Testing a New Product for Control of Water Molds on Floriculture Crops

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Three trials were conducted on the campus of Michigan State University to determine the efficacy of the newly registered fungicide Segovis (oxathiapiprolin) against water-mold pathogens; *Phytophthora drechsleri*, *Pythium irregulare*, and *Peronospora* sp. Although previous studies have shown that Segovis is highly efficacious against Phytophthora root rot, we have little information in regards to the longevity of control. A Phytophthora efficacy trial was conducted on African daisy (*Osteospermum ecklonis*) 'Akila Purple' in 4 in. pots containing a soilless media. Two rates of Segovis were tested; 0.6 and 2.4 fl oz, the lowest and highest rates on the label. The fungicide Adorn, an industry standard for Phytophthora control was also included in the experiment. All treatments were applied as a drench on 20 Jan. From each set of treated plants, four were inoculated at either 0, 14, 28, and 42 days post fungicide application. Plants were inoculated by burying *P. drechsleri* infested millet 1 cm from the base of each plant. Untreated inoculated control plants were included at each inoculation date. Plants were rated for disease severity (1-5; 1=healthy, 2=stunting, 3=minor wilting, 4=moderate/severe wilting, 5=plant death) and plant death (%) were recorded weekly.

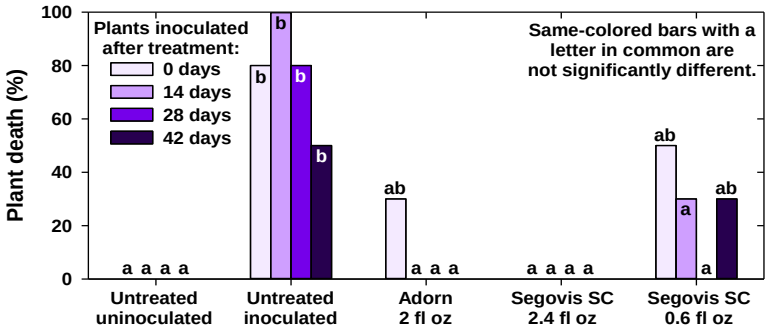

Fig. 1. Evaluation of Segovis for longevity of control against Phytophthora root rot.

Disease was severe in the Phytophthora trial with ≥50% of the untreated inoculated plants dead for all inoculation dates (Fig. 1). Industry standard Adorn continued to show efficacy against Phytophthora root rot with the exception of the 0 day inoculation date. A rate response for Segovis SC was noted with the lower rate 0.6 fl oz resulting in more plant death for most inoculation dates compared to the 2.4 fl oz rate. Overall, the 2.4 fl oz rate of Segovis resulted in excellent residual control for >42 days after the initial fungicide application.

Although we had an abundance of Segovis efficacy data against impatiens downy mildew (*Plasmopara obducens*), we did not have information on the effectiveness of the product against other downy mildews that infect ornamentals. A trial was conducted looking at Segovis (1.0 and 2.4 fl oz) against *Peronospora* sp. on coleus (Table 1). As expected, Segovis applied as a spray was highly efficacious and will be included in all future downy mildew control programs for all ornamental crops.

Table 1. Evaluation of Segovis against coleus downy mildew

Treatment and rate/100 gal	Sporulation severity	Plants with sporulating *Peronospora* (%)
	6 Jun	6 Jun
Untreated uninoculated	1.5 a	5.5 a
Untreated inoculated	4.5 b	40.8 b
Segovis 1.0 fl oz	1.0 a	0.0 a
Segovis 2.4 fl oz	1.0 a	0.0 a
Adorn 4.0 fl oz	1.0 a	0.0 a

Prior to the testing described in this report we had no knowledge of the effectiveness of Segovis against Pythium root rot. A trial was conducted testing Segovis on geraniums inoculated with *Pythium irregulare* (Table 2). Segovis limited leaves with wilting symptoms (%) compared to the untreated control. Although Segovis did offer some Pythium control, it was not as effective as Inosco (phosphorous acid) and industry standard Terrazole WP.

Table 2. Evaluation of Segovis against Pythium root rot

Treatment and rate/100 gal	Leaves wilting (%)
	10/21
Untreated uninoculated	2.0 a
Untreated inoculated	40.0 c
Segovis 3.0 fl oz	30.0 bc
Segovis 1.0 fl oz	28.0 bc
Microa 8.0 fl oz	33.0 c
Inosco 16.0 fl oz	18.0 b
Terrazole WP 10.0 oz	18.0 b

In conclusion, Segovis was highly efficacious against Phytophthora and downy mildew. The ability of the product to provide residual control was outstanding and provided Phytophthora root rot control for more than 42 days post application. Although Segovis did provide some efficacy against Pythium, it would be not be a product that growers could rely on for consistent protection. We will incorporate Segovis into disease control recommendations for provided to growers at extension meeting and on future bulletins.