

## Dollar Spot (*Rutstroemia floccosum*)

This study was set up in 4 replicates of a random block design with 2' x 6' plots. We used a CO<sub>2</sub> backpack sprayer with a single nozzle boom at 34 PSI and 48 GPA. The host was Emerald creeping bentgrass mowed at 3/16". Fertility was maintained at about 3/8#N/month/1000 ft<sup>2</sup>. The 7-day treatments were applied 8/1, 8/8, 8/15, 8/21, 8/29, 9/6, 9/12 and 9/18 (except as noted in the data table). The 14-day treatments were applied 8/1, 8/15, 8/29, and 9/12 (except as noted in Table 2). The 21-day treatments were applied 8/1, 8/21, and 9/12. The 28-day treatments were applied 8/1 and 8/29. Data represent mean percent plot area infected (Table 2).

As the data in Table 2 indicate, dollar spot disease pressure was moderately severe in this study. The DMI fungicides (Banner Maxx, Propiconazole) alone, and in combinations, performed well throughout the rating period. Chipco 26GT and Iprodione Pro performed well on a 14-day schedule and the new strobilurin fungicides performed well also. After pre-treatment disease was eradicated, chlorothalonil (Daconil, Echo, Concorde) also performed well by the end of the season. It should be noted that the dollar spot strains in this plot area are benzimidazole-resistant, explaining the failed efficacy of Cleary's 3336F. No phytotoxicity was observed in this study this year although turf quality varied greatly as indicated in Table 3.

**Table 2: Putting Green Dollar Spot 2002.**

<b>Location: Hancock Turf Research Center, E. Lansing, MI</b> <b>Rating Scale: Mean % plot area blighted by dollar spot.<sup>b</sup></b>					
Treatment and Rate/1000 sq ft	Interval (days)	Mean <sup>a</sup> 5-Sep	Mean 12-Sep	Mean 19-Sep	Mean 25-Sep
Emerald 0.13 oz alternated with Insignia 0.9 oz	14	0.0 I	0.0 I	0.0 J	0.0 I
Insignia 0.9 oz	14	0.0 I	0.0 I	0.0 J	0.0 I
Honor 0.2 oz	28	0.1 I	0.0 I	0.0 J	0.0 I
Emerald 0.13 oz	14	0.0 I	0.0 I	0.0 J	0.0 I
Emerald 0.18 oz	21	0.0 I	0.0 I	0.0 J	0.0 I
Emerald 0.18 oz	28	0.0 I	0.0 I	1.3 J	0.0 I
BAS 516F #1 1.03 oz	14	0.0 I	0.0 I	0.0 J	0.0 I
BAS 516F #1 1.03 oz	28	0.0 I	0.0 I	0.0 J	0.0 I
BAS 516F #2 1.09 oz	14	0.0 I	0.0 I	0.0 J	0.0 I
BAS 540F 0.26 fl oz	28	0.0 I	0.3 I	0.0 J	0.0 I

BAS 540F 0.44 fl oz	28	0.0 I	0.0 I	0.0 J	0.0 I
Eagle WSP 0.6 oz + Fore 6 oz <sup>c</sup>	14	10.8 D-G	3.8 G-I	0.0 J	0.0 I
Eagle WSP 0.6 oz	14				
Eagle WSP 0.6 oz + Prostar 1.5 oz	14				
Fore 6 oz + Chipco 26GT 4 fl oz + Subdue Maxx 1 fl oz	14				
Heritage 0.2 oz + Curalan 1 oz	14				
Fore 6 oz	14				
Fore 6 oz + Chipco 26GT 4 fl oz	14				
Eagle WSP 0.6 oz	14				
Eagle WSP 0.6 oz + Fore 6 oz <sup>c</sup>	14	0.0 I	0.0 I	0.0 J	0.0 I
Daconil 825 SDG 3.2 oz	14				
Eagle WSP 0.6 oz + Prostar 1.5 oz	14				
Chipco 26GT 4 fl oz + Subdue Maxx 1 fl oz	14				
Heritage 0.2 oz + Curalan 1 oz	14				
Eagle WSP 0.6 oz + Fore 6 oz	14				
Daconil 825 SDG 3.2 oz	14				
Eagle WSP 0.6 oz	14				
Concorde 82.5 DF 3.2oz alternated with	14	0.0 I	0.0 I	0.0 J	0.0 I
Pentathlon DF 6 oz + Bayleton 1 oz	14				
Concorde SST 3.5 fl oz alternated with	14	0.0 I	0.0 I	0.0 J	0.0 I
Pentathlon DF 14 oz + Bayleton 1 oz	14				
710-140 20 fl oz alternated with Bayleton 0.25 oz <sup>f</sup>	14	1.8 HI	0.0 I	0.0 J	0.0 I
Magellan 4.1 fl oz + Iprodione 1.5 fl oz <sup>h</sup>	14	0.0 I	0.0 I	0.0 J	0.0 I
Echo 720 2 fl oz + PropiMax EC 0.36 fl oz	21	0.0 I	0.0 I	0.0 J	0.0 I
TopPro Propiconazole 14.3 1 fl oz <sup>i</sup>	14	0.0 I	0.0 I	0.0 J	0.0 I
TopPro Propiconazole 14.3 2 fl oz <sup>i</sup>	14	0.0 I	1.3 I	0.0 J	0.0 I
Banner Maxx 1 fl oz <sup>i</sup>	14	0.0 I	0.0 I	0.0 J	0.0 I
Iprodione Pro 2SE 2 fl oz <sup>i</sup>	14	0.0 I	0.0 I	0.0 J	0.0 I
Chipco 26GT 2 fl oz <sup>i</sup>	14	0.0 I	0.0 I	0.0 J	0.0 I
TMI Combo Flo 4.2 fl oz <sup>i</sup>	14	0.0 I	0.0 I	0.0 J	0.0 I
Chipco 26GT 4 fl oz	14	0.0 I	0.0 I	0.0 J	0.0 I
Banner Maxx 1 fl oz	14	0.0 I	0.0 I	0.0 J	0.0 I

