period of the experiment. Tubers from the center 2 rows of each 4-row plot were harvested and graded (C size (<1.5 in), B size (1.5 to 2.25 in), A size (≥2.25 in)) on 10 Oct. All data were analyzed using ANOVA ($\alpha=0.05$) and Fisher’s LSD at $\alpha=0.05$ (SAS Version 9.2).

There were no significant differences in yield or tuber sizing between treatments. Treatment 4 which included Cruiser Maxx Vibrance seed treatment had significantly lower emergence when compared to the nontreated control or Treatment 3 (which included Emesto Silver seed treatment). All 3 fungicide programs significantly reduced white mold strikes when compared to the nontreated control (final white mold rating on 9/18). All 3 fungicide programs significantly reduced foliar early blight when compared to the nontreated control (RAUDPC). Numerically, Treatment 4 (which included Miravis Prime) had the best early blight control. The second best early blight control program was the grower standard (Treatment 2). The third best program for early blight control was Treatment 3 (which included Luna Pro). There was no visible phytotoxicity. There were no differences in plant vigor among treatments.

Program number, treatment, and rate/A		Application Timing ^z	Emergence (%)	Marketable Yield (cwt/A) ^y	White Mold Strikes (9/18)	RAUDPC ^x
1	Non-treated Control		88.0 bc ^w	473.1	68.8 b	0.298 b
2	Bravo WS 6SC 1.5 pt	1,2,4,8				
	Priaxor 4.17SC 4.5 fl oz + Bravo WS 720SC 1.5 pt	3,6				
	Endura 70WG 3.5 oz + Bravo WS 720SC 1.5 pt	5,7				
	Dithane DF75 2 lb + Super Tin 80WP 2.5 oz	9,10	80.2 ab	438.8	29.8 a	0.171 a
3	Emesto Silver 0.31 fl oz	Seed Treatment				
	Luna Pro 3.34 SC 10.0 fl oz	2,5				
	Bravo WS 6SC 1.5 pt	4,7,10				
	Scala 5SC 7.0 fl oz	8	97.9 c	456.9	41.3 a	0.199 a
4	Cruiser Maxx Vibrance Potato 0.5 fl oz	Seed Treatment				
	Amistar Top 2.72 SC 14 fl oz + Bravo WS 720SC 1.5 pt	1				
	Omega 500 4.17 SC 8 fl oz	2				
	Miravis Prime 3.33SC 11.4 fl oz	3,5				
	Revus Top 4.16 SC 7 fl oz	7,9				
	Bravo WS 6SC 1.5 pt	4,8,10	72.4 a	464.8	30.3 a	0.165 a

^zIn-furrow applications occurred at planting. Hilling applications occurred on 15 May. Fungicide application dates: 1 = 3 Jul, 2 = 10 Jul, 3 = 17 Jul, 4 = 24 Jul, 5 = 31 Jul, 6 = 7 Aug, 7 = 14 Aug, 8 = 21 Aug, 9 = 28 Aug, 10 = 4 Sep.

^yMarketable yield refers to weight of Size A potato tubers of a size range ≥ 2.5 in diameter measured in hundredweight or 100 lb per acre or cwt/A.

^xRAUDPC= Relative Area Under the Disease Progress Curve determined by trapezoidal integration and then converted into Relative AUDPC (RAUDPC).

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