

PREVENTIVE CONTROL OF DOLLAR SPOT ON A CREEPING BENTGRASS AND ANNUAL BLUEGRASS RESEARCH FAIRWAY WITH SYNGENTA'S VELISTA FUNGICIDE, 2016.

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INTRODUCTION

Dollar spot (caused by the pathogen *Sclerotinia homoeocarpa*) is a common disease of golf course fairways throughout Pennsylvania and many areas of the United States. Although there are several cultural management practices that can assist in reducing disease severity, the use of protective chemicals usually is necessary to control the disease during periods favorable for growth of the pathogen. The objectives of this study were to evaluate the ability of a commercially available Syngenta fungicide (i.e., Velista) to preventively suppress dollar spot.

MATERIALS & METHODS

This one-year field study was initiated at the Valentine Turfgrass Research Center located in University Park, PA. Soil was a sandy loam with a pH of 7.2 and 2.3% organic matter. Turfgrass used for the fungicide evaluation was a 60/40 mixed stand of creeping bentgrass (*Agrostis stolonifera*)/annual bluegrass (*Poa annua*). The area was maintained as a golf course fairway and mowed three times per week to a height of 0.5 in. On 23 Sep 2015, 1.0 lb of N 1000 ft⁻² was applied using granular fertilizer with 45% slow release nitrogen (The Andersons, Contec DG 24-0-17). All fungicide treatments were applied with a CO₂ pressurized (40 psi) sprayer equipped with an air-induction flat fan nozzle (TeeJet, AI9504EVS), calibrated to deliver 1.0 gal of water 1000 ft⁻². Treatments initially were applied on 25 May and reapplied according to the application schedule. All treatments and application dates are listed in the data tables.

Plots measured 3 ft x 6 ft and were arranged in a randomized complete block design with four replications. Dollar spot severity was assessed by counting the number of infection centers within each plot. Turfgrass quality and/or color were also visually rated on a 1 to 9 scale where 1 = entire plot brown or dead and 9 = optimum greenness and/or density. All data were subjected to analysis of variance and



Figure 1. Dollar spot pressure at the Joseph Valentine Research Center, 2016.

means were separated at $P \leq 0.05$ according to Tukey's Protected least significant difference test.

RESULTS & DISCUSSION

Dollar spot was first observed at the study site on 9 Jun. Disease pressure was slow to develop and remained low throughout the season. Disease pressure peaked in Aug. On both Aug 12 and Aug 26 plots treated with Velista had a significant reduction in DS (0 to 3 DSIC) when compared to the nontreated control (33 to 42 DSIC) (Table 1). No differences in DSIC were observed among Velista treatments, regardless of rate (Table 1).

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Table 1. Dollar spot in a creeping bentgrass/annual bluegrass fairway following the application of Velista at two rates, 2016.

Treatment and rate per 1000	Application Code ^y	Dollar spot ^z				
		9 June	29 June	20 July	12 Aug	26 Aug
1 Velista 0.3 fl oz	ABDEFH	1 a ^x	0 a	1 b	2 b	3 b
2 Velista 0.5 fl oz	ACEG	9 a	0 a	<1 b	0 b	0 b
3 Nontreated.....	-	5 a	7 a	15 a	33 a	42 a

^z Dollar spot severity was assessed by counting the number of infection centers per plot.

^y Treatments were applied on the following dates: A= 25 May, B= 6 Jun, C= 13 Jun, D= 20 Jun, E= 5 Jul, F= 19 Jul, F= 25 Jul and G= 2 Aug.

^x Means in a column followed by the same letter are not significantly different at $P \leq 0.05$ according to the Tukey's least significant difference test.

Table 2. Quality of a creeping bentgrass/annual bluegrass fairway following the application of Velista at two rates, 2016.

Treatment and rate per	Application Code ^y	Quality ^z				
		9 Jun	29 Jun	20 Jul	12 Aug	26 Aug
1 Velista 0.3 fl oz	ABDEFH	8.0 a ^x	8.0 a	8.0 a	8.0 a	8.0 a
2 Velista 0.5 fl	ACEG	7.8 a	8.0 a	8.0 a	8.0 a	8.0 a
3 Nontreated.....	-	7.5 a	7.8 a	7.8 a	7.3 b	6.8 b

^z Turfgrass quality was visually assessed on a 1 to 9 scale where 1 = entire plot brown or dead and 9 = optimum uniformity and density.

^y Treatments were applied on the following dates: A= 25 May, B= 6 Jun, C= 13 Jun, D= 20 Jun, E= 5 Jul, F= 19 Jul, F= 25 Jul and G= 2 Aug.

^x Means in a column followed by the same letter are not significantly different at $P \leq 0.05$ according to the Tukey's least significant difference test.

Table 3. Color ratings in a creeping bentgrass/annual bluegrass fairway following the application of Velista at two rates, 2016.

	Treatment and rate per	Application Code ^y	Color ^z				
			9 Jun	29 Jun	20 Jul	12 Aug	26 Aug
1	Velista 0.3 fl oz	ABDEFH	8.0 a ^x	8.0 a	8.0 a	8.0 a	8.0 a
2	Velista 0.5 fl	ACEG	8.0 a	7.8 a	7.8 a	8.0 a	8.0 a
3	Nontreated	-	8.0 a	7.2 a	7.3 a	7.8 a	7.5 a

^z Turfgrass color was visually assessed on a 1 to 9 scale where 1 = entire plot brown or dead and 9 = optimum greenness.

^y Treatments were applied on the following dates: A= 25 May, B= 6 Jun, C= 13 Jun, D= 20 Jun, E= 5 Jul, F= 19 Jul, F= 25 Jul and G= 2 Aug.

^x Means in a column followed by the same letter are not significantly different at $P \leq 0.05$ according to the Tukey's least significant difference test.