

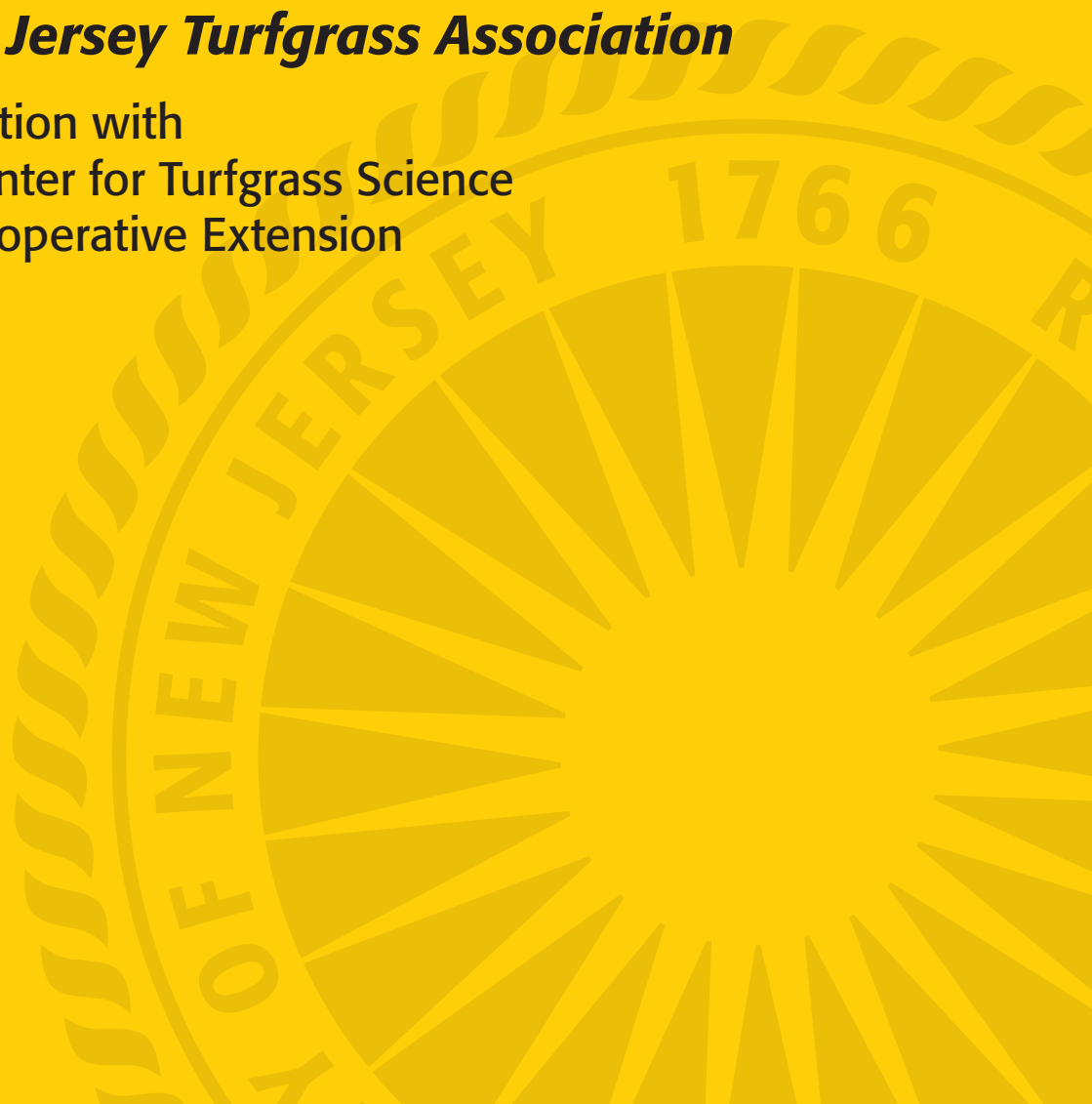
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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State University of New Jersey in cooperation with the New Jersey Turfgrass Association. The purpose of this document is to provide a forum for the dissemination of information and the exchange of ideas and knowledge. The proceedings provide turfgrass managers, research scientists, extension specialists, and industry personnel with opportunities to communicate with co-workers. Through this forum, these professionals also reach a more general audience, which includes the public.

This publication includes lecture notes of papers presented at the 2014 GREEN EXPO Turf and Landscape Conference. Publication of these lectures provides a readily available source of information

covering a wide range of topics and includes technical and popular presentations of importance to the turfgrass industry.

This proceedings also includes research papers that contain original research findings and reviews of selected subjects in turfgrass science. These papers are presented primarily to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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Dr. Ann Brooks Gould, Editor
Dr. Bruce B. Clarke, Coordinator

INFLUENCE OF FUNGICIDES, FERTILITY, AND BIORATIONAL PRODUCTS ON DOLLAR SPOT DEVELOPMENT OF A CREEPING BENTGRASS GREEN, 2014

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Fungicides were evaluated in 2014 for their ability to control dollar spot (caused by *Sclerotinia homoeocarpa*) at the Rutgers Turf Research Farm in North Brunswick, NJ on creeping bentgrass (*Agrostis stolonifera*) maintained under golf course greens conditions. Turf was established September 2010 on a Nixon loam with a pH of 6.2. Mowing was performed daily at a height of 0.125 inches with clippings collected. The site was irrigated as needed to prevent drought stress. Plots were 3 x 5 ft and were arranged in a randomized complete block with four replications.

Fertilizer was applied as 46-0-0 (0.075 lb nitrogen (N) per 1000 ft²) on 7 and 19 May, 3, 11, and 16 June, and 2, 14, and 26 July; as 46-0-0 (0.1 lb N per 1000 ft²) on 14 and 21 April; 46-0-0 (0.17 N per 1000 ft²) on 7 April; 30-0-0 (0.2 lb N per 1000 ft²) on 7 April; and 20-20-20 (0.025 lb per 1000 ft²) on 7 and 19 May, 3, 11, and 16 June, and 2, 14, and 26 July. Phosphorus (P) was applied as 0-30-0 (0.19 lb P per 1000 ft²) on 7 April, and potassium (K) was sprayed as 0-0-62 (0.375 lb K per 1000 ft²) on 8 April and as 0-0-62 (0.025 lb per 1000 ft²) on 7 and 19 May, 3, 11, and 16 June, and 2, 14, and 26 July. Micronutrients were sprayed as Harrell's MAX minors (a micronutrient solution containing 1% magnesium, 3.5% sulfur, 4% iron, 0.6% zinc, 1% manganese, 0.02% boron, 0.25% copper, and 0.0005% molybdenum; 4.0 fl oz per 1000 ft²) on 2 and 25 April. Additional manganese was applied on 4 and 25 April (as a 4% solution; 3.0 fl oz per 1000 ft²), and calcium was applied as Sugar Cal 10% (4.0 fl oz per 1000 ft²) on 25 April. QuickSilver 1.9L (0.046 fl oz per 1000 ft²) was applied on 2, 14, and 24 June, and 11 July for silvery thread moss

(*Bryum argenteum*) control. ProStar 70 WGD (3 oz per 1000 ft²) was applied on 17 July to suppress brown patch (caused by *Rhizoctonia solani*). Localized dry spots were suppressed with the wetting agent TriCure 100LC (4.0 fl oz per 1000 ft²) on 8 April, 3 and 11 June, 2 and 26 July, and 28 August. Insect pests were controlled with Acelepryn 1.67SC (0.09 fl oz per 1000 ft²) on 8 June. Turf was aerified on 4 April and topdressed with 310 sand (0.5 lb per 1000 ft²) on 29 April, 13 May, 9 and 19 July, and 2, 18, and 29 August.

Fungicides were applied in water equivalent to 1.9 gal per 1000 ft² with a CO₂ powered sprayer at 30 psi using 85025 air induction nozzles. Treatments (trt) were initiated on 28 May when environmental conditions were conducive to dollar spot development. Fungicides were reapplied at the appropriate intervals as indicated in Tables 1A to 1D. Turf was visually evaluated for the number of dollar spot infection centers per plot on 6, 16, and 26 June, 6, 16, and 26 July, 5, 15, and 25 August, and 5 September. Turf quality was rated on 25 June, 23 July, and 20 August using a 1 to 9 scale, where 9 = best turf quality and 5 = acceptable quality. Phytotoxicity was assessed on 6 June, 4 July, and 8 August using a 1 to 5 scale, where 1 = no foliar discoloration, 2 = slight chlorosis or necrosis, 3 = moderate chlorosis or necrosis, 4 = severe chlorosis or necrosis, and 5 = all turf dead. Color of foliage was visually estimated on 25 June, 23 July, and 20 August using a 1 to 10 scale, where 5 = color of healthy untreated turf, less than 5 = progressively more chlorotic or necrotic turf, and greater than 5 = progressively darker green turf. Data were subjected to analysis of variance and means were

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separated using the Waller-Duncan *k*-ratio *t*-test (*k* = 100).

