CREEPING BENTGASS (*Agrostis palustris* 'SR-1119')
Dollar spot; *Sclerotinia homoeocarpa*

L.P. Tredway, E.L. Butler, and R.B. Franklin
Department of Plant Pathology
North Carolina State University
Raleigh, NC 27695

Preventative control of dollar spot in creeping bentgrass putting greens, 2005.

Fungicides were evaluated for preventative control of dollar spot caused by *Sclerotinia homoecarpa*. This trial was conducted at the Lake Wheeler Turfgrass Field Laboratory in Raleigh, NC on 'SR1119' creeping bentgrass maintained under putting green conditions. Mowing was performed 5 times weekly at a height of 0.156 in. until 20 Jun, when the height was raised to 0.185. Clippings were collected and the site was irrigated to prevent drought stress. To encourage dollar spot development, no fertilizer was applied throughout this study. Insect pests were suppressed with Dursban Pro (1.5 fl oz/1000 sq ft) on 23 Jun, 21 Jul, and 23 Aug. Plots were 3.33 ft x 6 ft and were arranged in a randomized complete block with four replications. Fungicides were applied in water equivalent to 2 gal per 1000 sq ft with a CO_2 powered sprayer at 40 psi using TeeJet 8004 nozzles. All treatments were initiated on 28 Apr and were reapplied at the appropriate intervals as indicated in the table. The experimental area was inoculated on 18 Apr using rye grain infested with *Sclerotinia homoecarpa* isolates PST-4, PST-17, and LWC-27 to encourage dollar spot development. All dollar spot infection centers within each plot were counted on 4 May, 25 May, 1 Jun, 8 Jun, 15 Jun, 24 Jun, 1 Jul, 6 Jul, and 20 Jul. Turfgrass quality was evaluated on 25 Jul, using a 1 to 9 scale (9=best, 5=acceptable) based on color, density, and uniformity. Data were subjected to analysis of variance and means separation by Waller-Duncan k-ratio t test (k=100).

Most treatments provided good to excellent control of dollar spot throughout this study. Treatments containing EcoGuard, 3336 50WP, and 3336 PLUS failed to provide acceptable control of the disease on several rating dates. A significant difference was detected among weekly and bi-weekly applications of Ecoguard on 8 Jun and 15 Jun, but neither treatment provided significant dollar spot control compared to the untreated plots. Turfgrass quality was assessed on 25 Jul, which was at the end of the trial and during summer stress for creeping bentgrass in North Carolina's piedmont region. Most treatments resulted in inadequate turfgrass quality due to severe physiological decline and algae invasion. However, plots treated with the following fungicides provided significantly better quality compared to the untreated control: 26GT 2 SC (4 fl oz), Banner MAXX 1.3EC (0.5 fl oz), and Treatment #30 (program).

