

CREEPING BENTGRASS (*Agrostis palustris* 'A-1')  
Unknown; *Pythium* root dysfunction caused by *Pythium*  
*volutum* suspected

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#### **Late curative control of an unknown root disease of creeping bentgrass putting greens, 2004.**

Fungicides were evaluated for their curative effect on an unknown disease of creeping bentgrass. This disease has been widespread across the Southeastern United States since 2002 and is suspected to be *Pythium* root dysfunction caused by *Pythium volutum*. This trial was conducted at Myers Park Country Club in Charlotte, NC on 'A-1' creeping bentgrass maintained under golf course putting green conditions. Mowing was performed 7 times weekly at a height of 0.120 in. with clippings collected, and the site was irrigated to prevent drought stress. 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<sub>2</sub> powered sprayer at 40 psi using TeeJet 8004 nozzles. Irrigation water (1/8") was applied to watered-in (WI) treatments immediately after application; surface application (SA) treatments were not irrigated. All treatments were initiated on 20 Jul and were reapplied at the appropriate intervals as indicated in the table. Disease severity was evaluated on 5 Aug and 12 Aug, using a 1 to 9 scale (9=most severe, 0=no disease). Data were subjected to analysis of variance and means separation by Waller-Duncan k-ratio t test (k=100).

On 5 Aug, 16 days after initiation of the trial, all treatments and programs including Insignia exhibited significantly lower disease severity than the untreated control. No other treatments or programs provided significant disease suppression. Similar results were obtained on the 12 Aug assessment date. Due to weather conditions favorable for bentgrass growth, symptoms of the disease were no longer evident on 30 Aug or Sep 9. It is interesting to note that although we suspect this disease is caused by *P. volutum*, we are seeing no activity from any standard *Pythium* fungicides. Further research is needed to measure the sensitivity of *P. volutum* to various fungicides and to determine if this pathogen is primarily responsible for causing this disease.

**Table 1.** Late curative control of an unknown root disease of creeping bentgrass putting greens, 2004.

Treatment and rate / 1000 sq ft	Application code	Application method	Disease severity <sup>z</sup>	
			5 Aug	12 Aug
1. Subdue Maxx 2ME 1 fl oz.....	AD <sup>y</sup>	SA <sup>x</sup>	8.5 a <sup>w</sup>	7.0 a
2. Heritage 50WG 0.4 oz.....	AD	SA	6.3 b	5.0 abc
3. Heritage 50WG 0.4 oz.....	AD	SA		
Cleary 3336 4F 8 fl oz.....	AD	SA	6.8 ab	5.8 ab
4. Insignia 20WG 0.9 oz.....	AD	SA	1.1 cd	1.8 e
5. Insignia 20WG 0.9 oz.....	AD	SA		
Cleary 3336 4F 8 fl oz.....	AD	SA	2.6 c	2.0 e
6. Subdue Maxx 2ME 1 fl oz.....	AD	WI	7.4 ab	4.5 bcd
7. Heritage 50WG 0.4 oz.....	AD	WI	6.5 ab	5.3 ab
8. Heritage 50WG 0.4 oz.....	AD	WI		
Cleary 3336 4F 8 fl oz.....	AD	WI	6.4 ab	3.0 cde
9. Insignia 20WG 0.9 oz.....	AD	WI	0.8 cd	1.0 e
10. Insignia 20WG 0.9 oz.....	AD	WI		
Cleary 3336 4F 8 fl oz.....	AD	WI	0.3 d	1.0 e
11. Terrazole 65WP 3.5 oz.....	AD	WI	6.3 b	2.8 de
12. Heritage 50WG 0.4 oz.....	A	WI		
Cleary 3336 4F 8 fl oz.....	A	WI		
Terrazole 65WP 3.5 oz.....	B	WI		
Subdue Maxx 2SC 1 fl oz.....	C	SA	6.3 b	4.8 bcd
13. Insignia 20WG 0.9 oz.....	A	WI		
Terrazole 65WP 3.5 oz.....	B	WI		
Subdue Maxx 2SC 1 fl oz.....	C	SA	0.9 cd	1.3 e
14. Insignia 20WG 0.9 oz.....	A	WI		
Cleary 3336 4F 8 fl oz.....	A	WI		
Terrazole 65WP 3.5 oz.....	B	WI		
Subdue Maxx 2SC 1 fl oz.....	C	SA	0.6 cd	1.8 e
15. Terrazole 65WP 3.5 oz.....	A	WI		
Subdue Maxx 2ME 1 fl oz.....	B	SA		
Signature 80WDG 4 oz.....	C	SA		
Banol 6F 4 fl oz.....	C	SA	7.9 ab	5.8 ab
16. Untreated Control.....	--	--	7.4 ab	4.8 bcd

<sup>z</sup>Disease severity on a 1 to 9 scale, where 9=highest severity and 5=moderate severity.

<sup>y</sup>Application code indicates the application date(s) for each treatment component: A, 20 Jul; B, 23 Jul; C, 26 Jul; D, 3 Aug.

<sup>x</sup>Irrigation water (1/8") was applied to watered-in (WI) treatments immediately after application; surface application (SA) treatments were not irrigated.

<sup>w</sup>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).