Dollar spot was first observed on 3 June and became uniform throughout the study by 6 June (Table 1A). The disease progressed gradually throughout July and August, peaking on 5 September at 156 lesion centers per plot on untreated turf (Table 1B). This was considered a moderate to high level of dollar spot infestation and thus a stringent test of a product's ability to control this disease on a creeping bentgrass green. Less than 10 infection centers per plot represented an acceptable level of disease control for this study.

Season-long control of dollar spot (28 May to 5 September) was afforded by only 8% of the treatments evaluated (four of 54); these included Honor Intrinsic 28WG (trt 34) and the experimental material GWN-10337 LC at the rates of 1.10 fl oz, 1.47 fl oz, and 2.20 fl oz (trts 9, 10, and 11, respectively; Tables 1A and 1B). Other fungicide entries (37% of all treatments) provided good to excellent control of dollar spot throughout the application period (28 May to 6 August; see evaluation date 15 August, Table 1B); these included Pegasus HPX 6SC + Kestrel MEX 1.3ME alternated with Emerald 70WG (trt 4), 2014 Dollar Spot Greens Prog #3 (trt 5), 2014 Dollar Spot Greens Prog #4 (trt 6), GWN-10337 LC @ 0.74 fl oz (trt 8), 2014 Dollar Spot Greens Prog #5 (trt 12), 2014 Dollar Spot Greens Prog #6 (trt 13), 2014 Dollar Spot Greens Prog #7 (trt 14), 2014 Dollar Spot Greens Prog #8 (trt 15), 2014 Dollar Spot Greens Prog #9

(trt 16), QP Enclave 5.3F + Foursome 100 SL (trt 19), Emerald 70WG @ 0.13 oz every 14 days (trt 21), Civitas ONE LC @ 17.0 fl oz + Emerald 70WG @ 0.13 oz every 21 days (trt 24) and 28 days (trt 26), Daconil Action 6.1SC (trt 30), Secure 4.2SC (trt 31), Chipco 26GT 2SC (trt 32), Insignia Intrinsic 2.1SC (trt 33), Curalan 50EG (trt 36), PDS LC @ 2.0 fl oz + Daconil Ultrex 82.5WG @ 1.8 oz (trt 46), and Daconil Ultrex 82.5WG (trt 54).

In general, turf treated with products that provided good dollar spot control exhibited acceptable quality during the study. In particular, the four that provided season-long control of dollar spot treatments (trts 9 to 11, 34) had excellent turf quality (>8.0; Table 1C). However, the following treatments provided poor dollar spot control and had less than acceptable turf quality in at least two-thirds of the evaluation dates: ARY-0534-002 SC (trt 1), Emerald 70WG @ 0.13 oz for 28 days (trt 22), VarnimoWP + KaPre RemeD8 LC (trt 27), VarnimoWP + KaPre RemeD8 LC + Pennamin Driver – P DF (trt 28), Banner Maxx 1.3ME (trt 35), 2014 Dollar Spot Greens Prog #10 (trt 37), 2014 Dollar Spot Greens Prog #11 + Banner Maxx 1.3ME (trt 38), 2014 Dollar Spot Greens Prog #12 (trt 39), 2014 Dollar Spot Greens Prog #13 (trt 40), RU-7514-14A LC + RU-7514-14B LC (trt 41), and RU-7514-14A LC + RU-7514-14B LC + RU-7514-14C WG (trt 42). Most treatments exhibited turf color equivalent to or darker green than untreated turf (trt 55) throughout the season. No products exhibited significant phytotoxicity during this study.

Table 1A. Influence of fungicides and biorational products on dollar spot development of a creeping bentgrass green: Rutgers University, 2014.

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹			
			6 June	16 June	26 June	6 July
1 ARY-0534-002 SC.....	0.33 fl oz	14	3.0 d-i	6.5 h-l	22.8 g-j	8.8 d-f
2 Disarm T SC.....	0.66 fl oz	14	4.5 b-f	5.0 h-p	14.0 j-q	7.3 d-h
3 Disarm M 3.9 SC.....	1.0 fl oz	14	1.3 f-i	7.5 g-j	19.0 h-i	6.5 d-j
4 Pegasus HPX 6SC.....	2.0 fl oz	-				
+ Kestrel MEX 1.3ME.....	0.5 fl oz	-				
/ Emerald 70WG	0.13 oz	ALT-14 ³	6.0 b-d	3.0 j-q	3.8 r-u	0.0 n
5 2014 \$-Spot Greens Prog #3	Harrells	14 ⁴	0.5 hi	1.3 n-q	9.8 l-t	6.0 e-k
6 2014 \$-Spot Greens Prog #4	Harrells	14 ⁵	0.8 g-i	0.0 q	4.8 q-u	1.5 l-n
7 GWN-10337 LC	0.37 fl oz	14	5.8 b-e	4.5 i-q	14.5 j-p	3.0 i-n
8 GWN-10337 LC	0.74 fl oz	14	1.8 f-i	1.0 n-q	2.8 r-u	0.5 mn
9 GWN-10337 LC	1.10 fl oz	14	0.5 hi	0.0 q	0.0 u	0.0 n
10 GWN-10337 LC	1.47 fl oz	14	1.0 f-i	0.0 q	0.0 u	0.0 n
11 GWN-10337 LC	2.20 fl oz	14	2.0 d-i	0.0 q	0.0 u	0.0 n
12 2014 \$-Spot Greens Prog #5	Nufarm	ALT-14 ⁶	2.5 d-i	2.0 i-q	1.3 r-u	0.5 mn
13 2014 \$-Spot Greens Prog #6	Nufarm	ALT-14 ⁷	4.0 b-h	3.3 j-q	1.5 r-u	0.8 mn
14 2014 \$-Spot Greens Prog #7	Nufarm	ALT-14 ⁸	6.8 bc	5.5 h-n	5.0 q-u	1.5 l-n
15 2014 \$-Spot Greens Prog #8	Nufarm	ALT-14 ⁹	0.3 i	1.5 m-q	1.5 r-u	1.3 mn
16 2014 \$-Spot Greens Prog #9	Nufarm	ALT-14 ¹⁰	3.3 c-i	6.3 h-m	2.8 r-u	0.0 n
17 QP Fosetyl-AI 80WG	4.0 oz	-				
+ QP Chlorothalonil 82.5WG.....	3.23 oz	-				
+ Foursome 100 SL	0.4 fl oz	14	1.0 f-i	2.8 j-q	18.3 i-m	10.0 de
18 Chipco Signature 80WG	4.0 oz	-				
+ Daconil Ultrex 82.5WG	3.23 oz	14	2.8 d-i	1.5 m-q	15.3 j-p	5.5 f-l
19 QP Enclave 5.3F	3 fl oz	-				
+ Foursome 100 SL	0.4 fl oz	14	1.0 f-i	0.5 o-q	6.5 p-u	4.3 g-m
20 Emerald 70WG	0.065 oz	28	2.8 d-i	17.3 f	34.3 ef	10.0 de
21 Emerald 70WG	0.13 oz	14	3.0 d-i	0.5 o-q	1.3 r-u	0.5 m
22 Emerald 70WG	0.13 oz	28	2.8 d-i	9.5 gh	28.3 f-h	5.5 f-l
23 Emerald 70WG	0.18 oz	21	3.8 b-i	12.0 g	8.8 n-u	2.5 j-n

(Continued)

