

Evaluation of experimental fungicide drenches for the control of *Thielaviopsis* root rot of pansy in the greenhouse, 2016.

Fungal inoculum was prepared by growing *Thielaviopsis basicola* on PDA agar for four weeks. The upper layer of the agar was removed from five plates, blended in water, and diluted to a final volume of 17 fl oz. Healthy, five week old petunia seedlings from a 288-cell flat were rinsed with distilled water to remove soil from the roots. The bare-rooted plants were then dipped into the conidial slurry for 10 seconds and immediately planted into 4 in. pots containing a soilless medium (Suremix MI Grower Products Inc, Galesburg MI) on 25 Apr. Six plants per treatment were arranged on a greenhouse bench in a completely randomized design. Four hours after inoculation and transplanting, the fungicides were applied as a drench in sufficient volume to displace 10% of the water (3 fl oz/pot). Select fungicides were reapplied at a 10 or 14-day interval as indicated in the table below. Greenhouse temperatures averaged 78.8°F during the day and 68°F at night. A plant health rating and plant death incidence (%) were assessed on 2, 5, 10, and 16 May.

Disease pressure was severe in this trial with 83.0% of the untreated inoculated control plants dead and an average plant health rating of 4.8 by 16 May. The experimental fungicide Pyraziflumid 20SC was not effective as plant death and health ratings were similar to the inoculated control. Industry standard OHP 6672 F was highly efficacious with treated plants showing no symptoms of *T. basicola* infection. Plants treated with Tourney 50WDG were stunted compared to the uninoculated controls, however, more research is needed to determine if this stunting was a result of pathogen infection or phytotoxicity from the fungicide. Empress Intrinsic SC, which does not lists *T. basicola* in the "Diseases Controlled" portion of the label, was not effective and resulted in plant death and health ratings similar to the inoculated control on 10 and 16 May. Phytotoxicity was not observed on Pyraziflumid 20SC, OHP 6672 F, and Empress Intrinsic SC treated plants.

Treatment and amount/100 gal, <i>application interval</i>	Plant health*				Plant death (%)			
	2 May	5 May	10 May	16 May	2 May	5 May	10 May	16 May
Uninoculated Control	1.0 a**	1.0 a	1.0 a	1.0 a	0.0	0.0	0.0 a	0.0 a
Inoculated Control	2.2 bc	3.7 c	4.3 bc	4.8 c	0.0	17.0	33.0 ab	83.0 b
Pyraziflumid 20SC 1.69 fl oz, 10-day	2.0 b	3.7 c	4.3 bc	5.0 c	0.0	33.0	67.0 bc	100.0 b
Pyraziflumid 20SC 3.38 fl oz, 10-day	2.5 c	4.3 c	4.8 c	4.8 c	0.0	33.0	83.0 c	83.0 b
Pyraziflumid 20SC 6.76 fl oz, 10-day	2.2 bc	4.2 c	4.7 bc	4.8 c	0.0	17.0	67.0 bc	83.0 b
OHP 6672 F 14.5 fl oz, 14-day	1.0 a	1.0 a	1.0 a	1.0 a	0.0	0.0	0.0 a	0.0 a
Empress Intrinsic SC 3.0 fl oz, 14-day	1.2 a	2.7 b	4.2 b	4.8 c	0.0	0.0	17.0 a	83.0 b
Tourney 50WDG 4.0 oz, one application	1.2 a	1.3 a	1.3 a	2.2 b	0.0	0.0	0.0 a	0.0 a

*Plant health was rated on a scale of 1 to 5; 1=healthy, 2=chlorosis/stunting, 3=minor wilting, 4=moderate/severe wilting, 5=plant death.

**Column means with no letter or a letter in common are not significantly different (Fisher LSD Test; $P=0.05$).