



Battling Basal Rot Anthracnose: The Latest News

Stephen H. Pearson & Jeffrey S. Gregos, Turfgrass Disease Diagnostic Lab,
Department of Plant Pathology, University of Wisconsin-Madison

Can you remember a time when your *Poa annua* died during the summer? If yes, do you know why?

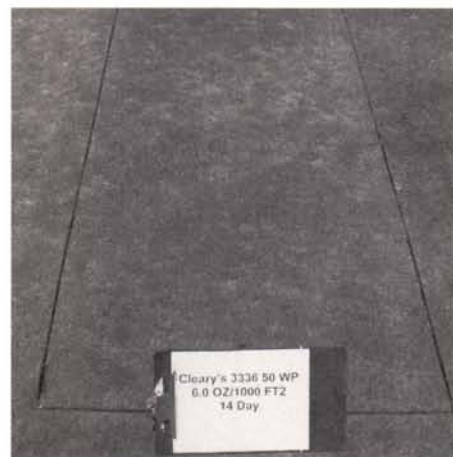
One possible cause could be basal rot anthracnose. You may have heard that basal rot anthracnose cannot be controlled curatively. Well, our data from this summer shows that this disease can be effectively managed.

The TDDL personnel have been conducting research on the control of a variety of turfgrass diseases throughout the summer. One of the most successful evaluations was the control of basal rot anthracnose. In 1997, a 20,000 ft² green was constructed, of which 5,000 ft² was composed of a creeping bentgrass/*Poa annua* mix (approx. 30/70%, respectively). A moderate anthracnose infection was observed on this portion of the turf during the early part of the summer. As a result, a fungicide evaluation was initiated to test for the control of anthracnose.

The stresses placed on turf can dramatically increase during the summer months. Common stress contributors include increased play, high temperature and humidity, and lower mowing heights. As the turf becomes stressed, its susceptibility to disease increases. Throughout the summer stress periods, *Poa annua* can suffer significantly more damage than bentgrass. It was once thought that stresses endured during the summer were

the cause of "*Poa annua* decline." The symptoms associated with *Poa annua* decline include a general yellowing of the *Poa annua* followed by the eventual death. Severely infected areas can develop a brown to reddish cast. The patches affected can range in size from 1 to 2 inches in diameter to several inches or more. Large areas of *Poa annua* can become infected and eventually die. Recently, these symptoms have been attributed to several fungi, one of which is *Colletotrichum graminicola*, the casual agent of basal rot anthracnose. On putting greens, *C. graminicola* is mainly a pathogen of *Poa annua*, although it can infect bentgrass. Rarely, however, does it infect both simultaneously. In the study this summer, our results showed acceptable control against anthracnose can be attained with several curatively-applied fungicides.

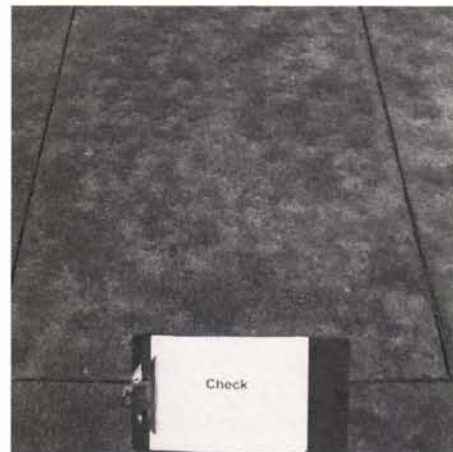
The green on which the trial was conducted was maintained in the following ways. Topdressing was applied twice, once in April and May using a standard 80/20 (sand/peat humus) mix. The mowing height was maintained at .125" (1/8"). A low height was chosen in order to increase the stress and susceptibility of the turf. The green was irrigated four times a week at 70% of the evapotranspiration rate, except during periods of rain. Throughout the trial weather conditions favored anthracnose infection.



