Dollar Spot Suppression Using Strobilurin Fungicides

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OBJECTIVE

To determine the efficacy of various strobilurin fungicides in suppressing dollar spot caused by the fungus *Sclerotinia homoeocarpa* on creeping bentgrass.

MATERIALS AND METHODS

The study was conducted at the O. J. Noer Turfgrass Research and Education Facility in Madison, WI on a stand of creeping bentgrass (*Agrostis stolonifera* 'Penncross') maintained at 0.125 inches. Individual plots measured 3 feet by 5 feet and were arranged in a randomized complete block design with four replications. Treatments were applied at a nozzle pressure of 40 p.s.i. using a CO_2 pressurized boom sprayer equipped with two XR Teejet AI8004 VS 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 on June 3rd and subsequent applications were made at 21-day intervals. Disease severity (number of dollar spot foci per plot) and turfgrass quality (1-9, 9 being excellent, 6 acceptable, and 1 bare soil) were assessed every 2 weeks. Turf quality and disease severity were subjected to an analysis of variance and means were separated using Tukey's Honest Significant Difference test (P = 0.05). Results of the disease severity and turfgrass quality ratings can be found in table 1 and 2, respectively.

RESULTS AND DISCUSSION

Dollar spot pressure has been high throughout summer 2015, peaking in late June as non-treated controls averaged 245 foci per plot on the June 29th rating date. Strobilurin fungicides are not labeled for dollar spot control, though Insignia is labeled for dollar spot suppression. Therefore, it was not surprising that none of the strobilurin fungicides reduced dollar spot relative to the non-treated control except for Insignia. In addition, the application of Heritage TL did not result in increased dollar spot relative to the non-treated control, which had previously been reported. The two fungicides that included a fungicide from the succinate dehydrogenase inhibitor (SDHI) class and were labeled for dollar spot control, Lexicon and Xzemplar, reduced dollar spot most effectively. Phytotoxicity was not observed with any treatment.

Table 1. Mean number of dollar spot foci per treatment at the OJ Noer Turfgrass Research and Education Facility in Madison, WI during 2015.

	Treatment	Rate	Application Interval	Dollar Spot Severity[a]		
				Jun 29	Jul 29	Aug 20
1	Non-treated control			245.0ab	77.5a	134.8ab
2	Heritage TL	2.0 FL OZ/1000 FT2	21 Day	255.3a	83.0a	157.5ab
3	Compass 50 WDG	0.25 OZ/1000 FT2	21 Day	216.8abc	54.8ab	118.8ab
4	Disarm 480 SC	0.36 FL OZ/1000 FT2	21 Day	205.8abc	75.3a	187.5a
5	Insignia	0.7 FL OZ/1000 FT2	21 Day	109.8bc	35.5abc	113.5ab
6	Lexicon	0.47 FL OZ/1000 FT2	21 Day	84.8c	0.8c	20.3b
7	Xzemplar	0.26 FL OZ/1000 FT2	21 Day	80.3c	7.0bc	14.3b

[a]Dollar spot severity assessed as number of dollar spot infection centers per plot. Means followed by the same letter do not significantly differ (P=.05, Tukey's HSD).

Table 2. Mean turfgrass quality at the OJ Noer Turfgrass Research and Education Facility in Madison, WI during 2015.

	Treatment	Rate	Application Interval	Turfgrass Quality[a]		
				Jun 29	Jul 29	Aug 20
1	Non-treated control			3.0b	4.8c	4.0b
2	Heritage TL	2.0 FL OZ/1000 FT2	21 Day	3.3ab	5.0c	4.0b
3	Compass 50 WDG	0.25 OZ/1000 FT2	21 Day	3.5ab	5.0c	4.5b
4	Disarm 480 SC	0.36 FL OZ/1000 FT2	21 Day	3.8ab	4.8c	3.8b
5	Insignia	0.7 FL OZ/1000 FT2	21 Day	4.0ab	5.8bc	4.5b
6	Lexicon	0.47 FL OZ/1000 FT2	21 Day	4.5a	7.0a	7.0a
7	Xzemplar	0.26 FL OZ/1000 FT2	21 Day	4.3ab	6.8ab	6.3a

[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, Tukey's HSD).