

### Evaluation of at-plant treatments for control of silver scurf of potato in Wisconsin, 2014.

Potatoes were planted on 6 May at the Hancock Research Station in central WI to evaluate seed- and in-furrow- applied fungicides for the control of silver scurf of potato. Fertility, insect, and weed management were accomplished using standard industry practices. Seed was cut mechanically into 2 oz pieces on 21 Apr from US#1 potato tubers. Seed pieces were allowed to heal for 14 days at 13°C with 95% relative humidity and good airflow to promote suberization. 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. Plots were not inoculated but relied on natural inocula for disease establishment. Seed emergence data were collected on 26 May 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 16.3 in. Supplemental irrigation was applied 32 times during the potato production season for an additional 13.7 in. Vines were killed with 2 desiccant treatments of Diquat+non-ionic surfactant applied on 5 and 12 Sep. Plots were harvested, graded, and placed into storage on 22 Sep. After 120 days in storage, 20 tubers were randomly selected from each plot and visually evaluated for silver scurf incidence and severity (percentage of symptomatic tuber surface).

Cruiser Maxx Extreme was the only treatment which had significantly greater percent seed emergence than any of the other treatments or the non-treated control. No significant differences in marketable yield were observed among treatments, except for a single experimental treatment which yielded 415.5 cwt/A. Incidence of silver scurf on tubers was 100% for all treatments at 120 days post-harvest. Admire Pro + Moncoat MZ and 5 of the experimental treatments (containing A16148 500FS and A18232 435.7FS) resulted in significantly less silver scurf severity than the non-treated control.

Fungicide and Rate*	Application Type	Seed Emergence (%)	Silver Scurf Severity (%)	Marketable Yield (cwt/A)
Non-treated Control	NA	63.1defgh**	55.4de	506.1bc
A18126 45WG 0.34 fl oz	In-Furrow	58.9cdef	32.1a	511.2bc
Quadris 2.08SC 0.6 fl oz	In-Furrow	59.4cdefg	39.8abc	549.9c
Taegro 13WP 0.358 oz	In-Furrow	63.6efgh	58.0e	514.4bc
Taegro 13WP 0.358 oz + A18126 45WG 0.34 oz	In-Furrow In-Furrow	51.1bc	38.8abc	518.3bc
Serenade Soil 1.34%W/W 4.4 fl oz	In-Furrow	51.6cd	48.9cde	522.2bc
A9765 600FS 0.128 fl oz	Seed Treatment	72.4hi	46.0bcde	496.2bc
A18232 435.7FS 0.308 fl oz	Seed Treatment	70.9ghi	34.4ab	525.7bc
A16148 500FS 0.46 fl oz + A9765 600FS 0.128 fl oz	Seed Treatment Seed Treatment	39.6ab	34.9ab	474.0b
A16148 500FS 0.077 fl oz + A9765 600FS 0.128 fl oz	Seed Treatment Seed Treatment	55.7cde	44.5abcde	475.5b
A16148 500FS 0.46 fl oz + A18232 435.7FS 0.308 fl oz	Seed Treatment Seed Treatment	50.0bc	36.1abc	487.9b
A16148 500FS 0.077 fl oz + A18232 435.7FS 0.308 fl oz	Seed Treatment Seed Treatment	68.8fghi	37.4abc	504.9b
A16148 500FS 0.077 fl oz + A18232 435.7FS 0.308 fl oz + A12946 250SC 0.614 fl oz	Seed Treatment Seed Treatment Seed Treatment	32.3a	37.4abc	415.5a
A20588 345.11FS 0.5 fl oz	Seed Treatment	71.4hi	46.1bcde	523.4bc
Admire Pro 4.6SC.035 fl oz + Moncoat MZ 7.5DP 12.0 oz	Seed Treatment Seed Treatment	63.5efgh	40.3abc	494.8bc
Admire Pro 4.6SC 0.35 fl oz + Emesto Silver 118FS 0.31 fl oz	Seed Treatment Seed Treatment	63.6efgh	42.3abcd	479.1b
Cruiser Maxx Extreme 0.31 fl oz	Seed Treatment	76.0i	42.8abcd	498.9bc

\*Treatment rates applied in-furrow are given per 1000 row ft. Seed treatment rates are given per 100 lb seed.

\*\*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.