

2018-2019 Snow Mold Control Evaluation: Cherokee Country Club – Madison, WI



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OBJECTIVE

To evaluate fungicides for the control of Typhula blight (caused by *Typhula incarnata*) and Microdochium patch (caused by *Microdochium nivale*) on golf course turfgrass.

MATERIALS AND METHODS

This evaluation was conducted at Cherokee Country Club in Madison, WI on a creeping bentgrass (*Agrostis stolonifera*) and annual bluegrass (*Poa annua*) golf course fairway maintained at a height of 0.5 inches. Individual plots measured 3 ft x 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 XR Teejet AI8004 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft². Granular applications were made by evenly spreading a pre-weighed amount of product over the designated plots. Early applications were made on 6 Nov 2018 and late applications were made on 30 Nov 2018. The experimental plot area was not inoculated. Snow cover was absent until mid-January, but was relatively deep and persistent until final melt in mid-March. Disease severity, turf quality, and color were measured on 25 Mar 2019. Disease severity was visually rated as percent area affected, turfgrass quality was visually rated on a 1-9 scale with 6 being acceptable, and chlorophyll content (turfgrass color) was rated using a FieldScout CM 1000 Chlorophyll Meter from Spectrum Technologies, Inc. (Aurora, IL). Treatment means were analyzed using Fisher's LSD method and are presented in Table 1.

RESULTS AND DISCUSSION

There was basically no disease observed on the site this year. This was likely due to the absence of snow cover until mid-January, allowing for the turf to harden and freeze. Minor differences in turf quality were observed and were primarily related to the inclusion of pigments in the product. Some differences in turf color were observed, but there was no clear trend that indicated greener turf color when assessed using the Chlorophyll meter. Phytotoxicity was not observed with any treatment.

Table 1: Mean snow mold severity, turf quality, and turf color were assessed on March 25, 2019 at Cherokee Country Club in Madison, WI

	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control			0.0a	7.3cd	143.3c-l
2	Premion	8.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	140.5c-l
	Foursome	0.5 fl oz/1000 ft ²				
	Previa	4.0 fl oz/1000 ft ²				
3	Premion	10.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	145.5b-j
	Foursome	0.5 fl oz/1000 ft ²				
	Previa	4.0 fl oz/1000 ft ²				
4	Premion	10.0 fl oz/1000 ft ²	Late	0.0a	7.5bc	144.0c-k
	Foursome	0.5 fl oz/1000 ft ²				
	Previa	5.5 fl oz/1000 ft ²				
5	Premion	10.0 fl oz/1000 ft ²	Late	0.0a	7.0d	146.5b-j
	Foursome	0.5 fl oz/1000 ft ²				
	Secure	0.5 fl oz/1000 ft ²				
6	Concert II	5.5 fl oz/1000 ft ²	Late	0.0a	7.3cd	135.0h-n
	Turfcide	8.0 fl oz/1000 ft ²				
	Foursome	0.5 fl oz/1000 ft ²				
7	Concert II	8.3 fl oz/1000 ft ²	Late	0.0a	7.8ab	141.3c-l
	Turfcide	8.0 fl oz/1000 ft ²				
	Foursome	0.5 fl oz/1000 ft ²				
8	Previa	5.5 fl oz/1000 ft ²	Late	0.0a	7.3cd	147.3b-i
	Turfcide	8.0 fl oz/1000 ft ²				
	Foursome	0.5 fl oz/1000 ft ²				
9	Previa	4.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	143.5c-l
	Turfcide	6.0 fl oz/1000 ft ²				
	Foursome	0.5 fl oz/1000 ft ²				
10	Previa	2.67 fl oz/1000 ft ²	Late	0.0a	7.8ab	142.0c-l
	Turfcide	4.0 fl oz/1000 ft ²				
	Foursome	0.5 fl oz/1000 ft ²				
11	Previa	1.33 fl oz/1000 ft ²	Late	0.0a	7.8ab	136.3f-n
	Turfcide	2.0 fl oz/1000 ft ²				
	Foursome	0.5 fl oz/1000 ft ²				
12	AND18131 4-way	6.6 lb/1000 ft ²	Late	1.3a	7.0d	135.3g-n
13	AND18148 3-way	6.6 lb/1000 ft ²	Late	0.0a	7.0d	130.0k-n
14	Prophecy	2.5 lb/1000 ft ²	Early	0.0a	7.0d	123.8n
	AND18131 4-way	6.6 lb/1000 ft ²	Late			
15	AND12147	6.67 lb/1000 ft ²	Late	0.0a	7.0d	138.5d-n
16	A13705V	4.5 fl oz/1000 ft ²	Late	0.0a	8.0a	147.5b-i
	A19188B	1.0 fl oz/1000 ft ²				
	Par	0.37 fl oz/1000 ft ²				
17	A13705V	2.6 fl oz/1000 ft ²	Late	0.0a	8.0a	138.3d-n
	A19188B	1.0 fl oz/1000 ft ²				
	Turfcide	6.0 fl oz/1000 ft ²				
	Par	0.37 fl oz/1000 ft ²				

^aEarly treatments applied on Nov 6, 2018 and late treatments applied on Nov 30, 2018

^bMean percent diseased area assessed on Mar 25, 2019.

