Curative Fungicide Applications for Dollar Spot Management

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INTRODUCTION

To determine the efficacy of standard and experimental fungicides for the curative management of dollar spot caused by the fungus *Sclerotinia homoeocarpa*.

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*) maintained at a cutting height of 0.5 inches. Individual plots measured 3 ft by 5 ft 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 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 July 22nd once dollar spot developed throughout the experimental area. A second application was made 14 days after the initial application. Disease severity (number of dollar spot foci) and turfgrass quality (1-9, 9 being excellent, 6 acceptable, and 1 bare soil) were assessed weekly. Turf quality and disease severity were subjected to an analysis of variance and means were separated using the 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

There was significant dollar spot present on the initial application date on July 22nd with plots averaging approximately 120 infection foci per plot. All treatments reduced dollar spot severity by the July 29th rating date, just five days after the initial application. By the August 5th rating date, 8 of the 18 treatments provided acceptable turfgrass quality. Velista, Secure, Xzemplar, a combination of Velista and Daconil WeatherStik, and a combination of Velista and Secure provided the most dollar spot suppression and highest turfgrass quality on the August 5th rating date. Phytotoxicity was not observed with any treatment.

Table 1. Mean number of dollar spots per plot at fairway height at the OJ Noer Turfgrass Research and Education Facility in Madison, WI during 2015.

	Treatment	Rate	Application Interval	Dollar Spot Severity[a]		
				Jul 22	Jul 29	Aug 5
1	Non-treated control			119.5a	223.0a	116.0a
2	Emerald	0.13 OZ/1000 FT2	14 Day	122.0a	113.0b	61.5ab
3	26GT	4.0 FL OZ/1000 FT2	14 Day	133.0a	87.3b	51.0ab
4	Banner MAXX II	2.0 FL OZ/1000 FT2	14 Day	131.0a	28.5b	23.3b
5	Xzemplar	0.26 FL OZ/1000 FT2	14 Day	141.0a	25.5b	12.8b
6	Encartis	4.0 FL OZ/1000 FT2	14 Day	109.3a	25.0b	27.0b
7	Secure	0.5 FL OZ/1000 FT2	14 Day	95.5a	20.8b	12.5b
8	Daconil WeatherStik	4.0 FL OZ/1000 FT2	14 Day	106.8a	40.8b	67.3ab
9	Daconil WeatherStik	3.6 FL OZ/1000 FT2	14 Day	119.0a	63.8b	73.8ab
10	Velista Daconil WeatherStik	0.5 OZ/1000 FT2 3.6 FL OZ/1000 FT2	14 Day	80.0a	14.8b	17.5b
11	26GT Xtra	4.0 FL OZ/1000 FT2	14 Day	107.0a	22.0b	27.8b
12	Velista	0.5 OZ/1000 FT2	14 Day	140.0a	26.3b	21.3b
13	Velista Secure	0.3 OZ/1000 FT2 0.5 FL OZ/1000 FT2	14 Day	118.8a	24.8b	12.8b
14	Velista Secure	0.5 OZ/1000 FT2 0.5 FL OZ/1000 FT2	14 Day	85.8a	24.5b	16.3b
15	Velista	0.7 OZ/1000 FT2	14 Day	119.0a	22.8b	21.0b
16	A6780	1.5 FL OZ/1000 FT2	14 Day	131.5a	23.8b	43.3b
17	A20866	0.26 FL OZ/1000 FT2	14 Day	122.5a	22.5b	17.0b
18	A20581	0.47 FL OZ/1000 FT2	14 Day	160.5a	45.8b	26.0b

[a]Dollar spot was visually 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 per plot at the OJ Noer Turfgrass Research and Education Facility in Madison, WI during 2015.

	Treatment	Rate	Application Interval	Turfgrass Quality[b]		
				Jul 22	Jul 29	Aug 5
1	Non-treated control			4.3a	3.8c	4.8ab
2	Emerald	0.13 OZ/1000 FT2	14 Day	4.3a	4.3bc	5.3ab
3	26GT	4.0 FL OZ/1000 FT2	14 Day	4.0a	4.8abc	5.3ab
4	Banner MAXX II	2.0 FL OZ/1000 FT2	14 Day	4.3a	5.0abc	5.8ab
5	Xzemplar	0.26 FL OZ/1000 FT2	14 Day	4.0a	5.5ab	6.3ab
6	Encartis	4.0 FL OZ/1000 FT2	14 Day	4.3a	5.3abc	5.8ab
7	Secure	0.5 FL OZ/1000 FT2	14 Day	4.5a	5.3abc	6.5a
8	Daconil WeatherStik	4.0 FL OZ/1000 FT2	14 Day	4.5a	5.0abc	4.8ab
9	Daconil WeatherStik	3.6 FL OZ/1000 FT2	14 Day	4.3a	4.8abc	4.5b
10	Velista Daconil WeatherStik	0.5 OZ/1000 FT2 3.6 FL OZ/1000 FT2	14 Day	5.0a	6.0a	6.0ab
11	26GT Xtra	4.0 FL OZ/1000 FT2	14 Day	4.3a	5.5ab	5.5ab
12	Velista	0.5 OZ/1000 FT2	14 Day	4.3a	5.8ab	6.0ab
13	Velista Secure	0.3 OZ/1000 FT2 0.5 FL OZ/1000 FT2	14 Day	4.3a	5.5ab	6.0ab
14	Velista Secure	0.5 OZ/1000 FT2 0.5 FL OZ/1000 FT2	14 Day	5.0a	5.8ab	6.5a
15	Velista	0.7 OZ/1000 FT2	14 Day	4.3a	5.5ab	6.0ab
16	A6780	1.5 FL OZ/1000 FT2	14 Day	4.3a	5.5ab	5.0ab
17	A20866	0.26 FL OZ/1000 FT2	14 Day	4.0a	5.5ab	6.0ab
18	A20581	0.47 FL OZ/1000 FT2	14 Day	4.0a	5.0abc	5.5ab

[b]Turfgrass quality was visually assessed on a 1 – 9 scale with 1 being bare dirt, 6 being acceptable, and 9 being exceptional. Means followed by the same letter do not significantly differ (P=.05, Tukey's HSD).