Table 1A. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹			
			6 June	16 June	26 June	6 July
24 Civitas ONE LC.....	17.0 fl oz	-				
+ Emerald 70WG	0.13 oz	21	0.5 hi	2.8 j-q	1.0 r-u	0.0 k
25 Civitas ONE LC.....	17.0 fl oz	-				
+ Emerald 70WG	0.065 oz	28	1.0 f-i	5.3 h-o	20.8 h-j	1.3 jk
26 Civitas ONE LC.....	17 fl oz	-				
+ Emerald 70WG	0.13 oz	28	2.5 d-i	4.5 i-q	10.0 l-s	0.0 k
27 VarnimoWP	0.735 oz	-				
+ KaPre Remed8 LC	3.0 fl oz	VAR ¹¹	3.8 b-i	29.3 bc	52.5 bc	26.5 c
28 VarnimoWP	0.735 oz	-				
+ KaPre Remed8 LC	3.0 fl oz	-				
Pennamin Driver - P DF	1.5 oz	VAR ¹¹	7.0 b	33.8 b	54.0 b	27.5 c
29 Daconil Ultrex 82.5WG	3.2 oz	14	4.5 b-f	4.3 i-q	19.5 h-k	2.3 h-k
30 Daconil Action 6.1SC	3.5 fl oz	14	1.8 f-i	0.5 o-q	4.8 q-u	0.0 k
31 Secure 4.2SC.....	0.5 fl oz	14	2.3 d-i	2.3 i-q	8.3 o-u	0.0 k
32 Chipco 26GT 2SC.....	4.0 fl oz	14	0.3 i	0.3 pq	0.5 tu	0.0 k
33 Insignia Intrinsic 2.1SC	0.7 fl oz	14	1.5 f-i	0.5 o-q	7.3 p-u	0.0 k
34 Honor Intrinsic 28WG.....	0.84 oz	14	1.8 f-i	1.0 n-q	0.8 s-u	0.0 k
35 Banner Maxx 1.3ME	0.75 fl oz	14	2.8 d-i	8.8 g-i	27.3 f-i	4.5 h-j
36 Curalan 50EG	1.0 oz	14 ¹²	2.5 d-i	2.5 k-q	10.0 l-s	5.8 g-i
37 2014 \$-Spot Greens Prog #10	Plant food	14 ¹³	3.3 c-i	21.0 e-f	31.8 e-g	18.3 d
38 2014 \$-Spot Greens Prog #11	Plant food	-				
+Banner Maxx 1.3ME	0.5 fl oz	14 ¹³	1.8 f-i	4.5 i-q	17.3 j-o	13.0 e
39 2014 \$-Spot Greens Prog #12	Plant food	14 ¹⁴	3.0 d-i	25.5 c-e	44.0 cd	28.8 c
40 2014 \$-Spot Greens Prog #13	Plant food	14 ¹⁵	4.3 b-g	22.0 d-f	37.8 de	25.0 c
41 RU-7514-14A LC.....	8.0 fl oz	-				
+ RU-7514-14B LC	8.0 fl oz	14	3.8 b-i	26.5 cd	50.0 bc	33.0 b
42 RU-7514-14A LC.....	8.0 fl oz	-				
+ RU-7514-14B LC	8.0 fl oz	-				
+ RU-7514-14C WG.....	1.6 oz	14	2.3 d-i	7.3 g-k	39.5 de	12.5 ef

(Continued)

Table 1A. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹			
			6 June	16 June	26 June	6 July
43 RU-7514-14A LC.....	8.0 fl oz	—				
+ RU-7514-14B LC.....	8.0 fl oz	—				
+ RU-7514-14C WG.....	2.4 oz	14	0.5 hi	2.8 j-q	17.5 j-n	10.5 d
44 RU-7514-14A LC.....	8.0 fl oz	—				
+ RU-7514-14B LC.....	8.0 fl oz	—				
+ RU-7514-14C WG.....	3.2 oz	14	2.0 f-i	2.3 l-q	21.3 h-j	7.3 d-h
45 PDS LC.....	2.0 fl oz	—				
+ Daconil Ultrex 82.5WG.....	0.9 oz	14 ¹⁶	2.0 d-i	0.5 o-q	8.0 o-u	2.8 i-n
46 PDS LC.....	2.0 fl oz	—				
+ Daconil Ultrex 82.5WG.....	1.8 oz	14 ¹⁶	1.0 f-i	0.5 o-q	8.0 o-u	6.5 d-j
47 PDS LC.....	2.0 fl oz	—				
+ Banner MAXX 1.3ME.....	0.25 fl oz	14 ¹⁶	1.3 f-i	1.8 l-q	7.0 p-u	6.8 d-i
48 PDS LC.....	2.0 fl oz	—				
+ Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁶	3.0 d-i	2.8 j-q	9.5 m-t	7.5 d-g
49 PDS LC.....	2.0 fl oz	—				
+ Banner MAXX 1.3ME.....	1.0 fl oz	—				
+ Primo MAXX 1ME.....	0.125 fl oz	14 ¹⁶	2.8 d-i	1.5 m-q	7.0 p-u	5.8 f-k
50 PDS LC.....	1.0 fl oz	—				
+ Banner MAXX 1.3ME.....	0.5 fl oz	—				
+ Primo MAXX 1ME.....	0.125 fl oz	14 ¹⁶	3.3 c-i	2.0 l-q	10.3 k-q	6.5 d-j
51 PDS LC.....	1.0 fl oz	—				
+ Daconil Ultrex 82.5WG.....	1.8 oz	—				
+ Primo MAXX 1ME.....	0.125 oz	14 ¹⁶	1.8 f-i	1.5 m-q	8.3 n-u	5.8 f-k
52 Daconil Ultrex 82.5WG.....	1.8 oz	14 ¹⁶	0.8 g-i	0.8 n-q	8.8 n-u	6.0 e-k
53 Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁶	0.8 g-i	0.0 q	7.8 p-u	5.8 f-k
54 Daconil Ultrex 82.5WG.....	3.2 oz	14	1.3 f-i	1.3 n-q	8.8 n-u	6.3 e-k
55 Untreated Check.....	—	—	26.0 a	54.0 a	94.8 a	41.3 a

(Continued)

Table 1A. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹				
			6 June	16 June	26 June	6 July	16 July
			INT ¹⁷	DAT ¹⁸	DAT	DAT	DAT
			7	2	5	—	—
			14	9	5	1	11
			21	9	19	8	18
			28	9	19	1	11
							21

¹ Values are means of four replicates. Means followed by the same letter are not significantly different according to Waller-Duncan k-ratio t-test (k=100).

² Fungicides were applied on 28 May (all treatments), 4 June (7-day treatments 27 and 28), 11 June (7-day treatments 27 and 28, and 14-day treatment), 18 June (21-day treatment), 25 June (14- and 28-day treatments), 9 July (14- and 21-day treatments), and 23 July (14- and 28-day treatments), 30 July (21-day treatment), and 6 August (14-day treatment).

³ ALT = Alternation treatment, where treatment 4 consisted of Pegasus HPX 6SC (2.0 fl oz) + Kestrel MEX 1.3ME (0.5 fl oz) applied on 28 May, 25 June, and 23 July, and Emerald 70WG (0.13 oz) on 11 June, 9 July, and 6 August.

⁴ Treatment 5 (2014 Harrells Dollar Spot Greens Program #3) consisted of Daconil Action 6.1SC (2.75 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁵ Treatment 6 (2014 Harrells Dollar Spot Greens Program #4) consisted of Secure 4.2SC (0.5 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁶ ALT = Alternation treatment, where treatment 12 (2014 Nufarm Dollar Spot Greens Program #5) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.

⁷ ALT = Alternation treatment, where treatment 13 (2014 Nufarm Dollar Spot Greens Program #6) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.092 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.092 oz) on 11 June, 9 July, and 6 August.

⁸ ALT = Alternation treatment, where treatment 14 (2014 Nufarm Dollar Spot Greens Program #7) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.

⁹ ALT = Alternation treatment, where treatment 15 (2014 Nufarm Dollar Spot Greens Program #8) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.

(Continued)

Table 1A. Dollar spot control in a creeping bentgrass green, 2014 (continued).

- ¹⁰ ALT = Alternation treatment, where treatment 16 (2014 Nufarm Dollar Spot Greens Program #9) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.
- ¹¹ Treatments 27 and 28 were applied on 28 May, 4 June, and 11 June and applied every 14 days thereafter. Both treatments were irrigated with 0.5 gal of H₂O per plot immediately after application.
- ¹² Treatment 37 (2014 Plant-food Dollar Spot Greens Prog #10) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) applied every 14 days.
- ¹³ Treatment 38 (2014 Plant-food Dollar Spot Greens Prog #11) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) + Banner Max (0.5 fl oz) applied every 14 days.
- ¹⁴ Treatment 39 (2014 Plant-food Dollar Spot Greens Prog #12) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (1.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁵ Treatment 40 (2014 Plant-food Dollar Spot Greens Prog #13) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (2.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁶ Treatments 45 to 53 were sprayed with Daconil Ultrex 82.5WG (3.2 oz) on 11 and 25 June, and 9 July. The treatments were then sprayed with what is currently listed in the table on 23 July, and 6 and 20 August.

¹⁷ INT = Spray interval in days.

¹⁸ DAT = Days after the last treatment.

Table 1B. Influence of fungicides and biorational products on dollar spot development of a creeping bentgrass green: Rutgers University, 2014.

