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Fungicide Evaluation in Penncross Creeping Bentgrass at Greens Height

Abstract

Fungicide evaluations for control of dollar spot and brown spot in greens height creeping bentgrass were conducted at the Iowa State University Horticulture Station, Ames, IA.

Keywords

RFR A9012, Plant Pathology

Disciplines

Agricultural Science | Agriculture | Plant Pathology

Fungicide Evaluation in Penncross Creeping Bentgrass at Greens Height

RFR-A9012

Mark Gleason, professor Brady North, research assistant Jean Batzer, assistant scientist Department of Plant Pathology

Introduction

Fungicide evaluations for control of dollar spot and brown spot in greens height creeping bentgrass were conducted at the Iowa State University Horticulture Station, Ames, IA.

Materials and Methods

Plots of creeping bentgrass (cv. Penncross) were maintained at 0.16-in. cutting height. On June 2 and June 9 plots were inoculated with rye grain infested with Sclerotinia homoeocarpa. Fungicides, selected for activity against dollar spot, were applied using a backpack sprayer at 30 psi and a dilution rate of 5 gal/1000 sq ft. The experimental design was a randomized complete block with four replications. All sub-plots measured 4 ft \times 5 ft. Spray applications were initiated on June 4, except for treatment 26 was initiated May 15. Re-applications were made at recommended intervals until August 20. Periodic assessments of disease symptoms were initiated July 2. Visual estimates of disease severity of each plot with dollar spot symptoms were made at approximately 21-day intervals. Data were analyzed using the GLM procedure in SAS, and mean separations were determined using Fisher's protected LSD at

 $P \le 0.05$. Visual estimates of disease severity of each sub-plot with brown spot symptoms also were made using a qualitative scale of 0–5 for brown patch, where 0 = no disease; 1 = 1-5%; 2 = 6-10%; 3 = 11-25%; 4 = 26-50%; and 5 = > 50% plot symptomatic. A turf quality assessment of 1 to 10 (1 = poorest, 10 = best, 7 = adequate) were taken four times throughout the season. Data were analyzed using the GLM procedure in SAS and mean separations were determined using Fisher's protected LSD at P < 0.05.

Results and Discussion

Weather patterns were exceptionally cool and wet in June, then cool and dry in July, followed by moderately cool in August. Brown patch severity was low to moderate (Table 1). The unsprayed check had significantly higher disease ratings throughout the season. Most treatments resulted in complete disease control.

Dollar spot inoculations failed to cause disease in all plots, including the unsprayed control. The unsprayed check had the poorest turf quality, except during the August 7 observation. The last observation period generally had the best turf quality and most fungicides improved turf quality, in comparison with the unsprayed check (Table 2).

Acknowledgements

We thank the Hort Station turf crew for maintenance of turf.

Table 1. Brown patch at the ISU Horticulture Station, Ames, IA.