Treatment and rate / 1000 sq ft	Spray Interval (days)	Dollar spot incidence (infection centers/plot)					
		4 May	25 May	1 Jun	8 Jun	15 Jun	24 Jun
1. Bayleton 50DF 0.25 oz	ACEGIK[z]	9 abc[y]	3 c	4 cd	20 cde	14 c-f	10 cde
2. Bayleton 50DF 0.375 oz	ACEGIK	2 c	1 c	0 d	5 e	1 f	2 de
3. Bayleton 50DF 0.5 oz	ACEGIK	1 c	0 c	0 d	1 e	1 f	1 de
4. 26GT 2SC 3 fl oz	ACEGIK	2 c	7 c	0 d	10 de	5 ef	3 de
5. 26GT 2SC 3.5 fl oz	ACEGIK	2 c	1 c	0 d	8 de	2 f	0 e
6. 26GT 2 SC 4 fl oz	ACEGIK	2 c	10 c	2 d	8 de	2 f	1 de
7. Curalan 50WG 0.5 oz	ACEGIK	3 c	1 c	0 d	7 de	4 ef	2 de
8. Curalan 50WG 0.75 oz	ACEGIK	1 c	2 c	1 d	3 e	3 ef	3 de
9. Curalan 50WG 1 oz	ACEGIK	1 c	0 c	0 d	2 e	1 f	1 de
10. Curalan 50WG 1 oz	ADGJ	1 c	4 c	3 d	15 de	7 ef	4 de
11. Banner MAXX 1.3EC 0.5 fl oz	ACEGIK	3 c	3 c	1 d	6 de	3 ef	1 de
12. Banner MAXX 1.3EC 0.75 fl oz	ACEGIK	5 c	1 c	0 d	4 e	1 f	0 e
13. Banner MAXX 1.3EC 1 fl oz	ACEGIK	1 c	0 c	0 d	0 e	1 f	0 e
14. Daconil Ultrex 82.5WDG 2.62 oz	ACEGIK	2 c	1 c	1 d	13 de	4 ef	1 de
15. Daconil Ultrex 82.5WDG 3.2 oz	ACEGIK	3 c	1 c	0 d	6 e	4 ef	2 de
16. Concert 4.3F 4.33 oz	ACEGIK	2 c	0 c	0 d	0 e	0 f	0 e
17. Emerald 70WG 0.13 oz	ACEGIK	3 c	0 c	1 d	1 e	0 f	0 e
18. Emerald 70WG 0.18 oz	ADGJ	4 c	18 bc	7 cd	20 cde	6 ef	2 de
19. EcoGuard SC 20 fl oz	A-L	21 a	41 a	40 a	66 b	33 b	21 b-e
20. EcoGuard SC 20 fl oz	ACEGIK	19 ab	34 ab	45 a	102 a	55 a	36 ab
21. EcoGuard SC 20 fl oz + Daconil Ultrex 82.5WDG 3.2 oz	ACEGIK	2 c	1 c	3 d	4 e	2 ef	0 e
22. 26/36 3.2SC 3.75 fl oz	ACEGIK	1 c	2 c	2 d	24 cde	13 c-f	6 de
23. 26/36 3.2SC 2.5 fl oz	ACEGIK	2 c	1 c	1 d	10 de	5 ef	1 de
24. 3336 50WP 4 oz	ACEGIK	3 c	9 c	12 bcd	28 cde	27 bc	20 b-e
25. 3336 50WP 2 oz	ACEGIK	6 bc	20 bc	10 bcd	25 cde	18 b-e	25 bcd
26. 3336 PLUS F 4 fl oz	ACEGIK	6 bc	14 bc	17 bc	50 bc	26 bc	33 abc
27. 3336 PLUS F 2 fl oz	ACEGIK	7 bc	19 bc	16 bc	41 bcd	25 bcd	54 a
28. Spectro 90WDG 5.75 oz	ACEGIK	2 c	1 c	0 d	0 e	1 f	0 e
29. Emerald 70WG 0.18 oz/1000 ft2	A						
Manicure Ultrex 82.5WDG 3.2 oz	D						
Propiconazole Pro 14.3EC 1 fl oz	D						
Curalan 50WG 1 oz	G						
Emerald 70WG 0.18 oz	J						
Insignia 20WG 0.5 oz	J	5 c	6 c	2 d	7 de	5 ef	2 de
30. Manicure Ultrex 82.5WDG 3.2 oz	C						
Emerald 70WG 0.13 oz	C						
Manicure Ultrex 82.5WDG 3.2 oz	E						
Propiconazole Pro 14.3EC 1 fl oz	E						
Curalan 50WG 1 oz	G						
Manicure Ultrex 82.5WDG 3.2 oz	I						
Propiconazole Pro 14.3EC 1 fl oz	I						
Emerald 70WG 0.13 oz	K	13 abc	1 c	1 d	0 e	0 f	0 e
31. Daconil Ultrex 82.5WDG 3.2 oz	ACEGIK						
Banner MAXX 1.3EC 0.5 fl oz	A						
Curalan 50WG 1 oz	C						
Bayleton 50DF 0.25 oz	E						
Emerald 70WG 0.13 oz	GK						
26GT 2SC 3 fl oz	I						
Insignia 20WG 0.5 oz	K	2 c	0 c	0 d	1 e	0 f	0 e
32. Untreated Control	--	8 bc	19 bc	21 b	33 b-e	26 bcd	19 b-e

[z]Application code represents the application date for each treatment component: A, 28 Apr; B, 4 May; C, 12 May; D, 19 May; E, 26 May; F, 2 Jun; G, 11 Jun; H, 16 Jun; I, 23 Jun; J, 30 Jun; K, 8 Jul.

[y]Values are means of four replicates. Means within columns followed by the same letter are not significantly different according to Waller-Duncan k-ratio t-test (k=100).