^cQuality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.

Table 1(cont): Mean snow mold severity, turf quality, and turf color were assessed on March 25, 2019 at Cherokee Country Club in Madison, WI

	Treatment	Rate	Applicatio Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
18	A15457K	0.24 fl oz/1000 ft2	Late	0.0a	8.0a	145.8b-j
	A17856B	1.88 fl oz/1000 ft2				
	Turficide	6.0 fl oz/1000 ft2				
	Par	0.37 fl oz/1000 ft2				
19	A15457K	0.24 fl oz/1000 ft2	Late	0.0a	7.8ab	150.3a-g
	A17856B	1.88 fl oz/1000 ft2				
	Daconil Wthrstk	5.5 fl oz/1000 ft2				
	Par	0.37 fl oz/1000 ft2				
20	A15457K	0.24 fl oz/1000 ft2	Late	0.0a	7.5bc	144.0c-k
	A17856B	1.88 fl oz/1000 ft2				
	Secure	0.5 fl oz/1000 ft2				
	Par	0.37 fl oz/1000 ft2				
21	A15457K	0.24 fl oz/1000 ft2	Late	0.0a	7.8ab	142.8c-l
	A17856B	1.88 fl oz/1000 ft2				
	Banner Maxx	2.0 fl oz/1000 ft2				
	Par	0.37 fl oz/1000 ft2				
22	A19649B	0.16 fl oz/1000 ft2	Late	0.0a	7.8ab	143.8c-l
	Par	0.37 fl oz/1000 ft2				
23	A22835A	2.87 fl oz/1000 ft2	Late	0.0a	8.0a	143.5c-l
	Par	0.37 fl oz/1000 ft2				
24	A22835B	2.87 fl oz/1000 ft2	Late	0.0a	8.0a	152.3a-d
	Par	0.37 fl oz/1000 ft2				
25	A22835C	2.87 fl oz/1000 ft2	Late	0.0a	7.8ab	148.8b-h
	Par	0.37 fl oz/1000 ft2				
26	A22835D	2.87 fl oz/1000 ft2	Late	0.0a	8.0a	143.0c-l
	Par	0.37 fl oz/1000 ft2				
27	A15457K	0.236 fl oz/1000 ft2	Late	0.0a	7.3cd	146.0b-j
	A17856B	1.88 fl oz/1000 ft2				
	Par	0.37 fl oz/1000 ft2				
28	A19188B	1.0 fl oz/1000 ft2	Late	0.0a	7.8ab	140.0c-m
	A17856B	2.61 fl oz/1000 ft2				
	Par	0.37 fl oz/1000 ft2				
29	Traction	1.3 fl oz/1000 ft2	Late	0.5a	7.3cd	140.3c-l
	26/36	4.0 fl oz/1000 ft2				
30	Traction	1.3 fl oz/1000 ft2	Late	0.0a	7.3cd	135.5g-n
	26/36	8.0 fl oz/1000 ft2				
31	Pinpoint	0.31 fl oz/1000 ft2	Late	0.0a	7.0d	130.0k-n
	Tourney	0.44 fl oz/1000 ft2				
	Rotator	0.5 fl oz/1000 ft2				
32	Fludi 50	0.495 oz/1000 ft2	Late	0.0a	7.0d	136.8e-n
33	QP Ppz	6.5 fl oz/1000 ft2	Late	0.0a	7.0d	132.0j-n

^aEarly treatments applied on Nov 6, 2018 and late treatments applied on Nov 30, 2018

^bMean percent diseased area assessed on Mar 25, 2019.

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^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.