TRT Products and rates per 1,000 sq ft (days) July 2 July 3 Aug 7 Aug 2 1 Unsprayed check 2.3 a 2.3 ab 0.8 a-c 2.0 a 2 Gowan Rubigan AS 0.5 fl oz 14 0.5 b 2.5 a 0.8 a-c 0.5 bc 3 Gowan Rubigan AS 1.0 fl oz + GWN-9812 1 qt/acre 14 1.0 ab 1.5 b 1.5 a 1.0 a-c 5 Gowan Rubigan AS 1.0 fl oz + GWN-9812 1 qt/acre 21 1.0 ab 2.3 ab 1.3 ab 0.8 bc 6 Gowan Rubigan AS 1.0 fl oz + GWN-9790 0.44 oz + GWN-9812 1 qt/acre 21 1.0 ab 0.3 c 0.8 a-c 0.3 c 9812 1 qt/ac 21 1.0 ab 0.3 c 0.8 a-c 0.3 c 7 Gowan GWN-9790 0.44 oz + GWN-9812 1 qt/acre 21 0.3 b 0.3 c 0.0 c 1.5 ab 8 Gowan GWN-9790 0.29 oz + GWN-9812 1 qt/acre 21 2.3 a 0.0 c 1.3 ab 0.0 c 9 Gowan Banner Maxx 1.0 oz 21 0.5 b 0.0 c 0.3 bc <td< th=""><th></th><th>brown patch at the 150 Horticulture Station, Ames, 1A.</th><th>Interval</th><th colspan="3">Brown patch (0–5 rating)^{x, z}</th></td<>		brown patch at the 150 Horticulture Station, Ames, 1A.	Interval	Brown patch (0–5 rating) ^{x, z}			
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Gowan Rubigan AS 1.0 fl oz + GWN-9790 0.44 oz + GWN-9812 1 qt/acre 7 Gowan GWN-9790 0.44 oz + GWN-9812 1 qt/acre 8 Gowan GWN-9790 0.29 oz + GWN-9812 1 qt/acre 21 2.3 a 0.0 c 1.3 ab 0.0 c 9 Gowan Banner Maxx 1.0 oz 21 0.5 b 0.0 c 0.3 bc 0.0 c 10 Bayer Banner Maxx 2.0 oz 11 BASF Emerald 70WG 0.13 oz + Iprodione Pro 2.0 fl oz 12 BASF Emerald 70WG 0.13 oz + Daconil Ultrex 82.5 WG 1.8 oz 14 0.0 b 0.0 c 0.3 bc 0.5 ac 0.0 c 15 BASF Emerald 70WG 0.13 oz + Daconil Ultrex 82.5 WG 1.8 oz 16 Valent Tourney 50WD 0.28 oz 17 Valent Tourney 50WD 0.28 oz 18 Bayer Reserve 4.8 SC 2.8 fl oz 19 Bayer Reserve 4.8 SC 3.2 fl oz 20 Bayer Reserve 4.8 SC 3.5 fl oz 21 Bayer Reserve 4.8 SC 4.5 fl oz 22 Bayer Triton Flo SC 0.5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.5 fl oz 26 Sh spray Chipco Signature WG 4.0 oz 26 Sh spray Chipco Signature WG 4.0 oz 27 Spray Daconil Ultrex 82.5 WG 3.2 oz 28 Spray Chipco Signature WG 4.0 oz 29 Spray Triton Flo SC 0.5 fl oz 20 Spray Chipco Signature WG 4.0 oz 29 Spray Chipco Signature WG 4.0 oz 29 Spray Chipco Signature WG 4.0 oz 29 Spray Daconil Ultrex 82.5 WG 3.2 oz	4	Gowan Rubigan AS 0.5 fl oz + GWN-9812 1 qt/acre	14	1.0 ab	1.5 b	1.5 a	1.0 a-c
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16 Valent Tourney 50WD 0.28 oz 17 Valent Tourney 50WD 0.37 oz 18 Bayer Reserve 4.8 SC 2.8 fl oz 19 Bayer Reserve 4.8 SC 3.2 fl oz 20 Bayer Reserve 4.8 SC 3.2 fl oz 21 Bayer Reserve 4.8 SC 3.6 fl oz 22 Bayer Concert EC 5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.75 fl oz 25 Bayer Triton Flo SC 1.0 fl oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Triton Flo SC 0.5 fl oz 28 Spray Chipco Signature WG 4.0 oz 29 Chipco