



2020-2021 Snow Mold Control Evaluation: Wausau Country Club – Wausau, WI

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OBJECTIVE

To evaluate fungicides for the control of gray snow mold (caused by *Typhula incarnata*), speckled snow mold (*T. ishikariensis*), and Microdochium patch (*Microdochium nivale*) on golf course turfgrass.

MATERIALS AND METHODS

This evaluation was conducted at Wausau Country Club near Wausau, 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 psi 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. Early applications were made on 15 Oct 2020 and late applications were made on 12 Nov 2020. The experimental plot area was not inoculated. Snow cover and snow depth were well below average for much of the winter. Disease severity, turf quality, and turf color were measured on 15 Mar 2021. 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

Below average snowfall during the winter resulted in no disease pressure across the entire experimental area. Treatments with pigments typically resulted in a higher turf quality rating and higher turf color numbers. Phytotoxicity was not observed with any treatment.

Table 1: Mean snow mold severity, turf quality, and turf color were assessed on March 15, 2021 at Wausau Country Club near Wausau, WI.

	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control			0.0a	7.3cd	167.8l-u
2	Turficide	6.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	176.3i-u
	Banner Maxx Foursome	2.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
3	Turficide	8.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	181.8e-s
	Banner Maxx Foursome	2.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
4	Turficide	6.0 fl oz/1000 ft ²	Late	0.0a	7.5bc	173.8j-u
	Torque Foursome	1.1 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
5	Turficide	8.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	173.8j-u
	Torque Foursome	1.1 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
6	Turficide	6.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	183.3d-s
	Mirage Foursome	2.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
7	Turficide	8.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	180.0g-t
	Mirage Foursome	2.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
8	Premion	10.0 fl oz/1000 ft ²	Late	0.0a	7.5bc	179.3h-t
	Previa Foursome	4.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
9	Premion	10.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	173.8j-u
	Secure Foursome	0.5 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
10	Concert II	5.5 fl oz/1000 ft ²	Late	0.0a	7.8ab	167.5m-u
	Turficide Foursome	6.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
11	Concert II	5.5 fl oz/1000 ft ²	Late	0.0a	7.3cd	159.8r-u
	Turficide Foursome	8.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
12	Concert II	8.3 fl oz/1000 ft ²	Late	0.0a	7.5bc	164.3p-u
	Turficide Foursome	8.0 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
13	Turficide	8.0 fl oz/1000 ft ²	Late	0.0a	7.5bc	176.5i-t
	Previa Foursome	5.5 fl oz/1000 ft ² 0.5 fl oz/1000 ft ²				
14	Turficide	3.33 fl oz/1000 ft ²	Late	0.0a	7.5bc	175.3j-u
	Previa Mirage	1.825 fl oz/1000 ft ² 0.67 fl oz/1000 ft ²				
15	Turficide	6.66 fl oz/1000 ft ²	Late	0.0a	7.0d	158.0stu
	Previa Mirage	3.65 fl oz/1000 ft ² 1.33 fl oz/1000 ft ²				
16	Turficide	8.0 fl oz/1000 ft ²	Late	0.0a	7.5bc	171.5j-u
	Previa Mirage	4.4 fl oz/1000 ft ² 1.6 fl oz/1000 ft ²				
LSD P=.05				NA	0.49	26.8

^aEarly treatments applied on Oct 15, 2020 and late treatments applied on Nov 12, 2020.

^bMean percent diseased area assessed on Mar 15, 2021.

^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 15, 2021 at Wausau Country Club near Wausau, WI.