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹				
			26 July	5 Aug.	15 Aug.	25 Aug.	5 Sept.
1 ARY-0534-002 SC.....	0.33 fl oz	14	5.5 h-l	19.3 gh	17.0 f-h	31.3 f-h	104.0 c-h
2 Disarm T SC.....	0.66 fl oz	14	5.0 h-m	16.3 g-j	8.8 j-p	25.0 g-k	90.0 d-j
3 Disarm M 3.9 SC.....	1.0 fl oz	14	4.0 i-n	10.3 j-r	5.0 n-s	13.8 l-s	76.3 h-l
4 Pegasus HPX 6SC.....	2.0 fl oz	-					
+ Kestrel MEX 1.3ME.....	0.5 fl oz	-					
/ Emerald 70WG	0.13 oz	ALT-14 ³	0.0 n	3.8 r-w	3.5 p-s	8.0 p-v	61.3 j-m
5 2014 \$-Spot Greens Prog #3.....	Harrells	14 ⁴	2.5 k-n	7.0 m-v	3.8 o-s	17.5 j-p	68.8 i-m
6 2014 \$-Spot Greens Prog #4.....	Harrells	14 ⁵	0.0 n	4.3 q-w	0.0 s	8.3 o-v	60.0 j-m
7 GWN-10337 LC	0.37 fl oz	14	0.0 n	4.0 r-w	1.3 rs	5.5 r-v	38.8 m-o
8 GWN-10337 LC	0.74 fl oz	14	0.0 n	0.0 w	0.0 s	0.8 t-v	12.0 op
9 GWN-10337 LC	1.10 fl oz	14	0.0 n	0.0 w	0.0 s	0.0 v	1.0 p
10 GWN-10337 LC	1.47 fl oz	14	0.0 n	0.0 w	0.0 s	0.0 v	0.0 p
11 GWN-10337 LC	2.20 fl oz	14	0.0 n	0.0 w	0.0 s	0.0 v	0.0 p
12 2014 \$-Spot Greens Prog #5.....	Nufarm	ALT-14 ⁶	0.5 mn	6.0 o-w	2.3 q-s	10.0 n-v	71.3 i-l
13 2014 \$-Spot Greens Prog #6.....	Nufarm	ALT-14 ⁷	0.8 i-n	7.5 i-u	6.5 m-r	12.5 m-s	81.3 e-j
14 2014 \$-Spot Greens Prog #7.....	Nufarm	ALT-14 ⁸	1.8 k-n	7.8 i-t	7.5 l-q	13.8 l-s	71.3 i-l
15 2014 \$-Spot Greens Prog #8.....	Nufarm	ALT-14 ⁹	1.5 k-n	6.8 m-v	2.5 q-s	17.5 j-p	70.3 i-m
16 2014 \$-Spot Greens Prog #9.....	Nufarm	ALT-14 ¹⁰	0.5 mn	4.5 q-w	4.3 o-s	15.8 k-r	66.3 i-m
17 QP Fosetyl-AI 80WG	4.0 oz	-					
+ QP Chlorothalonil 82.5WG.....	3.23 oz	-					
+ Foursome 100 SL	0.4 fl oz	14	8.0 h-j	19.3 gh	15.5 g-i	39.5 ef	108.8 c-g
18 Chipco Signature 80WG	4.0 oz	-					
+ Daconil Ultrex 82.5WG	3.23 oz	14	3.8 j-n	11.3 i-p	7.8 k-q	18.8 j-o	77.5 g-l
19 QP Enclave 5.3F	3 fl oz	-					
+ Foursome 100 SL	0.4 fl oz	14	2.3 k-n	6.3 o-w	1.8 q-s	16.3 k-p	77.5 g-l
20 Emerald 70WG	0.065 oz	28	7.5 h-j	13.3 h-m	24.3 de	30.0 f-i	77.5 g-l
21 Emerald 70WG	0.13 oz	14	0.0 n	0.8 vw	0.0 s	0.5 uv	15.5 no
22 Emerald 70WG	0.13 oz	28	4.0 i-n	6.8 m-v	12.0 h-m	22.0 h-m	71.3 i-l
23 Emerald 70WG	0.18 oz	21	0.0 n	1.3 t-w	1.8 q-s	8.8 o-v	46.8 l-n

(Continued)

Table 1B. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹						
			26 July	5 Aug.	15 Aug.	25 Aug.	5 Sept.		
24 Civitas ONE LC.....	17.0 fl oz	-							
+ Emerald 70WG	0.13 oz	21	0.0 n	0.0 w	0.5 rs	6.0 q-v	46.3 l-n		
25 Civitas ONE LC.....	17.0 fl oz	-							
+ Emerald 70WG	0.065 oz	28	2.5 k-n	6.5 n-w	13.8 h-k	24.5 g-k	80.0 f-k		
26 Civitas ONE LC.....	17 fl oz	-							
+ Emerald 70WG	0.13 oz	28	0.5 mn	1.0 u-w	3.5 p-s	11.8 m-s	67.5 i-m		
27 VarnimoWP	0.735 oz	-							
+ KaPre Remed8 LC	3.0 fl oz	VAR ¹¹	25.5 b	35.8 de	45.5 bc	77.5 c	175.0 a		
28 VarnimoWP	0.735 oz	-							
+ KaPre Remed8 LC	3.0 fl oz	-							
Pennamin Driver - P DF	1.5 oz	VAR ¹¹	24.3 bc	44.8 bc	41.3 c	80.0 c	182.5 a		
29 Daconil Ultrex 82.5WG	3.2 oz	14	3.5 j-n	5.8 o-w	4.8 n-s	16.8 k-p	85.0 d-j		
30 Daconil Action 6.1SC	3.5 fl oz	14	1.3 l-n	5.3 p-w	4.0 o-s	11.0 n-u	71.3 i-l		
31 Secure 4.2SC.....	0.5 fl oz	14	0.5 mn	3.0 s-w	0.5 rs	10.8 n-u	70.0 i-m		
32 Chipco 26GT 2SC.....	4.0 fl oz	14	0.0 n	1.5 t-w	0.0 s	9.5 n-v	68.8 i-m		
33 Insignia Intrinsic 2.1SC	0.7 fl oz	14	0.0 n	3.0 s-w	0.0 s	4.3 s-v	49.0 k-m		
34 Honor Intrinsic 28WG.....	0.84 oz	14	0.0 n	0.0 w	0.0 s	0.0 v	7.0 p		
35 Banner Maxx 1.3ME	0.75 fl oz	14	5.3 h-m	13.0 h-n	14.8 g-j	26.3 g-k	96.3		
36 Curalan 50EG	1.0 oz	14	8.8 hi	5.0 p-w	3.8 o-s	25.3 g-k	85.3 d-j		
37 2014 \$-Spot Greens Prog #10	Plant food	14 ¹²	14.3 ef	40.3 cd	41.5 c	78.3 c	153.8 ab		
38 2014 \$-Spot Greens Prog #11	Plant food	-							
+Banner Maxx 1.3ME	0.5 fl oz	14 ¹³	9.5 f-h	28.8 f	29.3 d	53.8 d	115.0 cd		
39 2014 \$-Spot Greens Prog #12	Plant food	14 ¹⁴	24.5 bc	45.0 bc	50.3 b	94.3 b	155.0 ab		
40 2014 \$-Spot Greens Prog #13	Plant food	14 ¹⁵	15.5 de	44.0 bc	45.0 bc	94.3 b	167.5 a		
41 RU-7514-14A LC.....	8.0 fl oz	-							
+ RU-7514-14B LC	8.0 fl oz	14	21.8 bc	49.3 b	46.5 bc	99.8 b	162.5 ab		
42 RU-7514-14A LC.....	8.0 fl oz	-							
+ RU-7514-14B LC	8.0 fl oz	-							
+ RU-7514-14C WG.....	1.6 oz	14	20.0 cd	30.5 ef	20.5 e-g	50.0 de	133.8 bc		

(Continued)