Signature WG 4.0 oz 20 Chipco Signature WG 4.0 oz 21 Triton Flo SC 0.5 fl oz 22 Chipco Signature WG 4.0 oz 23 Spray Chipco Signature WG 4.0 oz 24 Spray Chipco Signature WG 4.0 oz 25 Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Triton Flo SC 0.5 fl oz 28 Spray Chipco Signature WG 4.0 oz 29 Chipco Signature WG 4.0 oz 20 Chipco Signature WG 4.0 oz 21 Triton Flo SC 0.5 fl oz 22 Chipco Signature WG 4.0 oz 23 Signature WG 4.0 oz 24 Spray Chipco Signature WG 4.0 oz 25 Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Triton Flo SC 0.5 fl oz 28 Spray Chipco Signature WG 4.0 oz 29 Daconil Ultrex 82.5 WG 3.2 oz Chipco Signature WG 4.0 oz	14		14	0.8 b	0.3 c	0.3 bc	0.0 c
16 Valent Tourney 50WD 0.28 oz 17 Valent Tourney 50WD 0.37 oz 18 Bayer Reserve 4.8 SC 2.8 fl oz 19 Bayer Reserve 4.8 SC 2.8 fl oz 20 Bayer Reserve 4.8 SC 3.2 fl oz 21 Bayer Reserve 4.8 SC 3.6 fl oz 21 Bayer Reserve 4.8 SC 3.6 fl oz 22 Bayer Concert EC 5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.75 fl oz 25 Bayer Triton Flo SC 1.0 fl oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Sth spray Ghspray Chipco Signature WG 4.0 oz 28 Sth spray Chipco Signature WG 4.0 oz 29 Chipco Signature WG 4.0 oz 20 Chipco Signature WG 4.0 oz 21 Triton Flo SC 0.5 fl oz 22 Chipco Signature WG 4.0 oz 23 Chipco Signature WG 4.0 oz 24 Sth spray Chipco Signature WG 4.0 oz 25 Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Triton Flo SC 0.5 fl oz 28 Spray Chipco Signature WG 4.0 oz 29 Chipco Signature WG 4.0 oz 20 Chipco Signature WG 4.0 oz 21 Triton Flo SC 0.5 fl oz 22 Chipco Signature WG 4.0 oz 23 Signature WG 4.0 oz 24 Spray Chipco Signature WG 4.0 oz 25 Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Triton Flo SC 0.5 fl oz 28 Spray Chipco Signature WG 4.0 oz 29 Signature WG 4.0 oz 20 Signature WG 4.0 oz 21 Spray Chipco Signature WG 4.0 oz 21 Spray Chipco Signature WG 4.0 oz 22 Signature WG 4.0 oz 23 Signature WG 4.0 oz 24 Spray Chipco Signature WG 4.0 oz 25 Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Signature WG 4.0 oz 28 Spray Chipco Signature WG 4.0 oz 29 Signature WG 4.0 oz 20 Signature WG 4.0 oz	15		14	1.0 ab	0.3 c	0.5 a-c	0.0 c
17 Valent Tourney 50WD 0.37 oz 18 Bayer Reserve 4.8 SC 2.8 fl oz 19 Bayer Reserve 4.8 SC 3.2 fl oz 20 Bayer Reserve 4.8 SC 3.2 fl oz 21 Bayer Reserve 4.8 SC 3.6 fl oz 21 Bayer Reserve 4.8 SC 4.5 fl oz 22 Bayer Concert EC 5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.5 fl oz 25 Bayer Triton Flo SC 0.5 fl oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Sth spray Chipco Signature WG 4.0 oz 28 Sth spray Chipco Signature WG 4.0 oz 29 Sth spray Chipco Signature WG 4.0 oz 20 Sth spray Chipco