POTATO (*Solanum tuberosum* 'Snowden')
Pink Rot; *Phytophthora erythroseptica*

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Evaluation of fungicides for control of pink rot in potato in storage – Hancock, 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 the control of potato tuber pink rot in storage. Forty tubers were used for each of 4 replicates. Replications were completely randomized within the storage research area and maintained at 13±2°C and a relative humidity of 97%. To simulate rough harvest conditions which promote disease, tubers were wounded by subjecting them to 3 minutes of tumbling in a modified cement mixer (metal paddles covered with wooden dowels). A 3-minute dip inoculation into a spore suspension followed wounding. Inoculum was grown on clarified V8 agar for 2 weeks and prepared by making a thin slurry of the contents of 100 culture plates (150-mm diameter) in 2 L of water. Fungicides were applied after inoculation in 70 ml of water using a 1-G handheld pump sprayer. Chlorine dioxide gas treatments were applied using Z-Series® sodium chlorite zeolite impregnate alone or activated with ferric chloride impregnate. Impregnates were placed in breathable Tyvek sachets and the sachets were placed in the air intakes of the storage bins. Two different chlorine dioxide treatments were evaluated, a slow release treatment where a continuous low gas was injected over the course of the whole storage event and a fast activated release treatment which applied a much higher gas dose over the first day of storage. Disease evaluations took place on 16 January 2015 (30 days post-inoculation, DPI). For disease evaluations at each time point, 10 tubers were cut in half and the incidence of pink rot was recorded. If disease was present, the severity of infection (% symptomatic surface area of the cut tuber) was recorded.

All treatments significantly reduced the incidence of disease, except for the slow release chlorine dioxide treatment. Chlorine dioxide treatments and the low rate (0.3 fl oz) of A15696 478SC did not significantly reduce the severity of infection in diseased tubers when compared to the untreated, inoculated control.

Treatment and rate/ton	Incidence (%)	Severity (%)
Untreated, non-inoculated	0.0a[z]	0.0a
Untreated, inoculated	50.0d	77.5d
A19432 34.78SC 0.5 fl oz	5.0ab	37.5abc
A19432 34.78SC 1.0 fl oz	0.0a	0.0a
A19432 34.78SC 1.5 fl oz	7.5ab	31.3abc
A15696 478SC 0.3 fl oz	5.0ab	42.5bcd
A15696 478SC 0.6 fl oz	0.0a	0.0a
A15696 478SC 0.9 fl oz	2.5a	20.0ab
Chlorine dioxide 2.2 lb	25.0c	70.6cd
Chlorine dioxide 2.2 lb + Fast Activator 2.2 lb	12.5b	48.5bcd
Phostrol 53.6F 128 fl oz	0.0a	0.0a

[z]Column numbers followed by the same letter are not significantly different at P=0.05 as determined by Fisher's Least Significant Difference test.