	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
17	Turfcide	10.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	160.3r-u
	Previa	5.5 fl oz/1000 ft ²				
	Mirage	2.0 fl oz/1000 ft ²				
18	Turfcide	3.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	163.5q-u
	26GT	2.0 fl oz/1000 ft ²				
	3336F	1.0 fl oz/1000 ft ²				
19	Mirage	0.6 fl oz/1000 ft ²	Late	0.0a	7.3cd	170.5j-u
	Turfcide	6.0 fl oz/1000 ft ²				
	26GT	4.0 fl oz/1000 ft ²				
20	3336F	2.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	169.3k-u
	Mirage	1.2 fl oz/1000 ft ²				
	Turfcide	8.0 fl oz/1000 ft ²				
21	26GT	5.33 fl oz/1000 ft ²	Late	0.0a	7.3cd	167.3m-u
	3336F	2.67 fl oz/1000 ft ²				
	Mirage	1.6 fl oz/1000 ft ²				
22	Turfcide	9.0 fl oz/1000 ft ²	Late	0.0a	7.0d	158.0stu
	26GT	1.0 fl oz/1000 ft ²				
	Torque	0.3 fl oz/1000 ft ²				
23	Banner Maxx	0.5 fl oz/1000 ft ²	Late	0.0a	7.3cd	154.3tu
	Turfcide	6.0 fl oz/1000 ft ²				
	26GT	2.0 fl oz/1000 ft ²				
24	Torque	0.6 fl oz/1000 ft ²	Late	0.0a	7.0d	149.5u
	Banner Maxx	1.0 fl oz/1000 ft ²				
	Turfcide	9.0 fl oz/1000 ft ²				
25	26GT	3.0 fl oz/1000 ft ²	Late	0.0a	7.0d	172.0j-u
	Torque	0.9 fl oz/1000 ft ²				
	Banner Maxx	1.5 fl oz/1000 ft ²				
26	Turfcide	8.0 fl oz/1000 ft ²	Late	0.0a	7.0d	167.3m-u
	26GT	2.0 fl oz/1000 ft ²				
	Torque	0.6 fl oz/1000 ft ²				
27	Banner Maxx	1.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	164.8o-u
	Enclave	8.0 fl oz/1000 ft ²				
28	Posterit XT	2.0 fl oz/1000 ft ²	Early	0.0a	8.0a	185.3d-r
	Ascernity	3.0 fl oz/1000 ft ²	Late			
	Par	1.0 fl oz/1000 ft ²	Late			
		0.37 fl oz/1000 ft ²	Late			
LSD P=.05				NA	0.49	26.8

^aEarly treatments applied on Oct 15, 2020 and late treatments applied on Nov 12, 2020.

^bMean percent diseased area assessed on Mar 15, 2021.

^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 15, 2021 at Wausau Country Club near Wausau, WI.