Signature WG 4.0 oz 21 Sth spray Chipco Signature WG 4.0 oz 22 Sth spray Chipco Signature WG 4.0 oz 23 Sth spray Chipco Signature WG 4.0 oz 24 Sth spray Chipco Signature WG 4.0 oz 25 Sth spray Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Sth spray Chipco Signature WG 4.0 oz 28 Sth spray Chipco Signature WG 4.0 oz 29 Sth spray Chipco Signature WG 4.0 oz 20 Sth spray Chipco Signature WG 4.0 oz 20 Sth spray Chipco Signature WG 4.0 oz 21 Sth spray Chipco Signature WG 4.0 oz 22 Sth spray Chipco Signature WG 4.0 oz 24 Sth spray Chipco Signature WG 4.0 oz 25 Sth spray Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Sth spray Chipco Signature WG 4.0 oz 28 Sth spray Chipco Signature WG 4.0 oz 29 Sth spray Chipco Signature WG 4.0 oz	16		14	1.0 ab			
18 Bayer Reserve 4.8 SC 2.8 fl oz 7 0.0 b 0.0 c 0.	17		14	0.5 b	0.0 c	0.5 a-c	0.0 c
19 Bayer Reserve 4.8 SC 3.2 fl oz 20 Bayer Reserve 4.8 SC 3.6 fl oz 21 Bayer Reserve 4.8 SC 4.5 fl oz 22 Bayer Concert EC 5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.75 fl oz 25 Bayer Triton Flo SC 1.0 fl oz 26 Bayer Bayleton Flo 1.0 fl oz 27 Sray Spray 28 Chipco Signature WG 4.0 oz 29 Chipco Signature WG 4.0 oz 20 Sray Spray 30 Chipco Signature WG 4.0 oz 21 Sth Spray 40 Spr	18		7	0.0 b	0.0 c	0.0 c	0.0 c
21 Bayer Reserve 4.8 SC 4.5 fl oz 22 Bayer Concert EC 5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.75 fl oz 25 Bayer Triton Flo SC 1.0 fl oz 26 Bayer Bayleton Flo 1.0 fl oz 27 Spray Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Spray Chipco Signature WG 4.0 oz 26 Sth spray Chipco Signature WG 4.0 oz 27 Spray Chipco Signature WG 4.0 oz 28 Spray Chipco Signature WG 4.0 oz 29 Chipco Signature WG 4.0 oz 20 Chipco Signature WG 4.0 oz 21 O.0 b 22 O.0 c 23 O.0 c 24 O.0 b 25 O.0 c 26 O.0 c 27 O.0 c 27 O.0 c 28 O.0 c 29 O.0 c 20 O.0 c 21 O.0 b 21 O.0 b 22 O.0 c 23 O.0 c 24 O.0 b 25 O.0 c 26 O.0 c 27 O.0 c 27 O.0 c 28 O.0 c 29 O.0 c 20 O.0 c 21 O.0 b 20 O.0 c 20 O.0 c 20 O.0 c 21 O.0 b 21 O.0 b 22 O.0 c 23 O.0 c 24 O.0 b 25 O.0 c 26 O.0 c 27 O.0 c 27 O.0 c 28 O.0 c 29 O.0 c 20 O	19		14	0.3 b	0.0 c	0.0 c	0.0 c
22 Bayer Concert EC 5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.75 fl oz 25 Bayer Triton Flo SC 1.0 fl oz 26 Bayer Bayleton Flo 1.0 fl oz 27 Spray Chipco Signature WG 4.0 oz 28 Spray Chipco Signature WG 4.0 oz 29 Chipco Signature WG 4.0 oz 20 Chipco Signature WG 4.0 oz 20 Chipco Signature WG 4.0 oz 21 Spray Chipco Signature WG 4.0 oz 22 Chipco Signature WG 4.0 oz 25 Spray Chipco Signature WG 4.0 oz 26 Spray Chipco Signature WG 4.0 oz 27 Spray Chipco Signature WG 4.0 oz 28 Spray Chipco Signature WG 4.0 oz 29 Spray Chipco Signature WG 4.0 oz 30 Spray Chipco Signature WG 4.0 oz	20	Bayer Reserve 4.8 SC 3.6 fl oz	14	0.0 b	0.0 c	0.0 c	0.0 c
