

Evaluation of at-plant fungicides for control of black dot of potato in Wisconsin, 2025.

Potatoes were planted on 30 April at the University of Wisconsin Hancock Agricultural Research Station in central WI to evaluate in-furrow-applied fungicides for the control of black dot disease of potato. Two potato cultivars were selected for the trial: ‘Russet Burbank’ and ‘Colomba.’ Both cultivars were treated identically in conducting the trial. In preparation for planting, US#1 seed tubers were cut into approximately 2 oz pieces on 24 Apr. Seed pieces were allowed to heal at 55°F with 98% relative humidity and good airflow for suberization. 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. In-furrow treatments were applied over the top of seed pieces in open furrows in a 12-in. band using a plot sprayer consisting of a tractor-mounted boom, pressurized with an air compressor, using TeeJet Twin Jet Flat Spray Tip nozzles TJ-60 11003VS. In-furrow applied fungicides were applied at a rate equivalent to 9.50 L water/1,000 row feet at 30 psi. Fertility, insect, and weed management was accomplished using standard commercial practices for the region. Plots relied upon natural inocula from seed and field sources for disease establishment. Seed emergence data were collected on 12 Jun from 20 linear feet of each of the center two rows of each plot (% seed emergence = number of emerged vines / maximum possible emerged vines) * 100). Vines were killed with a desiccant treatment of Diquat + non-ionic surfactant applied on 8 Sep. Plots were harvested and graded on 30 Sep. At harvest, tubers from the center two, 20-ft long rows of each 4-row plot were graded for size and yield. Twenty tubers were randomly selected from each plot, after washing, and after 2 months under storage conditions, were visually evaluated for symptoms of black dot (% incidence = number of symptomatic tubers/20*100). All data were analyzed using ANOVA ($P=0.05$) and Fisher’s LSD at $P=0.05$ (SAS version 9.2). Precipitation in Hancock during the potato production season was 17.09 in. Supplemental irrigation was applied 45 times during the potato production season for an additional 17.8 in.

There were no significant differences among treatments for emergence, yield, tuber sizing (data not shown) and cull weight (data not shown). Black dot disease incidence on ‘Colomba’ tubers was significantly reduced with application of the lower rate of Azterknot and Elatus when compared to the non-treated control.

Variety	Treatment and Rate ^z	Emergence (%)	Marketable Yield (cwt) ^y	Disease Severity (%)	Disease Incidence (%)
Colomba	Non-treated Control	74.4	625.9	9.19	65.0 b ^x
Colomba	Azterknot 2.74 SC 0.5 fl oz	73.8	589.9	5.04	39.0 a
Colomba	Azterknot 2.74 SC 0.9 fl oz	77.5	646.7	8.10	69.0 b
Colomba	Elatus 45 WG 0.34 fl oz	76.3	621.1	6.73	48.0 a
Russet Burbank	Non-treated Control	84.4	473.1	0.06	1.0
Russet Burbank	Azterknot 2.74 SC 0.5 fl oz	85.6	438.8	0.02	3.0
Russet Burbank	Azterknot 2.74 SC 0.9 fl oz	91.9	456.9	0.06	3.0
Russet Burbank	Elatus 45 WG 0.34 fl oz	91.9	464.8	0.06	3.0

^zTreatment rates applied in-furrow are given per 1,000 row ft.

^y Marketable yield refers to the weight of Size A potato tubers of a size range ≥ 2.5 in diameter in units of cwt = 100 lb.

^x 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.