



Anthracnose Suppression on Golf Course Fairways

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OBJECTIVE

To determine the efficacy of experimental and standard fungicides for the management of anthracnose caused by the fungus *Colletotrichum cereale*.

MATERIALS AND METHODS

The study was conducted at Pleasant View Golf Course in Middleton, WI on a mixed stand of creeping bentgrass (*Agrostis stolonifera* 'Penncross') and annual bluegrass (*Poa annua*) maintained at 0.5 inches. Individual plots measured 3 ft by 10 ft and were arranged in a randomized complete block design with four replications. Individual treatments were applied at a nozzle pressure of 40 p.s.i. using a CO₂ pressurized boom sprayer equipped with two Teejet AI8004 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft². All treatments were initiated June 10th and subsequent applications were made at 14-day intervals. Plots were inoculated with a liquid suspension of *Colletotrichum graminicola* spores at on July 20th, 21st, and 22nd and then covered each night with a permeable greens cover. Anthracnose severity and turfgrass quality (1-9, 9 being excellent and 6 acceptable) were visually assessed and subjected to an analysis of variance and means were separated using the Tukey's Honest Significant Difference test ($P = 0.05$). Results of the disease severity and turfgrass quality ratings from Pleasant View can be found in table 1 and 2, respectively.

RESULTS AND DISCUSSION

Mild temperatures and low humidity for much of the summer prevented significant anthracnose from developing until early August. Anthracnose severity averaged 32% disease on the August 5th rating date and increased to 63% disease by August 20th in the non-treated control plots. Despite the high disease pressure, 5 of the 8 treatments provided acceptable disease suppression and turfgrass quality, which included the products Velista, Torque, and Kabuto. Phytotoxicity was not observed with any treatment.

Table 1. Mean anthracnose severity at Pleasant View Golf Course in Middleton, WI during 2015.

Treatment	Rate	Application Interval	Anthracnose Severity ^a		
			Jul 23	Aug 5	Aug 20
1	Non-treated control		2.5a	32.5a	63.8a
2	Velista	0.5 OZ/1000 FT2	1.3a	10.0b	6.0b
3	Torque	0.6 FL OZ/1000 FT2	0.0a	2.3b	4.3b
4	Insignia SC	0.4 FL OZ/1000 FT2	5.0a	9.0b	18.8b
5	Autilus Harrell's Par	6.0 FL OZ/1000 FT2 0.37 FL OZ/1000 FT2	3.8a	11.8b	28.0b
6	Kabuto NB38832	0.56 LB AI/A 0.2 OZ WT/1000 FT2	0.0a	2.5b	3.0b
7	Kabuto NB38832	0.56 LB AI/A 0.1 OZ WT/1000 FT2	0.0a	5.3b	3.3b
8	Kabuto NB38832	0.56 LB AI/A 0.075 OZ WT/1000 FT2	1.3a	3.8b	3.3b

^aAnthracnose severity was visually estimated as the percentage of affected area within each plot. Plot size was 30ft². Means followed by the same letter do not significantly differ (P=0.05, Tukey's HSD).

Table 2. Mean turfgrass quality rating at Pleasant View Golf Course in Middleton, WI during 2015.

Treatment	Rate	Application Interval	Turfgrass Quality ^a		
			Jul 23	Aug 5	Aug 20
1	Non-treated control		6.5a	4.3b	3.3c
2	Velista	0.5 OZ/1000 FT2	6.8a	5.8ab	6.5a
3	Torque	0.6 FL OZ/1000 FT2	7.0a	6.5a	6.5a
4	Insignia SC	0.4 FL OZ/1000 FT2	6.0a	5.8ab	4.8bc
5	Autilus Harrell's Par	6.0 FL OZ/1000 FT2 0.37 FL OZ/1000 FT2	6.3a	5.5ab	5.3ab
6	Kabuto NB38832	0.56 LB AI/A 0.2 OZ WT/1000 FT2	7.0a	6.5a	6.5a
7	Kabuto NB38832	0.56 LB AI/A 0.1 OZ WT/1000 FT2	7.0a	6.3a	6.5a
8	Kabuto NB38832	0.56 LB AI/A 0.075 OZ WT/1000 FT2	6.8a	6.3a	6.8a

^aTurfgrass quality was rated visually on a 1 – 9 scale with 1 being bare dirt, 6 being acceptable, and 9 being exceptional. Means followed by the same letter do not significantly differ (P=0.05, Tukey's HSD).