

Evaluation of fungicides for control of pink rot in potato in storage – Hancock, 2010-2011.

A trial was established on 15 Dec at the Hancock Agricultural Research Station-Storage Research Facility in Hancock, WI to evaluate post-harvest fungicide applications for control of potato tuber pink rot in storage. Forty healthy-appearing tubers grown for storage research at the Hancock Research Station were used for each of 4 replicates. Replications were completely randomized within the storage research area and maintained at 55±2°F and relative humidity of 97%. To simulate rough harvest conditions and increase wounding, thus promoting disease, tubers were subjected to 3 min in a modified cement mixer. Inoculation immediately followed simulated wounding. *Phytophthora erythroseptica* inoculum was incubated on clarified V8 juice agar for 2 weeks. A slurry was prepared containing 100 culture plates of agar and pathogen (150 mm diameter) blended in 2 liter of water and diluted into a total volume of 5 gal. Tubers were dipped into 5 gal inoculum slurry on 15 Nov for 3 min. Tubers were allowed to dry for 2 hrs prior to fungicide application. Fungicides were applied in 70 ml of carrier water using a 1 gal handheld pump sprayer. Disease evaluation was destructive and took place on 14 Jan (30 days post-inoculation). Ten tubers from each treatment and replicate were cut in half and rated for pink rot incidence and % symptomatic cut surface area. The severity of infected tubers is derived by dividing the % symptomatic cut surface area of sampled tubers by disease incidence; no statistical analyses were applied to these values.

All treatments, with the exception of Mertect 340F 0.42 fl oz, significantly controlled pink rot incidence when compared to the untreated inoculated control. In most cases, wherever disease incidence was >0%, disease severity of infected tubers was 100%, with the exception of the high rate of Phostrol (12.8 fl oz).

	Incidence (%)	Severity of infected tubers (%)
Untreated, non-inoculated control.....	0.0 a ^z	0.0 ^y
Untreated, inoculated control.....	55.0 d	100.0
Scholar 1.92SC 0.6 fl oz + ICI5504 250SC 0.6 fl oz + CGA169374 360FS 0.15 fl oz.....	2.5 a	100.0
A18780 440SC 1.0 fl oz.....	7.5 a	100.0
A18780 B 440SC 1.0 fl oz.....	25.0 b	100.0
Phostrol 53.6SC 12.8 fl oz + Mertect 340F 0.42 fl oz.....	2.5 a	100.0
Mertect 340F 0.42 fl oz.....	42.5 cd	100.0
Presidio 4SC 4 fl oz.....	2.5 a	100.0
V-10208 3.2FS 10 fl oz.....	0.0 a	0.0
V-10208 3.2FS 10 fl oz + Presidio 4SC 4 fl oz.....	0.0 a	0.0
Phostrol 53.6SC 12.8 fl oz.....	7.5 a	6.6
Phostrol 53.6SC 6.4 fl oz.....	0.0 a	0.0
Oxidate 27SC 1.25 fl oz.....	7.5 a	100.0
Oxidate 27SC 6.25 fl oz.....	5.0 a	100.0
Ozone 10 ppm.....	30.0 bc	100.0

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

^yNo statistical analyses were applied to the values in this column.