	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
29	Banner Maxx	2.0 fl oz/1000 ft ²	Early	0.0a	8.0a	193.5a-m
	Ascernity	1.0 fl oz/1000 ft ²	Late			
	Daconil Weatherstik	2.6 fl oz/1000 ft ²	Late			
	Par	0.37 fl oz/1000 ft ²	Late			
30	Banner Maxx	2.0 fl oz/1000 ft ²	Early	0.0a	8.0a	180.5f-t
	Contend A	1.0 fl oz/1000 ft ²	Late			
	Contend B	2.6 fl oz/1000 ft ²	Late			
	Par	0.37 fl oz/1000 ft ²	Late			
31	Banner Maxx	2.0 fl oz/1000 ft ²	Early	0.0a	7.8ab	196.0a-k
	Contend A	1.0 fl oz/1000 ft ²	Late			
	Contend B	2.6 fl oz/1000 ft ²	Late			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²	Late			
	Par	0.37 fl oz/1000 ft ²	Late			
32	Banner Maxx	2.0 fl oz/1000 ft ²	Early	0.0a	8.0a	207.3a-f
	Posterit XT	3.0 fl oz/1000 ft ²	Late			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²	Late			
	Par	0.37 fl oz/1000 ft ²	Late			
33	Banner Maxx	2.0 fl oz/1000 ft ²	Early	0.0a	8.0a	215.3a
	Daconil Weatherstik	5.5 fl oz/1000 ft ²	Late			
	Secure Action	0.5 fl oz/1000 ft ²	Late			
	Par	0.37 fl oz/1000 ft ²	Late			
34	Mirage	1.5 fl oz/1000 ft ²	Late	0.0a	8.0a	193.3a-m
	Interface	5.0 fl oz/1000 ft ²				
35	Mirage	1.5 fl oz/1000 ft ²	Late	0.0a	8.0a	191.8a-n
	Interface	5.0 fl oz/1000 ft ²				
	Daconil Weatherstik	5.5 fl oz/1000 ft ²				
36	Mirage	1.5 fl oz/1000 ft ²	Late	0.0a	8.0a	187.5b-q
	Interface	5.0 fl oz/1000 ft ²				
	Secure Action	0.5 fl oz/1000 ft ²				
37	Mirage	2.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	213.0ab
	Interface	6.0 fl oz/1000 ft ²				
38	Mirage	2.0 fl oz/1000 ft ²	Late	0.0a	8.0a	206.8a-g
	Interface	6.0 fl oz/1000 ft ²				
	Daconil Weatherstik	5.5 fl oz/1000 ft ²				
39	Mirage	2.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	187.8b-q
	Interface	6.0 fl oz/1000 ft ²				
	Secure Action	0.5 fl oz/1000 ft ²				
40	Densicor	0.196 fl oz/1000 ft ²	Early	0.0a	8.0a	181.3f-s
	Interface	5.0 fl oz/1000 ft ²	Late			
	Mirage	1.5 fl oz/1000 ft ²	Late			
41	Dedicate	1.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	173.8j-u
42	Dedicate	2.0 fl oz/1000 ft ²	Late	0.0a	7.3cd	184.3d-s
43	Dedicate	2.0 fl oz/1000 ft ²	Late	0.0a	7.5bc	191.5a-o
	Medallion	1.0 fl oz/1000 ft ²				
44	Pedigree	4.4 fl oz/1000 ft ²	Late	0.0a	7.3cd	169.5k-u
	Tekken	3.0 fl oz/1000 ft ²				
LSD P=.05				NA	0.49	26.8

^aEarly treatments applied on Oct 15, 2020 and late treatments applied on Nov 12, 2020.

^bMean percent diseased area assessed on Mar 15, 2021.

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Table 1(cont): Mean snow mold severity, turf quality, and turf color were assessed on March 15, 2021 at Wausau Country Club near Wausau, WI.

