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Abstract

Fungicide evaluations for control of dollar spot and brown spot in fairway height creeping bentgrass were conducted at the Iowa State University Horticulture Station, Ames, IA.

Keywords

RFR A9011, Plant Pathology

Disciplines

Agricultural Science | Agriculture | Plant Pathology

Fungicide Evaluation in Penncross Creeping Bentgrass at Fairway Height

RFR-A9011

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Introduction

Fungicide evaluations for control of dollar spot and brown spot in fairway height creeping bentgrass were conducted at the Iowa State University Horticulture Station, Ames, IA.

Materials and Methods

Trials were conducted at the Iowa State University Horticulture Station, Ames, IA. Creeping bentgrass (cv. Penncross) was maintained at 1-in. cutting height. On June 2 and June 9, plots were inoculated with rye grain infested with *Sclerotinia homoeocarpa*. Fungicides, selected for activity against dollar spot, were applied using a backpack sprayer at 30 psi and a dilution rate of 5 gal/1000 sq ft. The experimental design was a randomized complete block with four replications. All sub-plots measured 4 ft × 5 ft. Spray applications were initiated on June 12 followed by re-application at recommended intervals until August 20. Visual estimates of disease severity of each plot with dollar spot symptoms were made at approximately 21-day intervals starting on July 2. Data were analyzed using the GLM procedure in SAS and mean separations were determined using Fisher's protected LSD at $P \leq 0.05$.

Visual estimates of disease severity of each sub-plot with brown spot symptoms were also made using a qualitative scale of 0–5 for brown patch, where 0 = no disease; 1 = 1–5%; 2 = 6–10%; 3 = 11–25%; 4 = 26–50%; and 5 = > 50% plot symptomatic. A turf quality assessment of 1 to 10 (1 = poorest, 10 = best, 6 = acceptable) was also taken three times during the season. Data were analyzed using the GLM procedure in SAS and mean separations were determined using Fisher's protected LSD at $P \leq 0.05$.

Results and Discussion

Low levels of dollar spot disease were observed. High variability among plots precluded statistically significant differences between the control and the treatment on July 24 and August 7. However, statistically significant differences were observed on July 2 and August 20 (Table 1). Brown patch failed to occur on all plots, including the unsprayed check. Turf quality was acceptable (> 6.0) throughout the season and differed only during the last observation period, August 20, when the fungicide treatment subplots were the highest quality of the season and the control subplots remained unchanged from previous observation periods (Table 2). No phytotoxicity symptoms were observed during the trial.

Acknowledgements

We thank the Hort Station turf crew for maintenance of turf during 2009.

Table 1. Dollar spot severity in a fungicide evaluation with fairway height creeping bentgrass, 2009.

Products and rates/1000 sq ft	Interval (days)	Dollar spot % plot with symptoms			
		July 2	July 24	Aug. 7	Aug. 20
Unsprayed check	---	1.5 a	1.8 a	4.3	12.0 a
Bayer Triton Flo SC 0.75 fl oz					
2 nd spray Interface SC 4.0 oz					
3 rd spray Triton Flo 0.75 oz					
4 th Interface 4.0 oz	21 d	0.13 b	0.3 a	0.0	1.0 b
5 th spray Reserve 4.8 SC 4.5 oz					
6 th spray Interface 4.0 oz					
LSD (0.05) ^x	---	0.76	3.8	7.4	7.9

^xMeans followed by the same letter are not significantly different within column according to Fisher's protected LSD at $P \leq 0.05$.

Table 2. Turf quality in a fungicide evaluation with fairway height creeping bentgrass, 2009.

Products and rates/1000 sq ft	Interval (days)	Turf quality		
		July 2	July 24	Aug. 20
Unsprayed check	---	7.3 a	6.5	6.5 a
Bayer Triton Flo SC 0.75 fl oz				
2 nd spray Interface SC 4.0 oz				
3 rd spray Triton Flo 0.75 oz				
4 th Interface 4.0 oz	21 d	8.3 a	7.5	9.0 b
5 th spray Reserve 4.8 SC 4.5 oz				
6 th spray Interface 4.0 oz				
LSD (0.05) ^x	---	2.9	1.3	0.9

^zA turf quality assessment of 1 to 10 (1 = poorest, 10 = best, 6 = acceptable).

^xMeans followed by the same letter are not significantly different within column according to Fisher's protected LSD at $P \leq 0.05$.