

Preventative control of anthracnose basal rot in 'Penncross' creeping bentgrass, 2005.

Fungicides were evaluated for preventative control of anthracnose basal rot in creeping bentgrass putting greens. This trial was conducted at the Lake Wheeler Turfgrass Field Laboratory in Raleigh, NC on 'Penncross' creeping bentgrass. Mowing was performed 3 to 5 times weekly at a height of 0.185 to 0.250 in. with clippings collected, and the site was irrigated to prevent drought stress. Fertilizer was applied as 18-3-6 11 Jul (0.125 lb N/1000 sq ft) and 25 Jul (0.25 lb N/1000 sq ft). Insect pests were suppressed with Dursban Pro (1.5 fl oz/1000 sq ft) on 23 Jun and 21 Jul. Prostar (6 oz/1000 sq ft) was applied on 21 Jun for suppression of fairy rings, and Emerald (0.13 oz/1000 sq ft) was applied on 1 Jul for dollar spot control. 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 CO₂ powered sprayer at 40 psi using TeeJet 8004 nozzles. All treatments were initiated on 15 Jun and were reapplied at the appropriate intervals as indicated in the table. Percent turf area exhibiting anthracnose basal rot symptoms was assessed on 6 Jul and 20 Jul. Turfgrass quality was evaluated on 9 Aug, 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).

Symptoms of anthracnose basal rot were first observed in the experimental area on 2 Jul. Incidence of the disease increased slowly during the month of July, reaching a peak on approximately 20 Jul. TM 473 (0.2 and 0.3 fl oz), TM 473 + Bayleton (0.1 + 0.25 oz), TM 473 + Daconil Ultrex (0.2 + 1.8 oz), Ecoguard + Daconil Ultrex (20 + 3.2 oz), and Daconil (3.2 oz) provided excellent anthracnose control in early July but not later in the month when disease pressure was highest. TM 473 + TM 438 (0.1 + 1 oz), TM 473 + 3336 (0.1 + 4 oz), 3336 (6 fl oz), 3336 Plus (6 fl oz), Spectro (4 oz), Spectro + Alude (4 + 5.5 oz), Heritage 50WG (0.2 oz), and Heritage TL (1 fl oz) provided excellent anthracnose control on both rating dates. Turfgrass quality declined rapidly after 20 Jul due to persistent heat stress and intermittent periods of wet weather. On 9 Aug, treatments containing Alude, Spectro, and Daconil Ultrex maintained good to acceptable turfgrass quality, whereas all other treatments were statistically similar to the untreated control.

Treatment and rate / 1000 sq ft	Spray Interval (days)	Anthracnose incidence (%)		Turf quality ^z
		6 Jul	20 Jul	9 Aug
TM 473 480SC 0.1 fl oz	ACEG ^y	4 cde ^x	13 b-f	3.0 e-h
TM 473 480SC 0.2 fl oz	ACEG	3 d-g	9 d-j	2.8 fgh
TM 473 480SC 0.3 fl oz	ACEG	0 gh	10 d-i	2.3 gh
TM 473 480SC 0.1 fl oz + Bayleton 50DF 0.25 oz.....	ACEG	1 fgh	9 d-j	1.8 h
TM 473 480SC 0.1 fl oz + Daconil Ultrex 82.5WDG 1.8 oz	ACEG	3 d-g	6 h-k	5.0 bcd
TM 473 480SC 0.2 fl oz + Daconil Ultrex 82.5WDG 1.8 oz	ACEG	1 gh	11 c-h	4.5 cde
TM 473 480SC 0.1 fl oz + 26GT 2SC 2 fl oz.....	ACEG	3 d-g	14 a-d	2.3 gh
TM 473 480SC 0.1 fl oz + TM 438 11.2WP1 oz	ACEG	1 fgh	8 e-k	3.0 e-h
TM 473 480SC 0.1 fl oz + 3336 4F 4 fl oz	ACEG	2 fgh	8 f-k	2.8 fgh
3336 4F 6 fl oz.....	ACEG	1 gh	7 g-k	3.3 e-h
3336 Plus F 6 fl oz	ACEG	2 fgh	6 ijk	4.3 c-f
CL-EXP-4 WP 1 oz.....	ACEG	5 cd	13 a-e	3.5 d-g
CL-EXP-4 WP 1 oz + Alude SC 5.5 oz.....	ACEG	6 c	12 c-g	6.5 ab
Endorse 2.5WP 4 oz.....	ACEG	4 c-f	14 a-d	5.3 bc
Spectro 90WDG 4 oz.....	ACEG	0 gh	3 k	7.3 a
Spectro 90WDG 4 oz + Alude SC 5.5 fl oz	ACEG	0 h	7 g-k	7.5 a
Ecoguard SC 20 fl oz	ABCDEF	9 b	18 a	3.3 e-h
Ecoguard SC 20 fl oz	ACEG	9 b	16 abc	2.5 gh
Ecoguard SC 20 fl oz	ACEG			
+ Daconil Ultrex 82.5WDG 3.2 oz	ACE	2 e-h	10 d-j	8.0 a
Daconil Ultrex 82.5WDG 3.2 oz.....	ACEG	1 fgh	13 a-e	7.3 a
Ecoguard SC 20 fl oz	ACEG			
+ Banner Maxx 1.3ME 0.5 fl oz.....	ACE	3 d-g	12 b-f	3.5 d-g
Banner Maxx 1.3ME 0.5 fl oz.....	ACEG	2 fgh	10 d-j	4.5 cde
Heritage 50WG 0.2 oz	ACEG	1 fgh	6 ijk	3.5 d-g
Heritage TL 0.8ME 1 fl oz	ACEG	1 fgh	5 jk	3.0 e-h
Alude SC 5.5 fl oz.....	ACEG	10 b	10 d-j	6.5 ab
Untreated Control.....	--	13 a	17 ab	3.3 e-h

^zTurfgrass quality on a 1 to 9 scale, where 9=highest quality and 5=acceptable.

^yApplication code indicated the application date for each treatment component: A, 15 Jun; B, 22 Jun; C, 30 Jun; D, 6 Jul; E, 13 Jul; F, 20 Jul; G, 27 Jul; H, 3 Aug.

^xValues 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).