Control of Pythium Blight using A9180A

Paul Koch, Tom Huncosky, Sam Soper, Ben Van Ryzin, and Dr. Jim Kerns
Department of Plant Pathology
University of Wisconsin - Madison

OBJECTIVE

To determine the efficacy of preventative A9180A treatments for the control of Pythium blight (*Pythium* spp).

MATERIALS AND METHODS

The study was conducted at the O.J. Noer Turfgrass Research and Education Facility in Verona, WI on a stand of perennial ryegrass (*Lolium perenne*) seeded on June 1st and maintained at a 1.5 inch cutting height. The individual plots measured 3 feet by 5 feet 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 CO_2 pressurized boom sprayer equipped with two XR Teejet 8005 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 2 gallons of water per 1000 ft^2. Treatments 2 and 6 were applied on July 14th, treatments 3 and 7 on July 20th, treatments 4 and 6 on July 26th, and treatments 5 and 7 applied on August 6th. Following the August 6th application one 10 cm core was taken from each plot, inoculated with a 2 cm agar disc of *Pythium ultimum*, and placed in a moist chamber at 30°C. Disease severity was rated 24 h, 48 h, and 72 h post inoculation. In addition, the field plots were covered with an evergreen cover and irrigated 3 times daily to produce optimum Pythium blight conditions. Because of rapid disease development in the growth chamber, treatments 4 and 7 were applied again on August 12 and cores sampled and placed in the same conditions later that day. Disease severity was visually assessed in the growth chamber and in the field and subjected to an analysis of variance and means were separated using the Waller-Duncan test (P = 0.05).

RESULTS AND DISCUSSION

Though large differences in mean severity existed in the growth chamber ratings, none of the 3 ratings in the 72 hours following the inoculation produced significant differences between treatments due to high variability. This may be because of the intense disease pressure the growth chamber produced. Disease pressure was much lower in the field plots, but did produce significant differences. All treatments significantly reduced Pythium blight with respect to the non treated control, but there were no differences amongst those treatments that included an application of A9180A.

Table 1. Mean Pythium blight disease severity on perennial ryegrass at the OJ Noer Turfgrass Research Facility in Verona, WI in 2010.

	Treatment	Rate	Application Timing	Disease Severity[a]				
				Growth Chamber Ratings			Field Ratings	
				Aug 13	Aug 14	Aug 15	Aug 10	Aug 16
1	Non-treated control			1.3a	43.8a	60.0a	0.0a	18.8a
2	A9180A	0.0115 OZ/1000 FT2	3 wks pre	0.5a	25.0a	38.8a	0.0a	8.8c
3	A9180A	0.0115 OZ/1000 FT2	2 wks pre	0.0a	35.0a	46.3a	0.0a	7.5c
4	A9180A	0.0115 OZ/1000 FT2	1 week pre	0.5a	46.3a	70.0a	0.0a	8.8c
5	A9180A	0.0115 OZ/1000 FT2	Day of inoc	0.5a	26.3a	35.0a	0.0a	11.3bc
6	A9180A	0.0115 OZ/1000 FT2	3 wks pre + 1 week pre	0.0a	27.5a	45.0a	0.0a	6.3c
7	A9180A	0.0115 OZ/1000 FT2	2 wks pre + Day of inoc	1.8a	67.5a	77.0a	0.0a	8.8c

[a]Disease severity was visually assessed as percent disease either in the plot or on the 10 cm core in the growth chamber. Means followed by the same letter do not significantly differ (P=.05, Waller-Duncan).