

# Effects of Fungicides for Dollar Spot Control on a Bentgrass Fairway, 2005

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## Introduction

The use of fungicides for managing dollar spot (*Sclerotinia homoeocarpa*) on golf courses is a fundamental practice to maintain high quality playing surfaces. This study was conducted at the Joseph Valentine Turfgrass Research Center, University Park, PA, on a stand of creeping bentgrass (*Agrostis Palustris*, 'Penneagle'). The study included various fungicides, rates, mixtures, and/or application intervals to investigate control strategies and fungicide efficacy.

## Materials and Methods

The experiment was conducted at the Valentine Turfgrass Research Center, University Park, PA, on a sward of creeping bentgrass maintained under golf course fairway management conditions. The turfgrass was mowed three times per week at 0.5-inch cutting height. The soil was a Hagerstown silt loam with pH 6.8. The experiment was fertilized 19 Apr with 1.0 lb nitrogen (18-9-18) per 1000 sq ft, and on 1 Jun with 0.25 lb nitrogen (46-0-0) per 1000 sq ft. Bensumec 4F was applied on 12 May at a rate of 2 gal/A for pre-emergent control of crabgrass. Trimec Bentgrass Formula was applied on 17 May (0.7 fl oz per 1000 sq ft) for control of broadleaf weeds. Mach 2 2SC (1.5 fl oz per 1000 sq ft) was applied 7 Jul for control of black cutworms. Treatment plots, 3 ft x 6 ft, were arranged in a randomized complete block design with three replications. Treatments were applied with a CO<sub>2</sub>-powered sprayer, using a TeeJet 11008E nozzle at 40 psi, in water equivalent to 2 gal per 1000 sq ft. Applications were made on 7 and 21 Jun, and 5 and 19 Jul, unless otherwise noted in the table. Disease incidence was evaluated weekly and data were subjected to analysis of variance and multiple comparisons of the mean values were made using the Waller-Duncan k-ratio test. Data from 26 Jul, and 3 and 10 Aug are presented.

## Results and Discussion

Dollar spot incidence was moderate in June and became increasingly severe during July and early August. On 10 Aug 15 treatments were providing excellent control of dollar spot, while 3336 Plus treatments applied at 3.0 or 4.0 fl oz were not significantly different from the untreated check. Complete suppression of dollar spot was achieved throughout the study with the Emerald + Curalan tank mixture, the Emerald + urea mixture, and the two 0.13 oz (14-day interval) Emerald treatments. No phytotoxicity was observed in the experiment.

**Table.** Effects of fungicides for dollar spot control on a bentgrass fairway, 2005.

Treatment, formulation, and rate per 1000 sq ft	Infection centers per sq ft <sup>z</sup>		
	26 Jul	3 Aug	10 Aug
Untreated Check.....	10.9 a <sup>y</sup>	13.4 a <sup>y</sup>	19.1 a <sup>y</sup>
3336 Plus F 3.0 fl oz <sup>x</sup> .....	5.4 b	12.9 a	16.3 ab
3336 Plus F 4.0 fl oz <sup>x</sup> .....	5.6 b	7.1 b	14.3 abc
Daconil Ultrex 82.5WG 1.8 oz.....	0.9 d	4.9 bc	11.7 bcd
Daconil Ultrex 82.5WG 3.25 oz.....	0.0 d	1.3 ef	11.1 bcd
Fairway Seaquental L 3.0 fl oz + Daconil Ultrex 82.5WG 1.8 oz....	0.9 d	3.8 cd	10.3 cde
Heritage TL 0.8ME 1.0 fl oz.....	1.1 d	1.8 def	10.0 cde
3336 Plus F 2.0 fl oz <sup>x</sup> .....	4.1 c	2.3 def	9.9 c-f
Echo Ultimate 82.5WG 3.25 oz.....	0.6 d	2.7 cde	9.2 c-f
Echo 720 6F 3.6 fl oz.....	0.4 d	2.0 def	6.2 d-g
Banner MAXX 1.3ME 2.0 fl oz <sup>w</sup> .....	0.3 d	1.4 def	5.6 efg
Insignia 20WG 0.9 oz.....	0.4 d	1.7 def	5.1 e-h
Curalan 50EG 1.0 oz.....	0.0 d	1.0 ef	5.0 e-h
26GT 2SC 3.0 fl oz <sup>x</sup> .....	0.0 d	0.0 f	4.4 fgh
Heritage 50WG 0.2 oz + Banner MAXX 1.3ME 0.5 fl oz.....	0.2 d	0.9 ef	3.7 gh
Heritage TL 0.8ME 0.5 fl oz+ Banner MAXX 1.3ME 0.5 fl oz.....	0.0 d	0.2 f	3.6 gh
Lynx 45WP 0.6 oz <sup>x</sup> .....	0.3 d	0.8 ef	3.2 gh
Heritage TL 0.8ME 1.0 fl oz + Banner MAXX 1.3ME 0.5 fl oz.....	0.0 d	0.0 f	1.7 gh
2636 F 4.0 fl oz <sup>x</sup> .....	0.0 d	0.0 f	1.4 gh
Emerald 70WG 0.18 oz <sup>v</sup> .....	0.1 d	0.0 f	1.4 gh
Lynx 45WP 1.0 oz <sup>x</sup> .....	0.0 d	0.0 f	1.2 gh
Emerald 70WG 0.18 oz <sup>u</sup> .....	0.0 d	0.0 f	0.0 h
Emerald 70WG 0.13 oz <sup>t</sup> .....	0.0 d	0.0 f	0.0 h
Emerald 70WG 0.13 oz.....	0.0 d	0.0 f	0.0 h
Emerald 70WG 0.13 oz + urea (0.125 lb N)46GR 0.27 lb.....	0.0 d	0.0 f	0.0 h
Emerald 70WG 0.18 oz + Curalan 50EG 1.0 oz <sup>x</sup> .....	0.0 d	0.0 f	0.0 h

<sup>z</sup>Number of infection centers per plot, three sub-samples per plot, mean of three replications.

<sup>y</sup>Means within column followed by different letters are significantly different ( $P \leq 0.05$ ) according to the Waller-Duncan k-ratio test.

<sup>x</sup>Treatment applied on a 21-day interval (7 and 28 Jun, and 19 Jul).

<sup>w</sup>Treatment applied on a 28-day interval (7 Jun and 5 Jul).

<sup>v</sup>Treatment was initiated 24 May and applied on a 21-day interval (24 May, 14 Jun, and 5 Jul).

<sup>u</sup>Treatment was initiated 24 May and applied on a 28-day interval (24 May, 21 Jun, and 19 Jul).

<sup>t</sup>Treatment was initiated 24 May and applied on a 14-day interval (24 May, 7 and 21 Jun, 5 and 19 Jul).