

POTATO (*Solanum tuberosum* 'Dark Red Norland')  
Silver scurf; *Helminthosporium solani*

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### **Evaluation of at-plant treatments for control of silver scurf of potato in Wisconsin, 2015.**

Potatoes were planted on 5 May at the University of Wisconsin Hancock Agricultural Research Station in central WI to evaluate seed-, in-furrow-, and foliar-applied fungicides for the control of silver scurf of potato. Fertility, insect, weed, and foliar disease management were accomplished using standard industry practices for the region. Whole, 2 oz. B-sized 'Dark Red Norland' tubers were used for seed. A randomized complete block design with four replications were used for the trial. Treatment plots consisted of four 24-ft-long rows spaced 36 in. apart with 12 in. spacing in the row. To minimize soil compaction and damage to plants in rows used for foliar and yield evaluations, drive rows for pesticide application equipment were placed adjacent to plots. In-furrow and foliar treatments were applied using a CO<sub>2</sub> backpack sprayer equipped with a single Tee Jet 8002VS nozzle and calibrated to deliver 12 gal/A at a boom pressure of 40 psi. Seed treatments were applied to cut seed prior to planting using the same sprayer equipment as previously described. Foliar applications were applied twice, on 26 Jun and 17 Jul and were made using a CO<sub>2</sub> backpack sprayer equipped with a boom equipped with 4 TeeJet 8002VS flat fan nozzles spaced 19 in apart, calibrated to deliver 30 gal/A at a boom pressure of 35 psi. Foliar fungicide applications for silver scurf control were made in addition to the standard foliar disease program for other common potato diseases in central Wisconsin. Plots were not inoculated but relied on natural inocula for disease establishment. Seed emergence data were collected on 1 June from 24 linear feet of each of the center 2 rows of each plot (% seed emergence = number of emerged vines /maximum possible emerged vines (48)\*100). Precipitation in Hancock during the potato production season was 18.5 in. Supplemental irrigation was applied 39 times during the potato production season for an additional 16.2 in. Vines were killed with 2 desiccant treatments of Diquat+non-ionic surfactant applied on 27 Aug and 2 Sep. Plots were harvested and graded on 17 Sep. At harvest, 20 tubers were randomly selected from each plot and visually evaluated for silver scurf incidence and severity (percentage of symptomatic tuber surface).

Treatments had no significant effect on seedling emergence. There were no significant differences in total yield or in US#1 yield and cull weight (only US#1 data shown) among treatments. There was a significant difference among the treatments for Size B yield. Disease incidence and severity was very high for this trial. While there were no significant differences among treatments for the incidence of silver scurf on tubers, there were significant differences in severity. All treatments with the exception of the treatment consisting of only foliar applications of Phostrol significantly reduced disease severity compared to the control.

Treatment and rate <sup>z</sup>	Application Type <sup>y</sup>	Emergence (%)	Marketable Yield (cwt)	Size B (cwt) <sup>x</sup>	Silver Scurf Incidence (%)	Silver Scurf Severity (%)
Non-treated Control	-	99.0	455.8	7.9 bcdef	100.0	54.9 de
Non-treated Control	-					
Phostrol 53.6SC 5.0 pt	Foliar	98.5	464.3	10.5 fg	100.0	67.0 e
Quadris 2.018SC 0.6 fl oz	In Furrow					
Phostrol 53.6SC 5.0 pt	Foliar	99.5	453.0	13.1 g	97.5	37.4 bc
Double Nickel LC 1.7 fl oz	In Furrow	97.9	470.3	7.9 bcdef	97.5	35.8 bc
Priaxor 500SC 0.48 fl oz	In Furrow	96.4	456.8	6.2 abcde	100.0	37.9 bc
Quadris 2.018 SC 0.6 fl oz	In Furrow	96.4	463.9	10.4 fg	100.0	36.6 bc
Serenade Soil 4.4 fl oz	In Furrow	97.9	472.6	10.2 efg	100.0	41.0 cd
Moncut 70DF 0.83 oz	In Furrow	97.9	462.9	8.6 def	100.0	40.5 cd
Vertisan 200EC 1.1 fl oz	In Furrow	97.4	488.3	13.7 g	100.0	38.8 bc
A19649 200SC 0.47 fl oz	In Furrow	95.3	489.6	6.9 abcdef	95.0	26.3 abc
A19649 200SC 0.71 fl oz	In Furrow	93.8	481.6	6.0 abcd	100.0	23.5 ab
A19649 200SC 0.94 fl oz	In Furrow	96.4	485.6	8.7 def	95.0	35.8 bc
Elatus 45WG 0.34 fl oz	In Furrow	97.4	422.9	4.5 ab	92.5	23.8 ab
Elatus 45WG 0.5 fl oz	In Furrow	95.3	472.6	4.7 abc	95.0	19.1 a
Nubark Mancozeb 6D 1.0 lb	Seed Treat	95.8	458.0	4.3 ab	97.5	18.7 a
Emesto Silver 118 FS 0.31 fl oz	Seed Treat					
Nubark Mancozeb 6D 1.0 lb	Seed Treat	97.9	443.2	4.3 ab	97.5	23.1 ab
Emesto Silver 118 FS 0.31 fl oz	Seed Treat					
Reason 500SC 0.15 fl oz	Seed Treat					
Nubark Mancozeb 6D 1.0 lb	Seed Treat	99.0	465.2	5.8 abcd	100.0	34.8 abc
Emesto Silver 118 FS 0.31 fl oz	Seed Treat					
Nubark Mancozeb 6D 1.0 lb	Seed Treat					
Serenade Soil 4.4 fl oz	In Furrow	95.8	432.7	4.5 ab	100.0	31.1 abc
Emesto Silver 118 FS 0.31 fl oz	Seed Treat					
Nubark Mancozeb 6D 1.0 lb	Seed Treat					
Quadris 2.018SC 0.6 fl oz	In Furrow	99.5	467.9	4.7 abc	97.5	25.7 abc
Emesto Silver 118 FS 0.31 fl oz	Seed Treat	96.9	463.0	6.1 abcd	97.5	28.2 abc
Maxim MZ 4FS 0.5 lb	Seed Treat					
Phostrol 53.6SC 5.0 pt	Foliar	99.0	455.4	3.3 a	98.8	25.5 abc
Cruisermaxx Extreme 0.31 fl oz	Seed Treat	97.4	437.3	3.0 a	97.5	24.1 ab
Cruisermaxx Potato 0.31 fl oz	Seed Treat	96.9	475.5	5.3 abcd	97.5	22.9 ab
Maxim MZ 4FS 0.5 lb	Seed Treat	94.3	510.1	3.9 ab	100.0	34.6 abc

<sup>z</sup>Treatment rates applied in-furrow are given per 1000 row ft. Seed treatment rates are given per 100 lb seed. Foliar treatments are given in pint per acre.

<sup>y</sup>Seed treatment and in-furrow were applied at the time of planting. Foliar treatments were applied twice, on 26 Jun and 17 Jul.

<sup>x</sup>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.