

Evaluating fungicides for control of potato late blight in storage, 2014-2015.

A trial was established on 17 December at the University of Wisconsin Hancock Agricultural Research Station-Storage Research Facility in Hancock, WI to evaluate the efficacy of fungicides for control of potato late blight in storage. Forty tubers were used for each of 4 replicates. Replications were randomized within the storage locker and maintained at 13°C with 97% relative humidity. Airflow was maintained appropriately for storage of potato tubers. Inoculum was grown on leaves of late blight-susceptible tomato varieties, cultivated in a disease-free growth chamber. Wounding was simulated by subjecting tubers to 3 minutes of movement in a modified cement mixer (metals paddles were padded with wooden dowels). Tubers were then immediately dip inoculated into a pathogen suspension with approximately 5000 sporangia per ml of water. After inoculation, fungicide treatments were applied with a total spray volume of 70 mL using a 1G handheld pump sprayer. Ten tubers were randomly selected and evaluated for the incidence and severity of late blight infection from each replicate on 17 February, 2015 (60 days post-inoculation, DPI). For disease evaluations, tubers were sliced in half and the presence of symptomatic tissue (incidence), the symptomatic surface area of infected tuber (outer severity %), and the symptomatic surface area of the inner, cut surface (inner severity %) were recorded.

All treatments significantly reduced incidence and severity, both on the tuber surface and within the tuber, compared to the untreated, inoculated control.

Treatment and rate/ton	Incidence (%)	Outer Severity (%)	Inner Severity (%)
Untreated, non-inoculated	0.0a ^z	0.0a	0.0a
Untreated, inoculated	90.0b	41.5b	26.6b
A19432 34.78SC 0.5 fl oz	0.0a	0.0a	0.0a
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A15696 478SC 0.3 fl oz	0.0a	0.0a	0.0a
A15696 478SC 0.6 fl oz	0.0a	0.0a	0.0a
A15696 478SC 0.9 fl oz	0.0a	0.0a	0.0a
Phostrol 53.6F 128 fl oz	2.5a	1.0a	0.8a

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