3336 - Cleary's 3336 6.0 oz 14 Day Interval



Bayleton - 2.0 oz 28 Day Interval



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Heritage 0.4 oz 28 Day Interval



Signature & Ultrex - Chipco Signature 4.0 oz & Daconil Ultrex 3.7 oz 19 Day Interval



Urea 1/8 lb - Urea 46-0-0 1/8 lb 14 Day Interval

Table 1

Treatment	Form.	Rate	¹ Interval	¹ % Damage 7-31-98	¹ % Damage 8-31-98
Cleary's 3336	50 WP	6.0 Oz/1000 ft ²	14 Day	31.3	bc
Banner Maxx	1.24 EC	2.0 Fl Oz/1000 ft ²	28 Day	16.3	de
Bayleton	25 WDG	2.0 Oz/1000 ft ²	28 Day	36.3	ab
Daconil Ultrex	82.5 WDG	4.0 Oz/1000 ft ²	14 Day	11.3	e
Eagle	40 WP	0.6 Oz/1000 ft ²	21 Day	23.8	cd
Heritage	50 WDG	0.2 Oz/1000 ft ²	14 Day	6.3	e
Heritage	50 WDG	0.4 Oz/1000 ft ²	28 Day	6.3	e
Banner Maxx	1.24 EC	1.0 Fl Oz/1000 ft ²	14 Day	8.8	e
Daconil Ultrex	82.5 WDG	2.75 Oz/1000 ft ²			
Bayleton	25 WDG	1.0 Oz/1000 ft ²	14 Day	13.8	de
Daconil Ultrex	82.5 WDG	2.75 Oz/1000 ft ²			
Sentinel	40 WDG	0.25 Oz/1000 ft ²	28 Day	8.8	e
Chipco Signature	80 WDG	4.0 Oz/1000 ft ²	14 Day	10.0	e
Chipco 26 GT	2 SC	4.0 Fl Oz/1000 ft ²			
Chipco Signature	80 WDG	4.0 Oz/1000 ft ²	14 Day	6.3	e
Daconil Ultrex	82.5 WDG	3.7 Oz/1000 ft ²			
Urea	46-0-0	0.125 Lb of N/1000 ft ²	14 Day	28.8	bc
Urea	46-0-0	0.25 Lb of N/1000 ft ²	14 Day	28.8	bc
Check				45.0	a

¹Percent damage means followed by the same letter do not significantly differ (LSD 0.05)

During the onset of the infection, both high temperature (75-90 F) and moisture levels were observed. As the trial continued temperatures remained high and dry conditions prevailed, resulting in a dramatic increase in symptom development.

Treatment applications were initiated on June 28. The treatments were applied with a CO₂-powered boom sprayer, using XR Teejet 8005 VS nozzles, at 30 psi, in water equivalent to 2-gal/1000 sq ft. Because the experimental area had disease activity prior to treatment applications, all treatments were considered curative. Percent damage was evaluated on July 14 and 31, and August 13. The data obtained were subjected to statistical analysis to determine significant differences among the treatments.

The results of the analysis are summarized in Table 1. Most treatments showed some efficacy of disease control. The fungicides that provided superior performance throughout the duration of the trial were Heritage, Banner Maxx, and Chipco Signature. The fungicide treatment that was not significantly different from the control

was Bayleton. Table 1 lists the average percent damage over 3 replications for two different dates. The letter listed after the average is an indication of the statistical differences among treatments. For example, treatments followed by the same letter are not statistically different. Thus, for the ratings on 7-31-98, there is no difference between the Bayleton treatment (36% damage) and the check (45% damage). All other treatments were significantly different than the check, which means that damage was less. Data from this trial also showed that a moderate rate of urea can reduce the severity of the disease symptoms.

Basal rot anthracnose can be a devastating disease during the summer months. Golf courses whose turf is primarily *Poa annua* or a bentgrass/*Poa annua* mix can endure severe losses of turf as a result of this disease. Contrary to popular belief, adequate chemical control is possible even after symptoms are present. Hopefully this trial and its results will assist you in your management of this important disease. 🌱



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