V-10114 1.18 oz	7	0.0 I	0.8 I	0.0 J	0.0 I
V-10114 1.76 oz	14	0.0 I	0.8 I	0.0 J	0.0 I
V-10114 2.35 oz	14	0.0 I	0.0 I	0.0 J	0.0 I
Chipco 26GT 2 fl oz	14	0.0 I	0.0 I	0.0 J	0.1 I
BAS 516F #2 1.09 oz	28	0.0 I	0.0 I	0.0 J	0.1 I
Banner Maxx 2 fl oz <sup>i</sup>	14	0.0 I	0.0 I	0.0 J	0.1 I
Magellan 4.1 fl oz + Chlorothalonil 2.125 oz <sup>h</sup>	14	9.3 D-H	4.5 G-I	4.5 G-J	0.3 I
Scotts/Andersons Fluid Fungicide 2.1 fl oz <sup>i</sup>	14	0.8 HI	0.0 I	0.0 J	0.3 I
BAS 540F 0.35 fl oz	28	0.1 I	0.0 I	0.0 J	0.6 I
TMI Combo Flo 2.1 fl oz <sup>i</sup>	14	0.0 I	0.0 I	0.0 J	1.4 I
Echo 720 3.6 fl oz	14	3.8 G-I	0.0 I	0.0 J	1.5 I
Concorde SST 3.5 fl oz	14	8.8 D-I	2.3 HI	2.5 H-J	1.9 HI
Concorde 82.5DF 3.2 oz	14	16.3 B-E	16.3 B-E	8.5 E-I	10.0 F-H
710-140 25 fl oz	14	12.3 D-G	4.8 G-I	8.8 E-H	12.5 E-G
710-140 20 fl oz <i>with Daconil Ultrex 3.25 oz AS NEEDED after disease reaches 5%</i> <sup>e</sup>	14	8.8 D-I	2.0 I	6.0 F-J	17.5 D-F
710-140 15 fl oz	14	23.0 A-C	5.5 G-I	12.3 D-F	18.0 D-F
710-140 20 fl oz <i>(switch to 3-4 day interval for 2 wks when disease reaches 5%)</i> <sup>g</sup>	14	9.3 D-H	9.3 E-H	14.5 C-E	18.3 D-F
Daconil Weather Stik 3.5 fl oz	14	5.0 F-I	2.8 HI	1.3 J	2.8 HI
710-150 20 fl oz	14	13.8 C-F	10.5 E-G	15.0 C-E	20.0 DE
Heritage 0.4 oz	14	17.3 B-D	14.3 C-E	9.3 E-G	20.3 DE
Copper 10 ppm <sup>d</sup>	7	26.3 A	22.5 AB	14.3 C-E	25.0 CD
Cleary's 3336 4 oz	14	23.8 AB	23.3 AB	26.3 AB	25.8 B-D
Copper 1 ppm <sup>d</sup>	14	28.0 A	21.3 A-C	18.8 CD	28.8 A-C
Daconil Ultrex 82.5 3.2 oz	14	8.1 E-I	6.3 F-I	2.5 H-J	3.3 HI
710-140 20 oz alternated with Daconil Ultrex 3.25 oz <sup>f</sup>	14	16.3 B-E	13.0 D-F	2.0 IJ	3.3 HI
Copper 100 ppm <sup>d</sup>	7	26.8 A	18.8 A-D	20.0 BC	33.8 AB
Control	--	25.0 AB	25.0 A	28.8 A	35.0 A
Spectro 4 oz	14	3.9 G-I	4.5 G-I	6.3 F-J	6.3 G-I
710-140 20 fl oz	14	4.8 G-I	1.8 I	4.5 G-J	6.8 G-I

<sup>a</sup> Means followed by the same letter do not significantly differ (LSD, p=0.05).

<sup>b</sup> Benzimidazole resistant strains.

<sup>c</sup> These program treatments were initiated on 5/22/02, with applications of 16A and 17A. 16B and 17B through 16H and 17H were applied at 14 day intervals ending with the final applications of 16H and 17H on 9/12/02.

<sup>d</sup> Ionized copper was initially applied on 8/16/02, and re-applied on 8/22/02, 8/29/02, 9/6/02, 9/12/02, and 9/18/02.

<sup>e</sup> Applied combination on 8/1/02, 8/14/02, and 8/29/02 due to disease >5%. Only 710-140 applied on 9/12/02.

<sup>f</sup> Fungicide only applied on 8/1/02, 8/14/02, and 9/12/02. 710-140 only applied on 8/29/02.

<sup>g</sup> Applied on 8/1/02, 8/5/02, 8/8/02, 8/14/02, 8/29/02, and 9/12/02.

<sup>h</sup> Applied in 3 gal/1000 ft<sup>2</sup> spray volume.

<sup>i</sup> Applied in 2 gal/1000 ft<sup>2</sup> spray volume.