Table 1B. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹			
			26 July	5 Aug.	15 Aug.	25 Aug. 5 Sept.
43 RU-7514-14A LC.....	8.0 fl oz	-				
+ RU-7514-14B LC.....	8.0 fl oz	-				
+ RU-7514-14C WG.....	2.4 oz	14	9.0 gh	12.0 i-o	13.0 h-l	33.3 fg 112.5 c-e
44 RU-7514-14A LC.....	8.0 fl oz	-				
+ RU-7514-14B LC.....	8.0 fl oz	-				
+ RU-7514-14C WG.....	3.2 oz	14	13.8 e-g	13.8 h-l	9.8 i-o	31.8 fh 110.0 c-f
45 PDS LC.....	2.0 fl oz	-				
+ Daconil Ultrex 82.5WG.....	0.9 oz	14 ¹⁶	6.3 h-k	10.8 i-q	12.8 h-l	30.0 f-i 86.3 d-j
46 PDS LC.....	2.0 fl oz	-				
+ Daconil Ultrex 82.5WG.....	1.8 oz	14 ¹⁶	3.3 j-n	6.5 n-w	6.3 m-r	13.5 l-s 63.3 j-m
47 PDS LC.....	2.0 fl oz	-				
+ Banner MAXX 1.3ME.....	0.25 fl oz	14 ¹⁶	4.0 i-n	15.8 g-j	22.0 de	27.5 g-j 82.5 e-j
48 PDS LC.....	2.0 fl oz	-				
+ Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁶	4.8 h-n	16.3 g-j	20.5 e-g	23.8 g-l 71.3 i-l
49 PDS LC.....	2.0 fl oz	14 ¹⁶	2.5 k-n	15.0 g-k	23.8 de	34.3 fg 96.3 d-i
50 PDS LC.....	1.0 fl oz	-				
+ Banner MAXX 1.3ME.....	0.5 fl oz	-				
+ Primo MAXX 1ME.....	0.125 fl oz	14 ¹⁶	5.3 h-m	17.0 g-i	25.0 de	20.0 i-n 63.8 j-m
51 PDS LC.....	1.0 fl oz	-				
+ Daconil Ultrex 82.5WG.....	1.8 oz	-				
+ Primo MAXX 1ME.....	0.125 oz	14 ¹⁶	4.8 h-n	8.8 k-s	12.8 h-l	11.3 n-t 62.5 j-m
52 Daconil Ultrex 82.5WG.....	1.8 oz	14 ¹⁶	2.5 k-n	21.5 g	10.8 i-n	11.8 m-s 65.0 i-m
53 Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁶	3.3 j-n	14.8 g-k	14.3 h-j	20.0 i-n 72.5 h-l
54 Daconil Ultrex 82.5WG.....	3.2 oz	14	2.0 k-n	5.0 p-w	2.8 p-s	9.5 n-v 70.0 i-m
55 Untreated Check.....	-	-	49.0 a	73.0 a	70.3 a	115.0 a 156.3 ab

(Continued)

Table 1B. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ²	Number of Lesion Centers per Plot (%) ¹				
			26 July	5 Aug.	15 Aug.	25 Aug.	5 Sept.
		INT ¹⁷	DAT ¹⁸	DAT	DAT	DAT	DAT
		7	—	—	—	—	—
		14	3	13	9	19	30
		21	17	6	16	26	37
		28	3	13	24	34	45

¹ Values are means of four replicates. Means followed by the same letter are not significantly different according to Waller-Duncan k-ratio t-test ($k=100$).

² Fungicides were applied on 28 May (all treatments), 4 June (7-day treatments 27 and 28), 11 June (7-day treatments 27 and 28, and 14-day treatments), 18 June (21-day treatment), 25 June (14- and 28-day treatments), 9 July (14- and 21-day treatments), and 23 July (14- and 28-day treatments), 30 July (21-day treatment), and 6 August (14-day treatment).

³ ALT = Alternation treatment, where treatment 4 consisted of Pegasus HPX 6SC (2.0 fl oz) + Kestrel MEX 1.3ME (0.5 fl oz) applied on 28 May, 25 June, and 23 July, and Emerald 70WG (0.13 oz) on 11 June, 9 July, and 6 August.

⁴ Treatment 5 (2014 Harrells Dollar Spot Greens Program #3) consisted of Daconil Action 6.1SC (2.75 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁵ Treatment 6 (2014 Harrells Dollar Spot Greens Program #4) consisted of Secure 4.2SC (0.5 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁶ ALT = Alternation treatment, where treatment 12 (2014 Nufarm Dollar Spot Greens Program #5) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.

⁷ ALT = Alternation treatment, where treatment 13 (2014 Nufarm Dollar Spot Greens Program #6) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.092 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.092 oz) on 11 June, 9 July, and 6 August.

⁸ ALT = Alternation treatment, where treatment 14 (2014 Nufarm Dollar Spot Greens Program #7) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.

⁹ ALT = Alternation treatment, where treatment 15 (2014 Nufarm Dollar Spot Greens Program #8) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.

(Continued)

Table 1B. Dollar spot control in a creeping bentgrass green, 2014 (continued).

- ¹⁰ ALT = Alternation treatment, where treatment 16 (2014 Nufarm Dollar Spot Greens Program #9) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.
- ¹¹ Treatments 27 and 28 were applied on 28 May, 4 June, and 11 June and applied every 14 days thereafter. Both treatments were irrigated with 0.5 gal of H₂O per plot immediately after application.
- ¹² Treatment 37 (2014 Plant-food Dollar Spot Greens Prog #10) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) applied every 14 days.
- ¹³ Treatment 38 (2014 Plant-food Dollar Spot Greens Prog #11) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) + Banner Max (0.5 fl oz) applied every 14 days.
- ¹⁴ Treatment 39 (2014 Plant-food Dollar Spot Greens Prog #12) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (1.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁵ Treatment 40 (2014 Plant-food Dollar Spot Greens Prog #13) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (2.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁶ Treatments 45 to 53 were sprayed with Daconil Ultrex 82.5WG (3.2 oz) on 11 and 25 June, and 9 July. The treatments were then sprayed with what is currently listed in the table on 23 July, and 6 and 20 August.

¹⁷ INT = Spray interval in days.

¹⁸ DAT = Days after the last treatment.

Table 1C. Influence of fungicides and biorational products on dollar spot development of a creeping bentgrass green: Rutgers University, 2014.

Treatment	Rate per 1000 sq ft	Application Schedule (days) ⁴	Turf Quality ^{1,2}			Color ³		
			25 June	23 July	20 Aug.	25 June	23 July	20 Aug.
1 ARY-0534-002 SC.....	0.33 fl oz	14	5.1 p-x	4.7 n-s	4.0 q-v	5.1 h	5.0 g	5.0 gh
2 Disarm T SC.....	0.66 fl oz	14	6.2 j-o	6.0 h-m	4.3 p-s	5.0 h	5.0 g	5.0 gh
3 Disarm M 3.9 SC.....	1.0 fl oz	14	5.4 n-w	6.4 g-j	5.4 k-n	5.1 h	5.5 de	5.9 cd
4 Pegasus HPX 6SC.....	2.0 fl oz	-						
+ Kestrel MEX 1.3ME.....	0.5 fl oz	-						
/ Emerald 70WG	0.13 oz	ALT-14 ⁵	7.7 c-f	7.9 a-f	6.4 f-h	5.0 h	5.0 g	5.0 gh
5 2014 \$-Spot Greens Prog #3.....	Harrells	14 ⁶	6.5 g-m	7.1 d-h	6.2 f-j	6.6 ab	6.1 b	6.5 b
6 2014 \$-Spot Greens Prog #4.....	Harrells	14 ⁷	7.9 a-f	8.6 ab	6.6 f-h	7.0 a	5.9 bc	5.6 c-f
7 GWN-10337 LC	0.37 fl oz	14	6.1 k-p	7.9 a-f	7.6 cd	5.1 gh	5.1 fg	5.1 f-h
8 GWN-10337 LC	0.74 fl oz	14	8.3 a-d	8.1 a-d	8.6 ab	5.0 h	5.3 e-g	5.4 d-h
9 GWN-10337 LC	1.10 fl oz	14	8.9 a	8.1 a-d	8.6 ab	5.1 gh	5.3 e-g	5.4 d-h
10 GWN-10337 LC	1.47 fl oz	14	8.8 ab	8.2 a-c	8.5 ab	5.0 h	5.4 d-f	5.4 d-h
11 GWN-10337 LC	2.20 fl oz	14	8.4 a-c	8.4 ab	8.8 ab	5.3 f-h	5.6 cd	5.5 d-g
12 2014 \$-Spot Greens Prog #5.....	Nufarm	ALT-14 ⁸	7.9 b-f	7.9 a-f	5.9 g-k	5.1 gh	5.1 fg	5.5 d-g
13 2014 \$-Spot Greens Prog #6.....	Nufarm	ALT-14 ⁹	7.1 e-j	7.5 b-f	5.3 k-n	6.0 cd	6.1 b	6.5 b
14 2014 \$-Spot Greens Prog #7.....	Nufarm	ALT-14 ¹⁰	6.6 g-l	6.8 f-i	5.5 j-m	6.1 c	6.8 a	6.6 b
15 2014 \$-Spot Greens Prog #8.....	Nufarm	ALT-14 ¹¹	8.0 a-e	6.9 e-i	5.8 h-k	5.0 h	5.1 fg	5.5 d-g
16 2014 \$-Spot Greens Prog #9.....	Nufarm	ALT-14 ¹²	7.2 e-i	7.9 a-f	5.5 i-l	5.5 e-g	6.9 a	7.3 a
17 QP Fosetyl-AI 80WG	4.0 oz	-						
+ QP Chlorothalonil 82.5WG.....	3.23 oz	-						
+ Foursome 100 SL	0.4 fl oz	14	5.6 m-u	5.2 k-p	4.1 p-u	5.3 f-h	5.3 e-g	5.0 gh
18 Chipco Signature 80WG	4.0 oz	-						
+ Daconil Ultrex 82.5WG	3.23 oz	14	6.1 k-p	6.2 g-k	6.8 d-f	6.3 bc	5.0 g	5.2 f-h
19 QP Enclave 5.3F	3 fl oz	-						
+ Foursome 100 SL	0.4 fl oz	14	7.2 e-i	7.1 d-h	6.3 f-j	5.9 c-e	5.6 cd	6.1 bc
20 Emerald 70WG	0.065 oz	28	4.8 t-y	4.6 n-s	4.0 p-v	5.0 h	5.0 g	5.0 gh
21 Emerald 70WG	0.13 oz	14	8.5 a-c	8.9 a	8.7 ab	5.1 gh	5.1 fg	5.8 c-e
22 Emerald 70WG	0.13 oz	28	4.9 r-y	6.0 h-m	4.3 p-s	5.1 gh	5.1 fg	5.5 d-g
23 Emerald 70WG	0.18 oz	21	7.0 f-k	8.9 a	6.5 f-h	5.1 gh	5.3 e-g	5.8 c-e

