



Pythium Blight Management on Perennial Ryegrass

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OBJECTIVE

To determine the efficacy of preventative fungicide treatments for the management of Pythium blight (*Pythium aphanidermatum*) on perennial ryegrass.

MATERIALS AND METHODS

The study was conducted at the O. J. Noer Turfgrass Research and Education Facility in Madison, WI on a juvenile stand of perennial ryegrass (*Lolium perenne*) maintained at a cutting height of 1.5 inches. Individual plots measured 3 ft by 5 ft and were arranged in a randomized complete block design with four replications. Individual treatments were applied at a nozzle pressure of 40 p.s.i. using a CO₂ pressurized boom sprayer equipped with two Teejet AI8004 VS nozzles. The study was initiated on July 25th and all fungicides were agitated by hand and applied in the equivalent of 2 gallons of water per 1000 ft². One day following fungicide applications, individual plots were inoculated with *Pythium aphanidermatum*, covered with an evergreen cover, and irrigated three times daily to produce optimal Pythium blight conditions. Disease severity was estimated as percent area affected and turfgrass quality was rated on a 1-9 scale with 1 being bare soil, 6 being acceptable, and 9 being exceptional. Data was subjected to an analysis of variance and means were separated using the Waller Duncan test. Means for disease severity and turf quality for individual treatments are presented in the following table.

RESULTS AND DISCUSSION

Despite mild conditions during the trial period, disease severity was quite high as non-treated controls averaged over 50% disease 1 week following the application. All treatments reduced Pythium severity relative to the non-treated control on the August 2nd rating date. Subdue MAXX, Stellar, and Segway allowed less than 5% disease under heavy pressure, while Heritage TL and Chipco Signature allowed slightly more. Turfgrass quality mirrored disease severity ratings, and all provided acceptable turfgrass quality on the August 2nd rating date with the exception of Chipco Signature.

Table 1. Mean Pythium blight severity and turfgrass quality on perennial ryegrass at the OJ Noer Turfgrass Research Facility in Madison, WI in 2013.

Treatment	Rate	Application Timing	Disease Severity ^a		Turfgrass Quality ^b		
			Jul 29	Aug 2	Jul 29	Aug 2	
1	Non-treated control		7.5a	52.5a	5.8b	3.0f	
2	Subdue MAXX	1.0 FL OZ/1000 FT2	July 25 th	0.0b	2.5e	7.0a	6.5ab
3	Segway	0.75 FL OZ/1000 FT2	July 25 th	0.0b	0.0e	7.0a	7.0a
4	Stellar	1.2 FL OZ/1000 FT2	July 25 th	0.0b	0.0e	7.0a	7.0a
5	Heritage TL	2.0 FL OZ/1000 FT2	July 25 th	0.0b	6.3de	7.0a	6.0b
6	Chipco Signature	4 OZ/1000 FT2	July 25 th	4.3ab	12.5cde	6.0b	5.8bc

^aPythium blight severity was visually estimated as the percentage of affected area within each plot. Plot size was 15ft². Means followed by the same letter do not significantly differ (P=.05, Waller-Duncan).

^bTurfgrass quality was rated visually on a 1 – 9 scale with 1 being bare dirt, 6 being acceptable, and 9 being exceptional. Means followed by the same letter do not significantly differ (P=.05, Waller Duncan).