



Dollar Spot Suppression on Golf Course Fairways

Sam Soper, Bruce Schweiger, and Paul Koch, Ph.D.
Department of Plant Pathology
University of Wisconsin - Madison

OBJECTIVE

To determine the efficacy of standard and experimental fungicides for controlling dollar spot caused by the fungus *Sclerotinia homoeocarpa* on fairway-height creeping bentgrass.

MATERIALS AND METHODS

The study was conducted at the O. J. Noer Turfgrass Research and Education Facility on a stand of creeping bentgrass (*Agrostis stolonifera* 'Alpha') maintained at 0.5 inches. Individual plots measured 3 feet by 10 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 CO₂ pressurized boom sprayer equipped with two XR Teejet 8004 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 2 gallons of water per 1000 ft². All treatments were initiated on May 29th and subsequent applications were made at 14 or 21-day intervals. Number of dollar spot foci per plot and turfgrass quality (1-9, 9 being excellent, 6 acceptable, and 1 bare soil) were visually assessed every 2 weeks. Turf quality and disease severity were subjected to an analysis of variance and means separated using the Waller-Duncan test (P = 0.05). Results of disease severity and turfgrass quality ratings can be found in table 1 and 2, respectively.

RESULTS AND DISCUSSION

Dollar spot pressure was very high throughout most of the summer, with non-treated controls averaging over 1000 foci per plot by late August. All treatments reduced dollar spot relative to the non-treated control except Anuew, which is a plant growth regulator and wouldn't be expected to provide significant suppression. The most effective dollar spot suppression was provided by Secure and Velistra when applied at 14-day intervals. Turfgrass quality mirrored disease severity, with only treatments including Secure and Velistra providing acceptable turfgrass quality on the July 17th rating date and only Velistra at the 14-day interval providing acceptable quality on the August 27th rating date. Phytotoxicity was not observed with any treatment.

Table 1. Mean number of dollar spots per treatment at fairway height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2014.

Treatment	Rate	Application Interval	Dollar Spot Severity ^a			
			Jun 20	Jul 16	Aug 27	
1	Non-treated control		15.5a	726.5b	1134.0a	
2	Secure	0.5 FL OZ/1000 FT2	14 Day	0.5a	9.3c	57.5c
3	Velista	0.5 OZ/1000 FT2	14 Day	0.5a	5.3c	27.5c
4	^b Secure (A) Velista (B)	0.5 FL OZ/1000 FT2 0.5 OZ/1000 FT2	21 Day	0.5a	13.5c	247.8c
5	Concert II	4.5 FL OZ/1000 FT2	21 Day	1.3a	80.8c	123.0c
6	Velista	0.5 OZ/1000 FT2	21 Day	1.0a	43.0c	143.5c
7	^b Torque 3.6F (A) Spectro 90 WDG (A) 26/36 3.8F (B)	0.75 FL OZ/1000 FT2 3.6 OZ/1000 FT2 4.0 FL OZ/1000 FT2	14 Day	1.0a	105.3c	482.8b
8	^b Torque 3.6F (A) Spectro 90 WDG (A) Anuew (A) 26/36 3.8F (B) Anuew (B)	0.75 FL OZ/1000 FT2 3.6 OZ/1000 FT2 0.1836 OZ/1000 FT2 4.0 FL OZ/1000 FT2 0.1836 OZ/1000 FT2	14 Day	1.5a	136.5c	685.3b
9	^b Tourney 50 WDG (A) Spectro 90 WDG (A) 26/36 3.8F (B)	0.2 OZ/1000 FT2 3.6 OZ/1000 FT2 4.0 FL OZ/1000 FT2	14 Day	0.3a	92.3c	504.0b
10	^b Tourney 50 WDG (A) Spectro 90 WDG (A) Anuew (A) 26/36 3.8F (B) Anuew (B)	0.2 OZ/1000 FT2 3.6 OZ/1000 FT2 0.1836 OZ/1000 FT2 4.0 FL OZ/1000 FT2 0.1836 OZ/1000 FT2	14 Day	0.5a	178.8c	615.3b
11	Anuew	0.1836 OZ/1000 FT2	14 Day	15.8a	952.5a	1130.5a

^aDollar spot rated as number of dollar spot infection centers. Means followed by the same letter do not significantly differ (P=.05, Waller Duncan).

^b(A) Treatments rotated with (B) treatments.

Table 2. Mean turfgrass quality per treatment at fairway height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2014.

	Treatment	Rate	Application Interval	Turfgrass Quality ^a		
				Jun 20	Jul 16	Aug 27
1	Non-treated control			6.0b	4.0c	3.0d
2	Secure	0.5 FL OZ/1000 FT2	14 Day	7.0a	6.3ab	5.5b
3	Velista	0.5 OZ/1000 FT2	14 Day	7.0a	6.8a	6.0a
4	^b Secure (A) Velista (B)	0.5 FL OZ/1000 FT2 0.5 OZ/1000 FT2	21 Day	7.0a	6.5ab	5.3b
5	Concert II	4.5 FL OZ/1000 FT2	21 Day	7.0a	5.8ab	5.3b
6	Velista	0.5 OZ/1000 FT2	21 Day	6.8a	6.3ab	5.0b
7	^b Torque 3.6F (A) Spectro 90 WDG (A) 26/36 3.8F (B)	0.75 FL OZ/1000 FT2 3.6 OZ/1000 FT2 4.0 FL OZ/1000 FT2	14 Day	7.0a	5.3b	4.5c
8	^b Torque 3.6F (A) Spectro 90 WDG (A) Anuew (A) 26/36 3.8F (B) Anuew (B)	0.75 FL OZ/1000 FT2 3.6 OZ/1000 FT2 0.1836 OZ/1000 FT2 4.0 FL OZ/1000 FT2 0.1836 OZ/1000 FT2	14 Day	6.0b	5.5b	4.3c
9	^b Tourney 50 WDG (A) Spectro 90 WDG (A) 26/36 3.8F (B)	0.2 OZ/1000 FT2 3.6 OZ/1000 FT2 4.0 FL OZ/1000 FT2	14 Day	7.0a	5.3b	4.0c
10	^b Tourney 50 WDG (A) Spectro 90 WDG (A) Anuew (A) 26/36 3.8F (B) Anuew (B)	0.2 OZ/1000 FT2 3.6 OZ/1000 FT2 0.1836 OZ/1000 FT2 4.0 FL OZ/1000 FT2 0.1836 OZ/1000 FT2	14 Day	6.0b	5.3b	4.0c
11	Anuew	0.1836 OZ/1000 FT2	14 Day	6.0b	4.0c	3.0d

^aTurfgrass 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, Waller Duncan).

^b(A) Treatments rotated with (B) treatments.