(Continued)

Table 1C. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ⁴	Turf Quality ^{1,2}		Color ³				
			25 June	23 July	25 June	23 July	20 Aug.		
24 Civitas ONE LC.....	17 fl oz	-							
+ Emerald 70WG	0.13 oz	21	8.7 a-c	8.1 a-d	5.1 gh	5.0 g	5.1 gh	5.0 g	5.1 f-h
25 Civitas ONE LC.....	17.0 fl oz	-							
+ Emerald 70WG	0.065 oz	28	5.3 o-x	7.2 c-g	5.1 gh	5.1 fg	5.0 gh	5.1 fg	5.0 gh
26 Civitas ONE LC.....	17 fl oz	-							
+ Emerald 70WG	0.13 oz	28	6.3 i-o	8.0 a-e	5.0 h	5.0 g	5.1 f-h	5.0 g	5.1 f-h
27 VarnimoWP	0.735 oz	-							
+ KaPre Remed8 LC	3.0 fl oz	VAR ¹³	4.4 xy	4.0 rs	5.1 gh	5.1 fg	5.0 gh	5.1 fg	5.0 gh
28 VarnimoWP	0.735 oz	-							
+ KaPre Remed8 LC	3.0 fl oz	-							
Pennamin Driver - P DF	1.5 oz	VAR ¹³	4.5 w-y	4.1 rs	5.0 h	5.0 g	5.0 gh	5.0 g	5.0 gh
29 Daconil Ultrex 82.5WG	3.2 oz	14	5.8 l-r	5.7 j-n	5.0 h	5.0 g	5.3 e-h	5.0 g	5.3 e-h
30 Daconil Action 6.1SC	3.5 fl oz	14	7.3 d-h	8.0 a-e	6.1 c	5.5 de	5.5 d-g	5.5 de	5.5 d-g
31 Secure 4.2SC.....	0.5 fl oz	14	7.1 e-j	8.4 ab	5.0 h	5.1 fg	5.4 d-h	5.1 fg	5.4 d-h
32 Chipco 26GT 2SC.....	4.0 fl oz	14	8.5 a-c	8.1 a-d	5.0 h	5.0g	5.1 gh	5.0g	5.1 gh
33 Insignia Intrinsic 2.1SC	0.7 fl oz	14	7.4 d-g	8.7 a	5.0 h	5.0 g	5.3 e-h	5.0 g	5.3 e-h
34 Honor Intrinsic 28WG.....	0.84 oz	14	8.6 a-c	8.8 a	5.0 h	5.1 fg	5.5 d-g	5.1 fg	5.5 d-g
35 Banner Maxx 1.3ME	0.75 fl oz	14	4.8 s-y	5.4 j-n	5.3 f-h	5.5 de	5.4 d-h	5.5 de	5.4 d-h
36 Curalan 50EG	1.0 oz	14	6.1 k-o	5.2 k-p	5.1 gh	5.0 g	5.0 gh	5.0 g	5.0 gh
37 2014 \$-Spot Greens Prog #10.....	Plant food	14 ¹⁴	4.7 u-y	4.0 rs	5.5 e-g	5.1 fg	5.0 gh	5.1 fg	5.0 gh
38 2014 \$-Spot Greens Prog #11	Plant food	-							
+Banner Maxx 1.3ME	0.5 fl oz	14 ¹⁵	5.9 l-q	4.3 o-s	5.9 c-e	5.5 de	5.5 d-g	5.5 de	5.5 d-g
39 2014 \$-Spot Greens Prog #12.....	Plant food	14 ¹⁶	4.6 v-y	4.0 rs	5.1 gh	5.0 g	5.0 gh	5.0 g	5.0 gh
40 2014 \$-Spot Greens Prog #13.....	Plant food	14 ¹⁷	4.9 q-y	4.1 q-s	5.4 f-h	5.0 g	5.0 gh	5.0 g	5.0 gh
41 RU-7514-14A LC.....	8.0 fl oz	-							
+ RU-7514-14B LC	8.0 fl oz	14	4.4 xy	4.1 q-s	5.5 e-g	5.0 g	5.1 f-h	5.0 g	5.1 f-h
42 RU-7514-14A LC.....	8.0 fl oz	-							
+ RU-7514-14B LC	8.0 fl oz	-							
+ RU-7514-14C WG.....	1.6 oz	14	4.6 v-y	4.2 p-s	5.1 gh	5.1 fg	5.1 f-h	5.1 fg	5.1 f-h

(Continued)

Table 1C. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ⁴	Turf Quality ^{1,2}			Color ³		
			25 June	23 July	20 Aug.	25 June	23 July	20 Aug.
43 RU-7514-14A LC.....	8.0 fl oz	—						
+ RU-7514-14B LC	8.0 fl oz	—						
+ RU-7514-14C WG.....	2.4 oz	14	5.5 m-v	5.0 m-r	4.1 p-v	5.9 c-e	5.1 fg	5.1 f-h
44 RU-7514-14A LC.....	8.0 fl oz	—						
+ RU-7514-14B LC	8.0 fl oz	—						
+ RU-7514-14C WG.....	3.2 oz	14	5.6 m-u	5.0 l-r	4.4 o-s	5.6 d-f	5.1 fg	5.1 f-h
45 PDS LC	2.0 fl oz	—						
+ Daconil Ultrex 82.5WG	0.9 oz	14 ¹⁸	6.0 l-p	6.2 g-k	4.6 n-r	5.3 f-h	5.1 fg	5.0 gh
46 PDS LC	2.0 fl oz	—						
+ Daconil Ultrex 82.5WG	1.8 oz	14 ¹⁸	6.3 i-o	6.1 g-l	5.8 h-k	5.1 gh	5.0 g	5.0 gh
47 PDS LC	2.0 fl oz	—						
+ Banner MAXX 1.3ME.....	0.25 fl oz	14 ¹⁸	6.1 k-o	5.4 j-n	4.2 p-s	5.3 f-h	5.0 g	5.0 gh
48 PDS LC	2.0 fl oz	—						
+ Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁸	5.8 l-s	5.4 j-o	4.1 p-v	5.3 f-h	5.0 g	4.9 h
49 PDS LC	2.0 fl oz	14 ¹⁸	6.1 k-p	6.1 g-k	3.9 r-w	5.1 gh	5.1 fg	4.9 h
50 PDS LC	1.0 fl oz	—						
+ Banner MAXX 1.3ME.....	0.5 fl oz	—						
+ Primo MAXX 1ME.....	0.125 fl oz	14 ¹⁸	5.7 l-t	6.1 g-l	4.2 p-s	5.1 gh	5.1 fg	5.6 c-f
51 PDS LC	1.0 fl oz	—						
+ Daconil Ultrex 82.5WG	1.8 oz	—						
+ Primo MAXX 1ME.....	0.125 oz	14 ¹⁸	6.4 g-m	6.4 g-j	4.7 m-q	5.1 gh	5.0 g	5.9 cd
52 Daconil Ultrex 82.5WG	1.8 oz	14 ¹⁸	6.4 h-n	5.9 i-m	4.8 l-p	5.1 gh	5.0 g	4.9 h
53 Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁸	6.1 k-o	5.7 j-n	4.4 p-s	5.0 h	5.1 fg	5.3 e-h
54 Daconil Ultrex 82.5WG	3.2 oz	14	6.0 k-p	6.1 g-m	6.6 e-g	5.1 gh	5.1 fg	5.3 e-h
55 Untreated Check.....	—	—	4.1 y	3.7 s	3.4 t-w	5.0 h	5.0 g	5.0 gh

