



Dollar Spot Suppression on Golf Course Greens

Shane Sommers, Kurt Hockemeyer, Jonathan Cors, 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 green-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*) maintained at 0.125 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 psi. using a CO₂ pressurized boom sprayer equipped with two Teejet AI 8004 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft². All treatments were initiated on May 24 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 Fisher's LSD (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 varied throughout much of 2018, but was quite high for periods in both July and August. Dollar spot resistance to thiophanate-methyl has been widely documented at our research facility and most golf courses throughout the Midwestern United States, so TM 4.5 basically provided no suppression of the dollar spot fungus due to resistance. Azoxystrobin is not labeled for dollar spot control and did not provide any suppression of the disease in this trial. Traction, Banner Maxx, and Emerald provided the most effective dollar spot suppression throughout the experiment. Turf quality mostly reflected dollar spot severity data and Traction, Banner MAXX, and Emerald were the only treatments to provide acceptable turf quality throughout the season. No phytotoxicity was observed with any treatment.

Table 1. Mean number of dollar spots per treatment at greens height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2018.

Treatment	Rate	Application Interval	Application Code ^b	Dollar Spot Severity ^a		
				Jun 8	Jul 18	Aug 13
1 Non-treated control				42.5 a	93.8 bc	65.3 de
2 QP Propiconazole	0.82 fl oz/1000ft ²	21 day	DGJMP	17.8bcd	32.5cde	45.0efg
3 Strobe	4.1 g/1000ft ²	21 day	DGJMP	30.8ab	242.3 a	183.8 ab
4 TM 4.5	1.86 oz/1000ft ²	21 day	DGJMP	32.5 ab	257.0 a	203.8 a
5 QP Chlorothalonil	4.15 fl oz/1000ft ²	21 day	DGJMP	26.0abc	136.3 b	141.5 bc
6 QP Chlorothalonil QP Propiconazole	4.15 fl oz/1000ft ² 0.82 fl oz/1000ft ²	21 day	DGJMP	3.5 d	14.0de	63.0 de
7 QP Propiconazole TM 4.5	0.82 fl oz/1000ft ² 1.86 fl oz/1000ft ²	21 day	DGJMP	6.0d	69.3bcd	105 cd
8 TM 4.5 QP Chlorothalonil	1.86 fl oz/1000ft ² 4.15 fl oz/1000ft ²	21 day	DGJMP	10.3cd	134.5 b	159 ab
9 QP Chlorothalonil QP Propiconazole	4.15 fl oz/1000ft ² 0.82 fl oz/1000ft ²	21 day	DGJMP	2.8d	15.3 de	67.5 de
10 Strobe Pro	1.16 fl oz/1000ft ²	21 day	DGJMP	39.8 a	56.8 cde	89.0 de
11 Traction	1.3 fl oz/1000ft ²	14 day	DFHJLNP	0.3 d	2.5 de	14.0 fg
12 Rotator	0.5 fl oz/1000ft ²	14 day	DFHJLNP	3.8 d	31.5 cde	51.3 ef
13 Banner Maxx	2 fl oz/1000ft ²	14 day	DFHJLNP	1.5 d	0.5 e	3.5 g
14 Emerald	0.13 oz/1000ft ²	21 day	DGJMP	3.5 d	20.0de	11.3 fg
			LSD P=.05	19.81	67.13	47.18

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

^bApplication Code D=May 24th, F=June 6th, G=June 13th, I=June 20th, J=July 15th, L=July 18th, M=July 25th, N=August 1st, P=August 15th

Table 2. Mean turfgrass quality per treatment at greens height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2018.

Treatment	Rate	Application Interval	Application Code ^b	Turfgrass Quality ^a		
				Jun 8	Jul 18	Aug 13
1 Non-treated control				5.3 d	5.5 d	5.3 bc
2 QP Propiconazole	0.82 fl oz/1000ft ²	21 day	DGJMP	5.8 bcd	6.5 bc	5.3 bc
3 Strobe	4.1 g/1000ft ²	21 day	DGJMP	5.5 cd	5.0 de	4.0 ef
4 TM 4.5	1.86 oz/1000ft ²	21 day	DGJMP	5.5 cd	4.3 e	3.5 f
5 QP Chlorothalonil	4.15 fl oz/1000ft ²	21 day	DGJMP	5.3 d	5.3 d	4.3 def
6 QP Chlorothalonil QP Propiconazole	4.15 fl oz/1000ft ² 0.82 fl oz/1000ft ²	21 day	DGJMP	6.3 abc	6.8 ab	5.0 cd
7 QP Propiconazole TM 4.5	0.82 fl oz/1000ft ² 1.86 fl oz/1000ft ²	21 day	DGJMP	6.5 ab	5.5 d	4.8 cde
8 TM 4.5 QP Chlorothalonil	1.86 fl oz/1000ft ² 4.15 fl oz/1000ft ²	21 day	DGJMP	6.3 abc	5.0 de	3.8 f
9 QP Chlorothalonil QP Propiconazole	4.15 fl oz/1000ft ² 0.82 fl oz/1000ft ²	21 day	DGJMP	6.5 ab	6.8 ab	4.8 cde
10 Strobe Pro	1.16 fl oz/1000ft ²	21 day	DGJMP	5.0 d	5.8 cd	5.0 cd
11 Traction	1.3 fl oz/1000ft ²	14 day	DFHJLNP	7.0 a	7.3 ab	6.0 b
12 Rotator	0.5 fl oz/1000ft ²	14 day	DFHJLNP	6.5 ab	6.8 ab	5.0 cd
13 Banner Maxx	2 fl oz/1000ft ²	14 day	DFHJLNP	7.0 a	7.5 a	7.0 a
14 Emerald	0.13 oz/1000ft ²	21 day	DGJMP	6.5 ab	7.0 ab	7.0 a
			LSD P=.05	0.89	0.82	0.82

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

^bApplication Code D=May 24th, F=June 6th, G=June 13th, I=June 20th, J=July 15th, L=July 18th, M=July 25th, N=August 1st, P=August 15th