	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
45	Pedigree	4.4 fl oz/1000 ft ²	Late	0.0a	7.0d	159.5r-u
	Tekken	3.0 fl oz/1000 ft ²				
	Daconil Weatherstik	5.5 fl oz/1000 ft ²				
46	Pedigree	4.4 fl oz/1000 ft ²	Late	0.0a	7.0d	177.3i-t
	Azoxy 2SC	1.35 fl oz/1000 ft ²				
	Daconil Weatherstik	5.5 fl oz/1000 ft ²				
47	NB40293	4.0 gal/A	Late	0.0a	7.3cd	197.3a-j
	Azoxy 2SC	0.77 fl oz/1000 ft ²				
48	NB40294	4.0 gal/A	Late	0.0a	7.0d	183.5d-s
	Azoxy 2SC	0.77 fl oz/1000 ft ²				
49	NB40293	4.0 gal/A	Late	0.0a	7.0d	178.3h-t
	Medallion	2.0 fl oz/1000 ft ²				
50	Insignia	0.65 fl oz/1000 ft ²	Late	0.0a	7.0d	165.8n-u
	Trinity	1.0 fl oz/1000 ft ²				
51	Insignia	0.65 fl oz/1000 ft ²	Late	0.0a	7.0d	164.0p-u
	Trinity	1.0 fl oz/1000 ft ²				
	26GT	4.0 fl oz/1000 ft ²				
52	Insignia	0.65 fl oz/1000 ft ²	Late	0.0a	7.0d	181.8e-s
	Trinity	1.0 fl oz/1000 ft ²				
	Daconil Weatherstik	4.4 fl oz/1000 ft ²				
53	Insignia	0.65 fl oz/1000 ft ²	Late	0.0a	7.3cd	178.5h-t
	Trinity	1.0 fl oz/1000 ft ²				
	Medallion	0.94 fl oz/1000 ft ²				
54	Enclave	8.0 fl oz/1000 ft ²	Late	0.0a	7.8ab	189.3a-q
	Foursome Plus	0.4 fl oz/1000 ft ²				
55	Intaglio	11.0 fl oz/1000 ft ²	Late	0.0a	8.0a	197.0a-j
	Foursome Plus	0.4 fl oz/1000 ft ²				
56	BCP1803	1.7 fl oz/1000 ft ²	Late	0.0a	7.0d	174.3j-u
	Fame	0.36 fl oz/1000 ft ²				
57	BCP1803	1.7 fl oz/1000 ft ²	Late	0.0a	7.0d	175.0j-u
	Fame	0.36 fl oz/1000 ft ²				
	3336F	5.75 fl oz/1000 ft ²				
58	BCP1803	1.7 fl oz/1000 ft ²	Late	0.0a	7.0d	158.3stu
	Fame	0.36 fl oz/1000 ft ²				
	Daconil Weatherstik	4.0 fl oz/1000 ft ²				
59	Azoxy 2SC	1.35 fl oz/1000 ft ²	Late	0.0a	7.3cd	172.8j-u
	Tebuconazole 3.6F	0.6 fl oz/1000 ft ²				
	TM 4.5F	3.5 fl oz/1000 ft ²				
	Fluazinam 40SC	0.5 fl oz/1000 ft ²				
60	PS2	4.0 fl oz/1000 ft ²	Late	0.0a	7.5bc	188.0b-q
61	Traction	1.3 fl oz/1000 ft ²	Late	0.0a	7.3cd	194.5a-l
	26/36	6.0 fl oz/1000 ft ²				
62	Traction	1.3 fl oz/1000 ft ²	Late	0.0a	8.0a	193.0a-m
	26/36	6.0 fl oz/1000 ft ²				
	Mystic Verdant	16.0 fl oz/A				
63	NUP-19022	9.28 fl oz/A	Late	0.0a	7.0d	178.5h-t
	Spirato	0.5 fl oz/1000 ft ²				
	Rotator	0.5 fl oz/1000 ft ²				
LSD P=.05				NA	0.49	26.8

^aEarly treatments applied on Oct 15, 2020 and late treatments applied on Nov 12, 2020.

^bMean percent diseased area assessed on Mar 15, 2021.

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	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d	
64	NUP-19022 Traction	9.28 fl oz/A 1.3 fl oz/1000 ft ²	Late	0.0a	7.0d	186.0c-r	
65	A22835A Par	2.87 fl oz/1000 ft ² 0.371 fl oz/1000 ft ²	Late	0.0a	8.0a	193.0a-m	
66	A23543A Par	2.98 fl oz/1000 ft ² 0.371 fl oz/1000 ft ²	Late	0.0a	8.0a	208.5a-e	
67	A23543A Par Induce	2.98 fl oz/1000 ft ² 0.371 fl oz/1000 ft ² 0.25% v/v	Late	0.0a	8.0a	209.0a-d	
68	A23543A Par Daconil Weatherstik	2.98 fl oz/1000 ft ² 0.371 fl oz/1000 ft ² 5.5 fl oz/1000 ft ²	Late	0.0a	8.0a	196.0a-k	
69	A15457R A17856B Par	0.236 fl oz/1000 ft ² 1.88 fl oz/1000 ft ² 0.371 fl oz/1000 ft ²	Late	0.0a	8.0a	206.8a-g	
70	Instrata Par	11.0 fl oz/1000 ft ² 0.371 fl oz/1000 ft ²	Late	0.0a	8.0a	202.3a-i	
71	A21790A A21792A Daconil Weatherstik	6.0 fl oz/1000 ft ² 2.0 fl oz/1000 ft ² 5.5 fl oz/1000 ft ²	Late	0.0a	8.0a	204.3a-h	
				LSD P=.05	NA	0.49	26.8

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