

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

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

A field trial was conducted at the University of Wisconsin Agricultural Research Station in Hancock, WI to evaluate fungicide programs for control of white mold and foliar early blight on potato. Seed pieces, approximately 2 oz in size, were cut mechanically from US#1 'Atlantic' seed tubers 7 days prior to planting. Seed pieces were allowed to heal prior to planting on 29 Apr. A randomized complete block design with four replications was used for the trial, and treatment plots consisted of four 20-ft-long rows spaced 36 in. apart with 12 in. spacing in the row. To minimize soil compaction and damage to plants in the treatment rows, drive rows for pesticide application equipment were placed adjacent to the plots. At-hilling applications were applied directly over freshly hilled plots on 16 May using a plot sprayer consisting of a tractor-mounted boom, pressurized with an air compressor, using TeeJet Hollow Disc Cone D3-23 nozzles (16 nozzles at 8-in. spacing). Fungicides were applied at a rate equivalent to 35-gal water/A at 40 psi. Fertility, insect, and weed management were accomplished using standard commercial practices for the region. Fungicide treatments were initiated at 50% row closure, starting on 24 Jun, and were sprayed a total of 7 applications. (9 Jul, 16 Jul, 23 Jul, 30 Jul, 6 Aug, 13 Aug). Foliar fungicides were applied with the previously described applicator. Plots were not inoculated for white mold or early blight pathogens. We relied on natural inoculum from the research field and region. White mold 'strike' (symptom) counts and early blight severity across 20 ft of the two center rows were rated on 19 Jun, 26 Jun, 10 Jul, 25 Jul, 7 Aug, 14 Aug, 22 Aug, and 28 Aug using the Horsfall-Barratt rating scale (0-11 rating with 0=no disease, 11=100% disease severity). 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. Vine kill was initiated 2 Sep with an application of Diquat E 1.5 pt/acre with a subsequent application on 8 Sep. Tubers from the center 2 rows of each 4-row plot were harvested and graded on 16 Sep. Supplemental irrigation was applied 42 times with a total of 16.7 inches of water. Natural precipitation during the growing season totaled 16.26 inches. All data were analyzed using ANOVA ($P = 0.05$) and Fisher's LSD at $P = 0.05$ (SAS Version 9.2).

Early blight onset was typical, and progressed normally. White mold strikes were limited with no visible infections found during the growing season. There was no visible phytotoxicity associated with any of the treatments. There were no significant differences among treatments in yield, tuber sizing, and emergence. Numerically, the non-treated control had the greatest severity of early blight but there were no significant differences among treatments for early blight control.

Treatment Number, Treatment, and Rate/A		Application Timing ^z	Marketable Yield ^y (cwt)	Early Blight RAUDPC ^x
1	Non-treated Control	NA	371.8	0.418
2	Lucento 4.17F 11.0 fl oz	Hilling	369.0	0.384
3	Topguard 1.04 SC 28 fl oz	Hilling	401.5	0.388
4	Topguard EQ 4.29 SC 11 fl oz	Hilling	353.0	0.378
5	Topguard 1.04 SC 28 fl oz	Hilling		
	Adastrio 4.0 SC 9.0 fl oz + MSO 1% v/v	3		
	Endura 70 WG 7 oz + Supertin 4L 5 fl oz	5	392.2	0.377
6	Lucento 4.17F 5.5 fl oz + MSO 1% v/v	1		
	Adastrio 4.0 SC 9.0 fl oz + MSO 1% v/v	3		
	Endura 70 WG 7 oz + Supertin 4L 5 fl oz	5	407.8	0.358
7	Luna Tranquility 4.16 SC 11.2 fl oz + MSO 1% v/v	1,3		0.366
	Endura 70 WG 7 oz + Supertin 4L 5 fl oz	5	367.8	0.366
8	Luna Tranquility 4.16 SC 11.2 fl oz + Bravo WS 6SC 1.5 pt	1,3		
	Bravo WS 6SC 1.5 pt	5	385.2	0.367
9	DFO + PYM 500 SC 23.9 fl oz + Bravo WS 6SC 1.5 pt	1,3		
	Bravo WS 6SC 1.5 pt	5	411.7	0.366
10	Luna Pro 3.34 SC 10.0 fl oz + Bravo WS 6SC 1.5 pt	1,3		
	Bravo WS 6SC 1.5 pt	5	400.7	0.372
11	Miravis Prime 3.33SC 10.0 fl oz + Bravo WS 6SC 1.5 pt	1,3		
	Bravo WS 6SC 1.5 pt	5	423.9	0.350
12	Endura 70 WG 7 oz + Provysol 3.34 SC 4.0 oz + Bravo WS 6SC 1.5 pt	1,3		
	Bravo WS 6SC 1.5 pt	5	398.7	0.353
13	Delaro 325SC 6 oz	50% Row Closure		
	Bravo WS 6SC 1.5 pt	1,5		
	Luna Tranquility 4.16 SC 11.2 fl oz + Bravo WS 6SC 1.5 pt	3	391.2	0.372
14	Delaro 325SC 6 oz	50% Row Closure		
	Bravo WS 6SC 1.5 pt	1,5		
	Propulse 400 SC 10.0 fl oz + Bravo WS 6SC 1.5 pt	3	397.8	0.356
15	Experimental 1 5.14 fl oz	1-6	365.5	0.388
16	Experimental 1 10.4 fl oz	1-6	376.3	0.384
17	Experimental 1 20.6 fl oz	1-6	370.8	0.385
18	Experimental 2 25 fl oz	1-6	377.3	0.395

19	Experimental 2 50.4 fl oz	1-6	387.8	0.407
20	Experimental 2 100 fl oz	1-6	374.0	0.386
	Experimental 1 10.4 fl oz	1,3,5		
21	Serenade Opti 20 fl oz	2,4		
	Serenade Opti 20 fl oz + Luna Pro 3.34 SC 10 fl oz	6	352.9	0.404
	Experimental 2 50.4 fl oz	1,3,5		
22	Serenade Opti 20 fl oz	2,4		
	Serenade Opti 20 fl oz + Luna Pro 3.34 SC 10 fl oz	6	355.4	0.406
	Quadris 2.08 F 9 fl oz + NIS 0.4 % v/v	1		
23	Miravis Prime 3.34 SC 11.4 fl oz + NIS 0.4 % v/v	2,4		
	Miravis Prime 3.34 SC 11.4 fl oz + Bravo Weather Stik 6 SC 1 pt + NIS 0.4 % v/v	3	386.1	0.376

^zFungicide application dates: 50% Row Closure = 24 Jun, 1 = 9 Jul, 2 = 16 Jul, 3 = 23 Jul, 4 = 30 Jul, 5 = 6 Aug, 6 = 13 Aug.

^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).