CREEPING BENTGRASS (*Agrostis palustris* 'Dominant Plus')
Dollar spot; *Sclerotinia homoeocarpa*

M.D. Soika and L.P. Tredway
Department of Plant Pathology
North Carolina State University
Raleigh, NC 27695

Evaluation of Emerald fungicide programs for curative control of dollar spot in creeping bentgrass, 2006.

Various fungicide programs employing Emerald 70WG were evaluated for their curative effects on dollar spot at the Lake Wheeler Turfgrass Field Laboratory in Raleigh, NC on 'Dominant Plus' creeping bentgrass maintained under putting green conditions. Mowing was performed five times weekly at a height of 0.220 in. with clippings collected, and the site was irrigated to prevent drought stress. Fertilizer was applied as 7-23-19 on 16 Feb (0.3 lb N/1000 sq ft), 19-5-19 on 1 Mar (0.5 lb N/1000 sq ft), 20-5-10 on 19 Apr (0.75 lb N/1000 sq ft), 18-3-16 on 20 Mar, 5 May, and 21 Aug (0.5 lb N/1000 sq ft), 20-20-20 on 20 Jul (0.125 lb N/1000 sq ft), and 18-3-6 on 6 Apr, and 12 Jul, and 4 Aug (0.24 lb N/1000 sq ft). Micro-nutrients were applied as Brexil Multi on 14 Feb, 27 Mar, 4 Aug (3.0 oz/1000 sq ft) and HEP 35 (4.0 oz/1000 sq ft) on 6 Apr and 29 Jun. Insect pests were suppressed with Allectus G (2.9 lb/1000 sq ft), Scimitar (8.0 fl oz/A), and Dursban Pro (1.5 fl oz/1000 sq ft) on 1 May, 11 Jul, and 24 Aug, respectively. Heritage 50WG (0.2 oz/1000 sq ft) and ProStar 70WP (1.6 oz/1000 sq ft) were applied on 22 Jun and 10 Jul respectively for control of brown patch in the experiment. 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 19 Jun, and were reapplied as indicated in the table. Dollar spot incidence was assessed on 19 and 27 Jun, and 5, 10, and 18 Jul by counting the number of dollar spot infection centers per plot. Data were subjected to analysis of variance and means separation by Waller-Duncan k-ratio t-test (k=100).

Dollar spot incidence was very high in the experimental site when the study was initiated (19 Jun) with averages of ≥125 infection centers per plot. Disease incidence declined considerably over the following week; falling to 64 infection centers per plot in the untreated control on 27 Jun. To date Emerald Program 1 (Emerald at 0.18 oz), Emerald Program 4 (Daconil Ultrex 3.2 oz + Banner MAXX 1.0 fl oz), and Emerald Program 5 (Daconil Ultrex 5.0 oz + Banner MAXX 1.0 fl oz) provided significant suppression of dollar spot; while Emerald Program 2 (Daconil Ultrex 3.2 oz + Emerald 0.13 oz) and Emerald Program 3 (Daconil Ultrex 3.2 oz alone) were not as effective. Disease incidence in the untreated control was similar on 5 Jul; increased to 83 infection centers per plot on 10 Jul before falling to 9 infection centers per plot on 18 Jul. On these dates all Emerald Programs were effectively reducing dollar spot incidence. No further data were taken due to insufficient disease incidence. The results demonstrate that the 0.18 oz rate of Emerald is as effective as Daconil + Banner Maxx (3.2 oz + 1 fl oz) for curative treatments, whereas the 0.13 oz rate of Emerald combined with Daconil Ultrex is more slowly acting.

Treatment, formulation, and rate per 1000 sq ft	Appli-cation code	Dollar spot incidence (number of infection centers per plot) Pre-trt 19 Jun[z]	27 Jun	5 Jul	10 Jul	18 Jul
Emerald Program 1						
Emerald 70WG 0.18 oz	ACI[y]					
Curalan 50EG 1 oz	F	138 a[x]	32 b	33 b	8 b	1 b
Emerald Program 2						
Daconil Ultrex 82.5WDG 3.2 oz	AI					
Emerald 70WG 0.13 oz	ACEI					
Curalan 50EG 1 oz	G	167 a	43 ab	28 b	7 b	2 b
Emerald Program 3						
Daconil Ultrex 82.5WDG 3.2 oz	AK					
Emerald 70WG 0.18 oz	B					
Emerald 70WG 0.13 oz	DF					
Curalan 50EG 1 oz	H	140 a	44 ab	12 b	4 b	1 b
Emerald Program 4						
Daconil Ultrex 82.5WDG 3.2 oz	ACEGI					
Banner MAXX 1.3ME 1 fl oz	A					
Emerald 70WG 0.13 oz	CG					
Curalan 50EG 1 oz	EI	125 a	27 b	17 b	4 b	0 b
Emerald Program 5						
Daconil Ultrex 82.5WDG 5 oz	A					
Daconil Ultrex 82.5WDG 3.2 oz	CEGI					
Banner MAXX 1.3ME 1 fl oz	A					
Emerald 70WG 0.13 oz	CG					
Curalan 50EG 1 oz	EI	134 a	30 b	12 b	0 b	0 b
Untreated Control		191 a	64 a	68 a	83 a	9 a

[z]Pre-treatment assessment was taken prior to initial fungicide application.

[y]Application code indicates the application date(s) of each treatment: A-19 Jun, B-26 Jun, C-3 Jul, D-10 Jul, E-17 Jul, F-24 Jul, G-1 Aug, H-7 Aug, and I-14 Aug.

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