Brown Patch Suppression on Colonial Bentgrass

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OBJECTIVE

To determine the efficacy of standard and experimental fungicides for the control of brown patch caused by the fungus *Rhizoctonia solani*.

MATERIALS AND METHODS

The study was conducted at the O. J. Noer Turfgrass Research and Education Facility on a stand of colonial bentgrass (*Agrostis capillaris*) maintained at 0.5 inches. The individual plots measured 3 feet by 10 feet and were arranged in a randomized complete block design with four replications. Individual treatments were applied at a nozzle pressure of 40 psi using a CO_2-pressurized boom sprayer equipped with two XR Teejet AI8004 nozzles. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft^2. All treatments were initiated June 14th and subsequent applications were made at 14-day intervals. Plots were not inoculated. Brown patch severity (percent plot area affected) and turf quality (1-9, 9 being excellent and 6 acceptable) were visually assessed and subjected to an analysis of variance and means were separated using Fisher's LSD (P = 0.05). Results of the disease severity and turfgrass quality ratings can be found in table 1 and 2, respectively.

RESULTS AND DISCUSSION

Brown patch severity was moderate during late July and early August with non-treated controls averaging 25% and 37.5% disease on the Jul 22 and Aug 6 rating dates, respectively. All treatments except SP2478 provided excellent brown patch suppression on both rating dates. Turf quality results mirrored disease severity results, with all treatments except SP2478 providing acceptable turf quality (>6) on both rating dates. No phytotoxicity was observed with any of the treatments.

Table 1. Mean brown patch severity per treatment on colonial bentgrass maintained at fairway height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2019.

	Treatment	Rate	Application Interval	Application Code[b]	Brown Patch Severity[a]	
					Jul 22	Aug 6
1	Non-treated control				25.0 a	37.5 a
2	SP2478	4.5 FL OZ/A	14 day	EGIKM	15.0 b	35.0 a
3	Obtego Soteria	2.5 LB/A 22.0 FL OZ/A	14 day	EGIKM EGIKM	1.3 c	0.0 b
4	Obtego Heritage	2.5 LB/A 8.7 OZ/A	14 day	EGIKM EGIKM	0.0 c	0.0 b
5	Zio Soteria	2.5 LB/A 22.0 FL OZ/A	14 day	EGIKM EGIKM	4.3 c	2.5 b
6	Zio Heritage	2.5 LB/A 8.7 OZ/A	14 day	EGIKM EGIKM	0.0 c	0.0 b
7	Soteria	22.0 FL OZ/A	14 day	EGIKM	0.0 c	0.0 b
8	Heritage	8.7 OZ/A	14 day	EGIKM	0.0 c	0.0 b
				LSD P=.05	6.95	6.62

[a]Brown patch severity was visually assessed as percent disease. Means followed by the same letter do not significantly differ (P=.05, Fisher's LSD).
[b]Application code E = June 14th, G = June 27th, I = July 11th, K = July 24th, M = August 8th

Table 2. Mean turfgrass quality per treatment on colonial bentgrass maintained at fairway height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2019.

	Treatment	Rate	Application Interval	Application Code[b]	Turfgrass Quality[a]	
					Jul 22	Aug 6
1	Non-treated control				5.3 b	4.3 b
2	SP2478	4.5 FL OZ/A	14 day	EGIKM	5.5 b	4.5 b
3	Obtego Soteria	2.5 LB/A 22 FL OZ/A	14 day	EGIKM EGIKM	6.8 a	7.0 a
4	Obtego Heritage	2.5 LB/A 8.7 OZ/A	14 day	EGIKM EGIKM	7.0 a	7.0 a
5	Zio Soteria	2.5 LB/A 22 FL OZ/A	14 day	EGIKM EGIKM	6.5 a	6.8 a
6	Zio Heritage	2.5 LB/A 8.7 OZ/A	14 day	EGIKM EGIKM	7.0 a	7.0 a
7	Soteria	2.5 LB/A	14 day	EGIKM	7.0 a	7.0 a
8	Heritage	8.7 OZ/A	14 day	EGIKM	7.0 a	7.0 a
				LSD P=.05	0.53	0.49

[a]Turfgrass quality was rated visually on a 1 – 9 scale with 6 being acceptable. Means followed by the same letter do not significantly differ (P=.05, Fisher's LSD).
[b]Application code E = June 14th, G = June 27th, I =July 11th, K = July 24th, M = August 8th