22 Bayer Concert EC 5 fl oz 23 Bayer Triton Flo SC 0.5 fl oz 24 Bayer Triton Flo SC 0.75 fl oz 25 Bayer Triton Flo SC 1.0 fl oz 26 Bayer Bayleton Flo 1.0 fl oz 27 Spray Chipco Signature WG 4.0 oz 28 Spray Daconil Ultrex 82.5 WG 3.2 oz 29 Chipco Signature WG 4.0 oz 30 Spray Chipco Signature WG 4.0 oz 40 Spray Chipco Signature WG 4.0 oz	21	· ·	14	0.0 b	0.0 c	0.3 bc	0.0 c
24 Bayer Triton Flo SC 0.75 fl oz 25 Bayer Triton Flo SC 1.0 fl oz 26 Bayer Bayleton Flo 1.0 fl oz 27 Spray Chipco Signature WG 4.0 oz 28 Spray Chipco Signature WG 4.0 oz 26 Sth spray Daconil Ultrex 82.5 WG 3.2 oz 6 Spray Chipco Signature WG 4.0 oz 7 Spray Triton Flo SC 0.5 fl oz 8 Spray Chipco Signature WG 4.0 oz 7 Spray Chipco Signature WG 4.0 oz 8 Spray Chipco Signature WG 4.0 oz 9 Spray Chipco Signature WG 4.0 oz 9 Spray Daconil Ultrex 82.5 WG 3.2 oz	22		14	0.0 b	0.0 c	0.0 c	0.0 c
25 Bayer Triton Flo SC 1.0 fl oz Bayer Bayleton Flo 1.0 fl oz 2 nd spray Chipco Signature WG 4.0 oz 3 rd spray Triton Flo SC 0.5 fl oz 4 th spray Chipco Signature WG 4.0 oz 26 5 th spray Daconil Ultrex 82.5 WG 3.2 oz 6 th spray Chipco Signature WG 4.0 oz 7 th spray Triton Flo SC 0.5 fl oz 8 th spray Chipco Signature WG 4.0 oz 9 th spray Daconil Ultrex 82.5 WG 3.2 oz	23	Bayer Triton Flo SC 0.5 fl oz	14	0.0 b	0.3 c	0.0 c	0.0 c
Bayer Bayleton Flo 1.0 fl oz 2 nd spray Chipco Signature WG 4.0 oz 3 rd spray Triton Flo SC 0.5 fl oz 4 th spray Chipco Signature WG 4.0 oz 26 5 th spray Daconil Ultrex 82.5 WG 3.2 oz 6 th spray Chipco Signature WG 4.0 oz 7 th spray Triton Flo SC 0.5 fl oz 8 th spray Chipco Signature WG 4.0 oz 9 th spray Daconil Ultrex 82.5 WG 3.2 oz	24	Bayer Triton Flo SC 0.75 fl oz	14	0.0 b	0.0 c	0.8 a-c	0.0 c
2 nd spray Chipco Signature WG 4.0 oz 3 rd spray Triton Flo SC 0.5 fl oz 4 th spray Chipco Signature WG 4.0 oz 26 5 th spray Daconil Ultrex 82.5 WG 3.2 oz 6 th spray Chipco Signature WG 4.0 oz 7 th spray Triton Flo SC 0.5 fl oz 8 th spray Chipco Signature WG 4.0 oz 9 th spray Daconil Ultrex 82.5 WG 3.2 oz	25	Bayer Triton Flo SC 1.0 fl oz	14	0.0 b	0.5 c	0.0 c	0.0 c
4 th spray Chipco Signature WG 4.0 oz 26 5 th spray Daconil Ultrex 82.5 WG 3.2 oz 6 th spray Chipco Signature WG 4.0 oz 7 th spray Triton Flo SC 0.5 fl oz 8 th spray Chipco Signature WG 4.0 oz 9 th spray Daconil Ultrex 82.5 WG 3.2 oz		2 nd spray Chipco Signature WG 4.0 oz					
9 th spray Daconil Ultrex 82.5 WG 3.2 oz	26	4 th spray Chipco Signature WG 4.0 oz 5 th spray Daconil Ultrex 82.5 WG 3.2 oz 6 th spray Chipco Signature WG 4.0 oz 7 th spray Triton Flo SC 0.5 fl oz	14	0.0 b	0.0	0.3 bc	0.0 c
				3.8	1.0	1 1	1.2