Treatment and rate / 1000 sq ft	Spray Interval (days)	Dollar spot incidence (infection centers/plot) 1 Jul	6 Jul	20 Jul	Turfgrass quality[z] 25 Jul
1. Bayleton 50DF 0.25 oz	ACEGIK[y]	6 cd[x]	21 de	2 d	4.5 cd
2. Bayleton 50DF 0.375 oz	ACEGIK	1 d	5 e	1 d	4.3 cd
3. Bayleton 50DF 0.5 oz	ACEGIK	0 d	2 e	0 d	4.8 bcd
4. 26GT 2SC 3 fl oz	ACEGIK	1 d	5 e	0 d	4.8 bcd
5. 26GT 2SC 3.5 fl oz	ACEGIK	0 d	1 e	0 d	4.5 cd
6. 26GT 2 SC 4 fl oz	ACEGIK	0 d	4 e	0 d	5 bc
7. Curalan 50WG 0.5 oz	ACEGIK	2 d	3 e	0 d	4 cd
8. Curalan 50WG 0.75 oz	ACEGIK	6 cd	12 e	5 cd	4 cd
9. Curalan 50WG 1 oz	ACEGIK	3 d	3 e	0 d	3.8 d
10. Curalan 50WG 1 oz	ADGJ	7 cd	9 e	0 d	4.3 cd
11. Banner MAXX 1.3EC 0.5 fl oz	ACEGIK	1 d	4 e	2 d	5 bc
12. Banner MAXX 1.3EC 0.75 fl oz	ACEGIK	0 d	2 e	1 d	4.8 bcd
13. Banner MAXX 1.3EC 1 fl oz	ACEGIK	0 d	0 e	0 d	4.8 bcd
14. Daconil Ultrex 82.5WDG 2.62 oz	ACEGIK	0 d	6 e	0 d	4 cd
15. Daconil Ultrex 82.5WDG 3.2 oz	ACEGIK	21 bcd	31 cde	0 d	4.3 cd
16. Concert 4.3F 4.33 oz	ACEGIK	0 d	0 e	0 d	4 cd
17. Emerald 70WG 0.13 oz	ACEGIK	0 d	0 e	0 d	4 cd
18. Emerald 70WG 0.18 oz	ADGJ	0 d	0 e	0 d	4.5 cd
19. EcoGuard SC 20 fl oz	A-L	69 ab	106 ab	39 ab	4 cd
20. EcoGuard SC 20 fl oz	ACEGIK	81 a	112 a	42 ab	3.8 d
21. EcoGuard SC 20 fl oz + Daconil Ultrex 82.5WDG 3.2 oz	ACEGIK	0 d	1 e	0 d	4.8 bcd
22. 26/36 3.2SC 3.75 fl oz	ACEGIK	5 cd	23 de	0 d	4.8 bcd
23. 26/36 3.2SC 2.5 fl oz	ACEGIK	8 cd	32 cde	3 cd	4.3 cd
24. 3336 50WP 4 oz	ACEGIK	39 a-d	61 bcd	23 a-d	4.5 cd
25. 3336 50WP 2 oz	ACEGIK	44 a-d	62 bcd	18 bcd	4.5 cd
26. 3336 PLUS F 4 fl oz	ACEGIK	57 ab	64 bcd	28 abc	4 cd
27. 3336 PLUS F 2 fl oz	ACEGIK	71 a	73 abc	48 a	4 cd
28. Spectro 90WDG 5.75 oz	ACEGIK	0 d	0 e	0 d	4 cd
29. Emerald 70WG 0.18 oz/1000 ft2	A				
Manicure Ultrex 82.5WDG 3.2 oz	D				
Propiconazole Pro 14.3EC 1 fl oz	D				
Curalan 50WG 1 oz	G				
Emerald 70WG 0.18 oz	J				
Insignia 20WG 0.5 oz	J	2 d	0 e	0 d	4.8 bcd
30. Manicure Ultrex 82.5WDG 3.2 oz	C				
Emerald 70WG 0.13 oz	C				
Manicure Ultrex 82.5WDG 3.2 oz	E				
Propiconazole Pro 14.3EC 1 fl oz	E				
Curalan 50WG 1 oz	G				
Manicure Ultrex 82.5WDG 3.2 oz	I				
Propiconazole Pro 14.3EC 1 fl oz	I				
Emerald 70WG 0.13 oz	K	0 d	0 e	0 d	5 bc
31. Daconil Ultrex 82.5WDG 3.2 oz	ACEGIK[y]				
Banner MAXX 1.3EC 0.5 fl oz	A				
Curalan 50WG 1 oz	C				
Bayleton 50DF 0.25 oz	E				
Emerald 70WG 0.13 oz	GK				
26GT 2SC 3 fl oz	I				
Insignia 20WG 0.5 oz	K	0 d[x]	0 e	0 d	4.8 bcd
32. Untreated Control	--	53 abc	98 ab	44 a	3.8 d

[z]Turfgrass quality on a 1 to 9 scale, where 9=highest quality and 5=acceptable.

[y]Application code represents the application date for each treatment component: A, 28 Apr; B, 4 May; C, 12 May; D, 19 May; E, 26 May; F, 2 Jun; G, 11 Jun; H, 16 Jun; I, 23 Jun; J, 30 Jun; K, 8 Jul.

[x]Values are means of four replicates. Means within columns followed by the same letter are not significantly different according to Waller-Duncan k-ratio t-test (k=100).