(Continued)

Table 1C. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ⁴	Turf Quality ^{1,2}				Color ³			
			25 June	23 July	20 Aug.	25 June	23 July	20 Aug.		
		INT ¹⁹	DAT ²⁰	DAT	DAT	DAT	DAT	DAT	DAT	DAT
		7	—	—	—	—	—	—	—	—
		14	14	14	14	14	14	14	14	14
		21	7	14	21	7	14	14	21	21
		28	28	28	28	28	28	28	28	28

¹ Values are means of four replicates. Means followed by the same letter are not significantly different according to Waller-Duncan k-ratio t-test (k=100).

² Turf quality on a scale of 1 to 9, where 9 = best turf quality and 5 = commercially acceptable quality.

³ Color of foliage on a scale of 1 to 10, where 5 = color of healthy untreated turf, less than 5 = progressively more chlorotic or necrotic turf, and greater than 5 = progressively darker green turf.

⁴ Fungicides were applied on 28 May (all treatments), 4 June (7-day treatments 27 and 28), 11 June (7-day treatments 27 and 28, and 14-day treatment), 18 June (21-day treatment), 25 June (14- and 28-day treatments), 9 July (14- and 21-day treatments), and 23 July (14- and 28-day treatments), 30 July (21-day treatment), and 6 August (14-day treatment).

⁵ ALT = Alternation treatment, where treatment 4 consisted of Pegasus HPX 6SC (2.0 fl oz) + Kestrel MEX 1.3ME (0.5 fl oz) applied on 28 May, 25 June, and 23 July, and Emerald 70WG (0.13 oz) on 11 June, 9 July, and 6 August.

⁶ Treatment 5 (2014 Harrells Dollar Spot Greens Program #3) consisted of Daconil Action 6.1SC (2.75 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁷ Treatment 6 (2014 Harrells Dollar Spot Greens Program #4) consisted of Secure 4.2SC (0.5 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁸ ALT = Alternation treatment, where treatment 12 (2014 Nufarm Dollar Spot Greens Program #5) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.

⁹ ALT = Alternation treatment, where treatment 13 (2014 Nufarm Dollar Spot Greens Program #6) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.092 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.092 oz) on 11 June, 9 July, and 6 August.

¹⁰ ALT = Alternation treatment, where treatment 14 (2014 Nufarm Dollar Spot Greens Program #7) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.

(Continued)

Table 1C. Dollar spot control in a creeping bentgrass green, 2014 (continued).

- ¹¹ ALT = Alternation treatment, where treatment 15 (2014 Nufarm Dollar Spot Greens Program #8) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.
- ¹² ALT = Alternation treatment, where treatment 16 (2014 Nufarm Dollar Spot Greens Program #9) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.
- ¹³ Treatments 27 and 28 were applied on 28 May, 4 June, and 11 June and applied every 14 days thereafter. Both treatments were irrigated with 0.5 gal of H₂O per plot immediately after application.
- ¹⁴ Treatment 37 (2014 Plant-food Dollar Spot Greens Prog #10) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) applied every 14 days.
- ¹⁵ Treatment 38 (2014 Plant-food Dollar Spot Greens Prog #11) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) + Banner Max (0.5 fl oz) applied every 14 days.
- ¹⁶ Treatment 39 (2014 Plant-food Dollar Spot Greens Prog #12) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (1.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁷ Treatment 40 (2014 Plant-food Dollar Spot Greens Prog #13) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (2.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁸ Treatments 45 to 53 were sprayed with Daconil Ultrex 82.5WG (3.2 oz) on 11 and 25 June, and 9 July. The treatments were then sprayed with what is currently listed in the table on 23 July, and 6 and 20 August.

¹⁹ INT = Spray interval in days.

²⁰ DAT = Days after the last treatment.

Table 1D. Influence of fungicides and biorational products on dollar spot development of a creeping bentgrass green: Rutgers University, 2014.

Treatment	Rate per 1000 sq ft	Application Schedule (days) ³	Phytotoxicity ^{1,2}		
			6 June	4 July	1 Aug.
1 ARY-0534-002 SC.....	0.33 fl oz	14	1.0 b	1.0 d	1.0 b
2 Disarm T SC.....	0.66 fl oz	14	1.0 b	1.0 d	1.0 b
3 Disarm M 3.9 SC.....	1.0 fl oz	14	1.0 b	1.0 d	1.0 b
4 Pegasus HPX 6SC.....	2.0 fl oz	-			
+ Kestrel MEX 1.3ME.....	0.5 fl oz	-			
/ Emerald 70WG	0.13 oz	ALT-14 ⁴	1.0 b	1.0 d	1.0 b
5 2014 \$-Spot Greens Prog #3	Harrells	14 ⁵	1.0 b	1.0 d	1.0 b
6 2014 \$-Spot Greens Prog #4	Harrells	14 ⁶	1.0 b	1.0 d	1.0 b
7 GWN-10337 LC	0.37 fl oz	14	1.0 b	1.0 d	1.0 b
8 GWN-10337 LC	0.74 fl oz	14	1.0 b	1.0 d	1.0 b
9 GWN-10337 LC	1.10 fl oz	14	1.0 b	1.0 d	1.0 b
10 GWN-10337 LC	1.47 fl oz	14	1.0 b	1.0 d	1.0 b
11 GWN-10337 LC	2.20 fl oz	14	1.0 b	1.0 d	1.0 b
12 2014 \$-Spot Greens Prog #5	Nufarm	ALT-14 ⁷	1.0 b	1.0 d	1.0 b
13 2014 \$-Spot Greens Prog #6	Nufarm	ALT-14 ⁸	1.0 b	1.2 c	1.0 b
14 2014 \$-Spot Greens Prog #7	Nufarm	ALT-14 ⁹	1.0 b	1.8 b	1.1 a
15 2014 \$-Spot Greens Prog #8	Nufarm	ALT-14 ¹⁰	1.5 a	1.0 d	1.0 b
16 2014 \$-Spot Greens Prog #9	Nufarm	ALT-14 ¹¹	1.0 b	2.1 a	1.1 a
17 QP Fosetyl-AI 80WG	4.0 oz	-			
+ QP Chlorothalonil 82.5WG.....	3.23 oz	-			
+ Foursome 100 SL	0.4 fl oz	14	1.0 b	1.0 d	1.0 b
18 Chipco Signature 80WG	4.0 oz	-			
+ Daconil Ultrex 82.5WG	3.23 oz	14	1.0 b	1.0 d	1.0 b
19 QP Enclave 5.3F	3 fl oz	-			
+ Foursome 100 SL	0.4 fl oz	14	1.0 b	1.0 d	1.0 b
20 Emerald 70WG	0.065 oz	28	1.0 b	1.0 d	1.0 b
21 Emerald 70WG	0.13 oz	14	1.0 b	1.0 d	1.0 b
22 Emerald 70WG	0.13 oz	28	1.0 b	1.0 d	1.0 b
23 Emerald 70WG	0.18 oz	21	1.0 b	1.0 d	1.0 b

(Continued)