Table 1(cont): Mean snow mold severity, turf quality, and turf color were assessed on March 25, 2019 at Cherokee Country Club in Madison, WI

	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
34	Chloro 720	5.5 fl oz/1000 ft2	Late	0.0a	7.0d	140.8c-l
35	Profile 200	6.3 fl oz/1000 ft2	Late	0.0a	7.0d	137.5d-n
36	Fludi 50	0.495 oz/1000 ft2	Late	0.0a	7.0d	133.0i-n
	QP Ppz	6.5 fl oz/1000 ft2				
37	Fludi 50	0.495 oz/1000ft	Late	0.0a	7.0d	145.0b-k
	Chloro 720	5.5 fl oz/1000 ft2				
38	Chloro 720	5.5 fl oz/1000 ft2	Late	0.0a	7.0d	125.0mn
	QP Ppz	6.5 fl oz/1000 ft2				
39	Chloro 720	5.5 fl oz/1000 ft2	Late	0.0a	7.3cd	132.0j-n
	Fludi 50	0.495 oz/1000 ft2				
40	QP Ppz	6.5 fl oz/1000 ft2	Late	0.0a	7.0d	135.5g-n
	Instrata II A	1.92 fl oz/1000 ft2				
	Instrata II B	0.236 fl oz/1000 ft2				
41	Pedigree	5.5 fl oz/1000 ft2	Late	0.0a	7.3cd	133.3i-n
42	Pedigree	6.6 fl oz/1000 ft2	Late	0.0a	7.3cd	137.8d-n
43	Pedigree	4.4 fl oz/1000 ft2	Late	0.0a	7.0d	134.3h-n
	Banner Maxx	2.0 fl oz/1000 ft2				
44	Pedigree	5.5 fl oz/1000 ft2	Late	0.0a	7.0d	142.0c-l
	Banner Maxx	2.0 fl oz/1000 ft2				
45	Pedigree	6.6 fl oz/1000 ft2	Late	0.0a	7.0d	132.0j-n
	Banner Maxx	2.0 fl oz/1000 ft2				
46	Dexter Xcel	13.8 fl oz/1000 ft2	Late	0.0a	7.5bc	147.0b-j
	KFD-391-01	0.5 fl oz/1000 ft2				
47	Tebuzol	0.9 fl oz/1000 ft2	Late	0.0a	7.0d	138.0d-n
	KFD-112-02	1.35 fl oz/1000 ft2				
48	Pegasus DFX	3.25 oz/1000 ft2	Late	0.0a	7.3cd	140.3c-l
	KFD-380	0.81 fl oz/1000 ft2				
49	KFD-112-02	1.35 fl oz/1000 ft2	Late	0.0a	7.0d	134.8h-n
	Pegasus DFX	3.25 oz/1000 ft2				
50	Trinity	1.0 fl oz/1000 ft2	Late	0.0a	7.0d	141.3c-l
51	Trinity	1.0 fl oz/1000 ft2	Late	0.0a	7.0d	137.0e-n
	Turfcide	6.0 fl oz/1000 ft2				
	Trinity	1.0 fl oz/1000 ft2				
	Daconil Ultrex	3.2 oz/1000 ft2				

^aEarly treatments applied on Nov 6, 2018 and late treatments applied on Nov 30, 2018

^bMean percent diseased area assessed on Mar 25, 2019.

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^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.

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	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
52	Daconil Wthrstk	5.5 fl oz/1000 ft2				
	Interface	6.0 fl oz/1000 ft2	Late	0.0a	8.0a	160.0ab
	Mirage	2.0 fl oz/1000 ft2				
53	Daconil Wthrstk	5.5 fl oz/1000 ft2				
	Interface	3.0 fl oz/1000 ft2	Late	0.0a	7.5bc	139.3c-m
	Tartan	1.0 fl oz/1000 ft2				
54	Affirm	0.88 oz/1000 ft2	Late	0.0a	7.0d	134.0h-n
55	Affirm	0.88 oz/1000 ft2				
	Mirage	2.0 fl oz/1000 ft2	Late	0.0a	7.3cd	145.8b-j
56	Heritage TL	2.0 fl oz/1000 ft2	Late	0.0a	7.0d	141.0c-l
57	Instrata	11.0 fl oz/1000 ft2	Late	0.0a	7.0d	130.0k-n
58	Instrata	9.3 fl oz/1000 ft2	Late	0.0a	7.0d	134.5h-n
59	Instrata	7.0 fl oz/1000 ft2				
	Turfcide	6.0 fl oz/1000 ft2	Late	0.0a	7.0d	128.8lmn
60	Interface	6.0 fl oz/1000 ft2				
	Mirage	2.0 fl oz/1000 ft2	Late	0.0a	8.0a	164.5a
61	Interface	6.0 fl oz/1000 ft2				
	Daconil Wthrstk	5.5 fl oz/1000 ft2	Late	0.0a	8.0a	149.0b-h
62	Interface	6.0 fl oz/1000 ft2				
	Secure	0.5 fl oz/1000 ft2	Late	0.0a	7.8ab	137.3d-n
LSD P=.05				0.43	0.47	15.12

^aEarly treatments applied on Nov 6, 2018 and late treatments applied on Nov 30, 2018

^bMean percent diseased area assessed on Mar 25, 2019.

^cQuality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.