

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

S. Jordan, J. Dobbs, R. Clark, K. Cleveland, and A.J. Gevens
 Department of Plant Pathology
 University of Wisconsin-Madison
 Madison, WI 53706

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

A trial was established 15 Nov at the Hancock Agricultural Research Station-Storage Research Facility in Hancock, WI to evaluate fungicide efficacy for control of potato tuber pink rot in storage. Thirty five tubers were used for each of 4 replicates. Replications were randomized in a complete block design within the storage research area and maintained at 55±2°F and relative humidity of 97%. To simulate rough harvest conditions which promote disease, tubers were wounded by subjecting tubers to 3 minutes in a modified cement mixer and inoculated with a spore suspension. Inoculum was grown on V8 agar and broth then transferred to soil extract. Tubers were inoculated 15 Nov in a dip with approximately 0.9 x 10⁴ spores/ml. Fungicide treatments were applied after inoculation in 70 ml of water using a 1G handheld pump sprayer. Disease evaluations took place on 14 Dec and 7 Jan. For the first disease evaluation, an external incidence rating (% of tubers infected) was conducted. For the second evaluation a destructive severity rating (0-3, with 0=no disease, 1=30% of tuber cut surface infected with pink rot infection, 2=60% infection, and 3=100% of tuber cut surface infected with pink rot infection) was conducted in which tubers were cut in half and rated for severity of pink rot.

At 30 days post inoculation, treatments 5 (Phostrol 4SC 12.8 fl oz and Mertect 340F 0.42 fl oz), 8 (V-10208 3.2FS 10 fl oz), 10 (Phostrol 4SC 12.8 fl oz), and 11 (Phostrol 4SC 6.4 fl oz) significantly limited pink rot to less than 30% tuber incidence. Treatments 3 (A9859 230SC 0.6 fl oz, A12705 250SC 0.6 fl oz, and A8574 360FS 0.15 fl oz), 4 (A9859 230SC 0.6 fl oz, A12705 250SC 0.6 fl oz, and A8574 360FS 0.3 fl oz), 6 (Mertect 340F 0.42 fl oz), 7 (Presidio 4SC 4 fl oz), 12 (Oxidate 2SL 6.25 fl oz), 13 (Oxidate 2SL 1.25 fl oz) did not significantly control pink rot incidence when compared to the untreated inoculated control. Results from rating 1 and 2 cannot be directly compared, but are correlative. At 60 days post inoculation, treatments 5 (Phostrol 4SC 12.8 fl oz and Mertect 340F 0.42 fl oz), 8 (V-10208 3.2FS 10 fl oz), 9 (V-10208 3.2FS 10 fl oz and Presidio 4SC 4 fl oz), 10 (Phostrol 4SC 12.8 fl oz), and 11 (Phostrol 4SC 6.4 fl oz) significantly limited pink rot severity when compared to the untreated control. Treatments 12 (Oxidate 2SL 6.25 fl oz), 6 (Mertect 340F 0.42 fl oz), 3 (A9859 230SC 0.6 fl oz, A12705 250SC 0.6 fl oz, and A8574 360FS 0.15 fl oz), 4 (A9859 230SC 0.6 fl oz, A12705 250SC 0.6 fl oz, and A8574 360FS 0.3 fl oz), and 13 (Oxidate 2SL 1.25 fl oz) did not significantly control pink rot severity when compared to the untreated inoculated control.

Treatment and rate/ton	30 days post inoculation	60 days post inoculation
	<u>Incidence</u>	<u>Severity</u>
1.Untreated, uninoculated control.....	10 abc*	0.75 a
2.Untreated, inoculated control.....	90 e	3 c
3. A9859 230SC 0.6 fl oz A12705 250SC 0.6 fl oz A8574 360FS 0.15 fl oz.....	80 de	3 c
4. A9859 230SC 0.6 fl oz A12705 250SC 0.6 fl oz A8574 360FS 0.3 fl oz.....	60 cde	3 c
5.Phostrol 4SC 12.8 fl oz Mertect 340F 0.42 fl oz.....	5 a	0.25 a
6.Mertect 340F 0.42 fl oz.....	95 e	3 c
7.Presidio 4SC 4 fl oz.....	70 de	2 b
8.V-10208 3.2FS 10 fl oz.....	0 a	1 a
9.V-10208 3.2FS 10 fl oz Presidio 4SC 4 fl oz.....	45 bcd	1 a
10.Phostrol 4SC 12.8 fl oz.....	25 abc	0.5 a
11.Phostrol 4SC 6.4 fl oz.....	30 abc	0.5 a
12.Oxidate 2SL 6.25 fl oz.....	60 cde	2.5 bc
13.Oxidate 2SL 1.25 fl oz.....	75 de	3 c

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