Table 1D. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ³	Phytotoxicity ^{1,2}		
			6 June	4 July	1 Aug.
24 Civitas ONE LC.....	17 fl oz	-			
+ Emerald 70WG	0.13 oz	21	1.0 b	1.0 d	1.0 b
25 Civitas ONE LC.....	17.0 fl oz	-			
+ Emerald 70WG	0.065 oz	28	1.0 b	1.0 d	1.0 b
26 Civitas ONE LC.....	17 fl oz	-			
+ Emerald 70WG	0.13 oz	28	1.0 b	1.0 d	1.0 b
27 VarnimoWP	0.735 oz	-			
+ KaPre Remed8 LC	3.0 fl oz	VAR ¹²	1.0 b	1.0 d	1.0 b
28 VarnimoWP	0.735 oz	-			
+ KaPre Remed8 LC	3.0 fl oz	-			
Pennamin Driver – P DF	1.5 oz	VAR ¹²	1.0 b	1.0 d	1.0 b
29 Daconil Ultrex 82.5WG	3.2 oz	14	1.0 b	1.0 d	1.0 b
30 Daconil Action 6.1SC	3.5 fl oz	14	1.0 b	1.0 d	1.0 b
31 Secure 4.2SC.....	0.5 fl oz	14	1.0 b	1.0 d	1.0 b
32 Chipco 26GT 2SC.....	4.0 fl oz	14	1.0 b	1.0 d	1.0 b
33 Insignia Intrinsic 2.1SC	0.7 fl oz	14	1.0 b	1.0 d	1.0 b
34 Honor Intrinsic 28WG.....	0.84 oz	14	1.0 b	1.0 d	1.0 b
35 Banner Maxx 1.3ME	0.75 fl oz	14	1.0 b	1.0 d	1.0 b
36 Curalan 50EG	1.0 oz	14	1.0 b	1.0 d	1.0 b
37 2014 \$-Spot Greens Prog #10 ..	Plant food	14 ¹³	1.0 b	1.0 d	1.0 b
38 2014 \$-Spot Greens Prog #11 ..	Plant food	-			
+Banner Maxx 1.3ME	0.5 fl oz	14 ¹⁴	1.0 b	1.0 d	1.0 b
39 2014 \$-Spot Greens Prog #12 ..	Plant food	14 ¹⁵	1.0 b	1.0 d	1.0 b
40 2014 \$-Spot Greens Prog #13 ..	Plant food	14 ¹⁶	1.0 b	1.0 d	1.0 b
41 RU-7514-14A LC.....	8.0 fl oz	-			
+ RU-7514-14B LC	8.0 fl oz	14	1.0 b	1.0 d	1.0 b
42 RU-7514-14A LC.....	8.0 fl oz	-			
+ RU-7514-14B LC	8.0 fl oz	-			
+ RU-7514-14C WG.....	1.6 oz	14	1.0 b	1.0 d	1.0 b

(Continued)

Table 1D. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ³	Phytotoxicity ^{1,2}		
			6 June	4 July	1 Aug.
43 RU-7514-14A LC.....	8.0 fl oz	—			
+ RU-7514-14B LC.....	8.0 fl oz	—			
+ RU-7514-14C WG.....	2.4 oz	14	1.0 b	1.0 d	1.0 b
44 RU-7514-14A LC.....	8.0 fl oz	—			
+ RU-7514-14B LC.....	8.0 fl oz	—			
+ RU-7514-14C WG.....	3.2 oz	14	1.0 b	1.0 d	1.0 b
45 PDS LC.....	2.0 fl oz	—			
+ Daconil Ultrex 82.5WG.....	0.9 oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
46 PDS LC.....	2.0 fl oz	—			
+ Daconil Ultrex 82.5WG.....	1.8 oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
47 PDS LC.....	2.0 fl oz	—			
+ Banner MAXX 1.3ME.....	0.25 fl oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
48 PDS LC.....	2.0 fl oz	—			
+ Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
49 PDS LC.....	2.0 fl oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
50 PDS LC.....	1.0 fl oz	—			
+ Banner MAXX 1.3ME.....	0.5 fl oz	—			
+ Primo MAXX 1ME.....	0.125 fl oz	14 ¹⁷	1.0 b	1.0 d	1.1 a
51 PDS LC.....	1.0 fl oz	—			
+ Daconil Ultrex 82.5WG.....	1.8 oz	—			
+ Primo MAXX 1ME.....	0.125 oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
52 Daconil Ultrex 82.5WG.....	1.8 oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
53 Banner MAXX 1.3ME.....	0.5 fl oz	14 ¹⁷	1.0 b	1.0 d	1.0 b
54 Daconil Ultrex 82.5WG.....	3.2 oz	14	1.0 b	1.0 d	1.0 b
55 Untreated Check.....	—	—	1.0 b	1.0 d	1.0 b

(Continued)

Table 1D. Dollar spot control in a creeping bentgrass green, 2014 (continued).

Treatment	Rate per 1000 sq ft	Application Schedule (days) ³	Phytotoxicity ^{1,2}		
			6 June	4 July	1 Aug.
		INT ¹⁸	DAT ¹⁹	DAT	DAT
		7	2	-	-
		14	9	9	9
		21	9	16	2
		28	9	9	9

¹ Values are means of four replicates. Means followed by the same letter are not significantly different according to Waller-Duncan *k*-ratio *t*-test ($k=100$).

² Phytotoxicity on a 1 to 5 scale, where 1 = no discoloration, 2 = slight foliar chlorosis or necrosis, 3 = moderate chlorosis or necrosis, 4 = severe chlorosis or necrosis, and 5 = all turf dead.

³ Fungicides were applied on 28 May (all treatments), 4 June (7-day treatments 27 and 28), 11 June (7-day treatments 27 and 28, and 14-day treatment), 18 June (21-day treatment), 25 June (14- and 28-day treatments), 9 July (14- and 21-day treatments), and 23 July (14- and 28-day treatments), 30 July (21-day treatment), and 6 August (14-day treatment).

⁴ ALT = Alternation treatment, where treatment 4 consisted of Pegasus HPX 6SC (2.0 fl oz) + Kestrel MEX 1.3ME (0.5 fl oz) applied on 28 May, 25 June, and 23 July, and Emerald 70WG (0.13 oz) on 11 June, 9 July, and 6 August.

⁵ Treatment 5 (2014 Harrells Dollar Spot Greens Program #3) consisted of Daconil Action 6.1SC (2.75 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁶ Treatment 6 (2014 Harrells Dollar Spot Greens Program #4) consisted of Secure 4.2SC (0.5 fl oz) + EarthMax LC (2.0 fl oz) + ParPro LC (0.37 fl oz) + 4-0-0 LC (3.0 fl oz) + N30 LC (4.0 fl oz) applied every 14 days.

⁷ ALT = Alternation treatment, where treatment 12 (2014 Nufarm Dollar Spot Greens Program #5) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.

⁸ ALT = Alternation treatment, where treatment 13 (2014 Nufarm Dollar Spot Greens Program #6) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.092 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.092 oz) on 11 June, 9 July, and 6 August.

⁹ ALT = Alternation treatment, where treatment 14 (2014 Nufarm Dollar Spot Greens Program #7) consisted of Torque 3.6F (0.75 fl oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.

¹⁰ ALT = Alternation treatment, where treatment 15 (2014 Nufarm Dollar Spot Greens Program #8) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) on 11 June, 9 July, and 6 August.

Table 1D. Dollar spot control in a creeping bentgrass green, 2014 (continued).

- ¹¹ ALT = Alternation treatment, where treatment 16 (2014 Nufarm Dollar Spot Greens Program #9) consisted of Tourney 50WG (0.2 oz) + Spectro 90WG (3.6 oz) + Anuew 27.5WG (0.183 oz) applied on 28 May, 25 June, and 23 July, and 26/36 3.8F (4.0 fl oz) + Anuew 27.5WG (0.183 oz) on 11 June, 9 July, and 6 August.
- ¹² Treatments 27 and 28 were applied on 28 May, 4 June, and 11 June and applied every 14 days thereafter. Both treatments were irrigated with 0.5 gal of H₂O per plot immediately after application.
- ¹³ Treatment 37 (2014 Plant-food Dollar Spot Greens Prog #10) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) applied every 14 days.
- ¹⁴ Treatment 38 (2014 Plant-food Dollar Spot Greens Prog #11) consisted of 20-3-3 LC (12.0 fl oz) + Phosphite 30 LC (3.0 fl oz) + Mg Nitrate LC (3.0 fl oz) + Green Blade LC (0.3 fl oz) + Regulate LC (2.0 fl oz) + Impulse GT LC (2.0 fl oz) + Banner Max (0.5 fl oz) applied every 14 days.
- ¹⁵ Treatment 39 (2014 Plant-food Dollar Spot Greens Prog #12) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (1.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁶ Treatment 40 (2014 Plant-food Dollar Spot Greens Prog #13) consisted of 20-3-3 LC (6.0 fl oz) + Phosphite 30 LC (2.0 fl oz) + PDS sticker LC (2.0 fl oz) + Green Blade LC (0.3 fl oz) applied every 14 days.
- ¹⁷ Treatments 45 to 53 were sprayed with Daconil Ultrex 82.5WG (3.2 oz) on 11 and 25 June, and 9 July. The treatments were then sprayed with what is currently listed in the table on 23 July, and 6 and 20 August.

¹⁸ INT = Spray interval in days.

¹⁹ DAT = Days after the last treatment.