

Evaluation of fungicides for control of late blight in potato in storage, 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 late blight in storage. Forty five tubers were used for each of 4 replicates. Replications were randomized within the storage locker and maintained at 55°F, relative humidity of 97%, and appropriate airflow for proper storage of potato tubers. Inoculum was grown on leaves of disease-susceptible tomato cultivars in a clean growth chamber. Tubers were wounded by subjecting tubers to 3 minutes in a modified cement mixer prior to inoculation with a spore suspension of *Phytophthora infestans*. Tubers were dip-inoculated 15 Nov in a spore suspension with approximately 5000 sporangia/ ml of water. After inoculation, fungicide treatments were applied with a total mix volume of 70 ml using a 1G handheld pump sprayer. Ten tubers were randomly selected and evaluated for the presence of late blight infection from each replicate at 30 and 90 days post-inoculation (DPI).

At 30 DPI, all treatments except treatment 12, Oxidate 2SL 12.6 fl oz, significantly controlled late blight when compared to the untreated inoculated control. Treatment 9, V-10208 3.2FS10 fl oz and Presidio 4SC 4 fl oz, had no disease at 30 DPI. At 90 DPI, the untreated inoculated treatment had 95% of tubers with late blight symptoms. Treatments 3 and 4 (experimental 3-way mixes), 5 and 6 (Mertect-containing programs), and 10 and 11 (Phostrol programs) significantly controlled late blight when compared to the untreated inoculated control. Treatments 7, 8, 9, 12, and 13 (programs with Presidio, V-10208, and Oxidate) did not control late blight significantly better than the untreated inoculated control.

Treatment and rate/ton	Percent tubers with visible late blight infection (%)	
	30 DPI*	90 DPI
1.Untreated, uninoculated ...	0.00 A**	0.0 a
2.Untreated, inoculated.....	52.5 d	95.0 f
3.A9859 230SC 0.6 fl oz A12705 250SC 0.6 fl oz A8574 360FS 0.15 fl oz.....	20.0 abc	3.3 ab
4. A9859 230SC 0.6 fl oz A12705 250SC 0.6 fl oz A8574 360FS 0.3 fl oz.....	27.5 bc	20.0 bc
5.Phostrol 4SC 12.8 fl oz Mertect 340F 0.42 fl oz.....	10.0 ab	27.5 c
6.Mertect 340F 0.42 fl oz.....	55.0 d	55.0 d
7.Presidio 4SC 4 fl oz.....	12.5 ab	90.0 ef
8.V-10208 3.2FS10 fl oz.....	20.0 abc	95.0 f
9.V-10208 3.2FS10 fl oz Presidio 4SC 4 fl oz.....	0.00 a	90.0 ef
10.Phostrol 4SC 12.8 fl oz...	0.15 abc	75.0 e
11.Phostrol 4SC 6.4 fl oz...	0.20 abc	73.3 de
12.Oxidate 2SL12.6 fl oz.....	0.35 cd	100.0 f
13.Oxidate 2SL 6.3 fl oz.....	0.18 abc	90.0 ef

* DPI=days post-inoculation

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