^{*}Means followed by the same letter are not statistically different within column according to Fisher's protected LSD at $P \le 0.05$.

^zDisease rating scale 0 = no disease; 1 = 1-5%; 2 = 6-10%; 3 = 11-25%; 4 = 26-50%; and 5 = > 50% plot symptomatic.

Table 2. Turf quality ratings at the ISU Horticulture Station, Ames, IA.

	1 , 0	Interval	Quality rating 1–10 ^{x, z}				
TRT	Products and rates per 1000 sq ft	(days)	July 2	July 23		Aug 2-	
1	Unsprayed check		5.3 e	5.3 h	6.5 c-f	6.5 g	
2	Gowan Rubigan AS 0.5 fl oz	14	6.5 a-e	5.3 h	6.5 c-f	7.3 d-g	
3	Gowan Rubigan AS 1.0 fl oz	14	6.8 a-e	7.3 с-е	6.3 d-f	7.0 e-g	
4	Gowan Rubigan AS 0.5 fl oz + GWN-9812 1 qt/acre	14	6.3 b-e	5.9 f-h	6.3 d-f	6.8 fg	
5	Gowan Rubigan AS 1.0 fl oz + GWN-9812 1 qt/acre	21	6.0 с-е	5.5 hg	6.0 ef	7.3 d-g	
6	Gowan Rubigan AS 1.0 fl oz + GWN-9790 0.44 oz + GWN-9812 1 qt/acre	21	6.7 a-e	7.3 с-е	6.0 ef	7.0 e-g	
7	Gowan GWN-9790 0.44 oz + GWN-9812 1 qt/acre	21	7.0 a-e	6.5 e-g	6.8 b-f	6.8 fg	
8	Gowan GWN-9790 0.29 oz + GWN-9812 1 qt/acre	21	5.8 de		6.8 b-f	8.0 a-e	
9	Gowan Banner Maxx 1.0 oz	21	6.8 a-e		6.8 b-f	7.8 b-f	
10	Bayer Banner Maxx 2.0 oz	14	6.0 c-e	6.8 d-f		6.8 fg	
11	BASF Emerald 70WG 0.13 oz + Iprodione Pro 2.0 fl oz	14	7.8 a-c		7.0 b-e	7.5 c-g	
12	BASF Emerald 70WG 0.13 oz + Iprodione Pro 3.0 fl oz	14	7.3 a-d	6.8 d-f	6.3 d-f	7.8 b-f	
13	BASF Emerald 70WG 0.13 oz + Daconil Ultrex 82.5 WG 1.8 oz	14	7.3 a-d	6.8 d-f	6.5 c-f	8.0 a-e	
14	BASF Emerald 70WG 0.13 oz + Daconil Ultrex 82.5 WG 3.25 oz	14	7.8 a-c	7.3 с-е	7.0 b-e	8.3 a-d	
15	BASF Curalan EG 50WG 1.0 oz	14	6.3 b-e	7.0 с-е	7.3 b-d	8.0 a-e	
16	Valent Tourney 50WD 0.28 oz	14	6.8 a-e		6.8 b-f	7.8 b-f	
17	Valent Tourney 50WD 0.37 oz	14	6.0 с-е	7.0 c-e		7.8 b-f	
18	Bayer Reserve 4.8 SC 2.8 fl oz	7	8.3 a	8.0 a-c		8.8 ab	
19	Bayer Reserve 4.8 SC 3.2 fl oz	14	8.0 ab		7.3 b-d	8.5 a-c	
20	Bayer Reserve 4.8 SC 3.6 fl oz	14	6.3 b-e		7.0 b-e	8.8 ab	
21	Bayer Reserve 4.8 SC 4.5 fl oz	14	8.3 a	8.8 ab	7.0 b-e	8.5 a-c	
22	Bayer Concert EC 5 fl oz	14	7.3 a-d	6.8 d-f		7.3 d-g	
23	Bayer Triton Flo SC 0.5 fl oz	14	8.0 ab		7.0 b-e	8.3 a-d	
24	Bayer Triton Flo SC 0.75 fl oz	14	7.5 a-d		7.3 b-d	8.3 a-d	
25	Bayer Triton Flo SC 1.0 fl oz	14	7.8 a-c	7.5 с-е	7.5 a-c	9.0 a	
	Bayer Bayleton Flo 1.0 fl oz						
	2 nd spray Chipco Signature WG 4.0 oz 3 rd spray Triton Flo SC 0.5 fl oz						
26	4 th spray Chipco Signature WG 4.0 oz 5 th spray Daconil Ultrex 82.5 WG 3.2 oz 6 th spray Chipco Signature WG 4.0 oz 7 th spray Titon Flo SC 0.5 flora	14	8.3 a	9.0 a	7.8 ab	8.5 a-c	
	7 th spray Triton Flo SC 0.5 fl oz 8 th spray Chipco Signature WG 4.0 oz 9 th spray Daconil Ultrex 82.5 WG 3.2 oz						
	$LSD (0.05)^{x}$		1.8	1.1	1.1	1.1	

^{*}Means followed by the same letter are not significantly different within column according to Fisher's protected LSD at $P \le 0.05$.

^zA turf quality assessment of 1 to 10 (1 = poorest, 10 = best, 6 = acceptable).