

**2020-2021 Idaho Snow Mold Control Evaluation:
Whitetail Club – McCall, ID
McCall Golf Club – McCall, ID**

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OBJECTIVE

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

MATERIALS AND METHODS

The evaluations were conducted at the Whitetail Club and at McCall Golf Club in McCall, ID on fairway plots containing a mixed stand of Kentucky bluegrass (*Poa pratensis*), perennial ryegrass (*Lolium perenne*), and annual bluegrass (*Poa annua*). 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 AI8004 Teejet air induction nozzles. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft². All applications were made on 20 Oct 2020. Snow cover lasted for approximately 170 days, from approximately 5 Nov 2020 to 19 Apr 2021. Disease severity, turf quality, and turf color were evaluated on 5 May 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 Tables 1 (Whitetail Club) and 2 (McCall Golf Club).

RESULTS AND DISCUSSION

The primary disease present at both Whitetail and McCall Golf Club was Microdochium patch, though minor amounts (10%) of gray snow mold were also observed. Overall disease pressure was significant, however significant recovery occurred in both plots as a result of very warm conditions between snow melt and our rating 2.5 weeks later. At Whitetail Club, the non-treated control averaged 22.5% disease and all treatments except one reduced disease relative to the non-treated control. Fifteen treatments provided excellent snow mold control (<5% disease) given the difficult conditions, and all of those treatments contained a mixture of 3 or more active ingredients from multiple chemical classes. At McCall Golf Club the plots had nearly completely recovered from the snow mold injury that had occurred. Turf quality mirrored disease severity ratings, and phytotoxicity was not observed with any treatment. No consistent pattern was observed with turf color on either plot.

Table 1: Mean snow mold severity, turf quality, and turf color were assessed on May 5, 2021 on fairway turf at the Whitetail Club in McCall, ID.

	Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated Control		22.5abc	5.3de	286.3d-j
2	Mirage	2.0 fl oz/1000 ft ²	13.0c-f	5.8bcd	236.3g-j
	Interface	6.0 fl oz/1000 ft ²			
3	Mirage	2.0 fl oz/1000 ft ²	5.0efg	6.5ab	287.3d-j
	Interface	6.0 fl oz/1000 ft ²			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
4	Mirage	2.0 fl oz/1000 ft ²	5.0efg	6.5ab	345.5b-h
	Interface	6.0 fl oz/1000 ft ²			
	Secure Action	0.5 fl oz/1000 ft ²			
5	Dedicate	2.0 fl oz/1000 ft ²	12.5c-f	5.8bcd	316.5c-j
6	Dedicate	2.0 fl oz/1000 ft ²	0.0g	7.0a	338.3b-i
	Medallion	1.0 fl oz/1000 ft ²			
7	Enclave	8.0 fl oz/1000 ft ²	0.0g	7.0a	286.0d-j
	Foursome Plus	0.4 fl oz/1000 ft ²			
8	Intaglio	11.0 fl oz/1000 ft ²	0.0g	7.0a	409.5a-d
	Foursome Plus	0.4 fl oz/1000 ft ²			
9	Contend A	1.0 fl oz/1000 ft ²	1.0g	7.0a	475.5a
	Contend B	2.6 fl oz/1000 ft ²			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
	Ambient Plus	0.37 fl oz/1000 ft ²			
	A23543A	3.0 fl oz/1000 ft ²			
10	Daconil Weatherstik	5.5 fl oz/1000 ft ²	0.0g	7.0a	402.3a-e
	Ambient Plus	0.37 fl oz/1000 ft ²			
11	Instrata	9.0 fl oz/1000 ft ²	0.0g	7.0a	372.0a-f
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
	Ambient Plus	0.37 fl oz/1000 ft ²			
12	Contend A	1.0 fl oz/1000 ft ²	0.0g	7.0a	333.0c-i
	Posterity XT	3.0 fl oz/1000 ft ²			
	Ambient Plus	0.37 fl oz/1000 ft ²			
13	A23543A	3.0 fl oz/1000 ft ²	2.5fg	6.8a	338.8b-i
	Ambient Plus	0.37 fl oz/1000 ft ²			
14	Contend A	1.3 fl oz/1000 ft ²	0.0g	7.0a	463.8ab
	Posterity XT	3.0 fl oz/1000 ft ²			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
	Ambient Plus	5.5 fl oz/1000 ft ²			
15	Traction	1.3 fl oz/1000 ft ²	0.0g	7.0a	277.0e-j
	Torque	0.3 fl oz/1000 ft ²			
	26/36	4.0 fl oz/1000 ft ²			
16	Traction	1.3 fl oz/1000 ft ²	0.0g	7.0a	219.8hij
	Torque	0.3 fl oz/1000 ft ²			
	26/36	4.0 fl oz/1000 ft ²			
	Ambient Plus	16.0 fl oz/A			
		LSD P=.05	11.31	0.9	128.63

^aAll applications were applied on 20 Oct 2020.

^bMean percent diseased area assessed on May 5, 2021. Means followed by the same letter do not differ significantly.

^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 May 5, 2021 on fairway turf at the Whitetail Club in McCall, ID.

	Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
17	NUP-19022	9.28 fl oz/A			
	Spirato	0.5 fl oz/1000 ft ²	0.0g	7.0a	376.3a-f
	Rotator	0.5 fl oz/1000 ft ²			
18	NUP-19022	9.28 fl oz/A	17.5a-d	5.5cde	255.0f-j
	Traction	1.3 fl oz/1000 ft ²			
19	Civitas Turf Defense	30.0 fl oz/1000 ft ²			
	Enclave	8.0 fl oz/1000 ft ²	0.0g	7.0a	356.5a-g
	Proxy	5.0 fl oz/1000 ft ²			
		LSD P=.05	11.31	0.9	128.63

^aAll applications were applied on 20 Oct 2020.

^bMean percent diseased area assessed on May 5, 2021. Means followed by the same letter do not differ significantly.

^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 2: Mean snow mold severity, turf quality, and turf color were assessed on May 5, 2021 on fairway turf at the McCall Golf Club in McCall, ID.

	Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated Control		0.0b	7.0-	510.5b-i
2	Mirage	2.0 fl oz/1000 ft ²	0.0b	7.5-	533.8b-i
	Interface	6.0 fl oz/1000 ft ²			
3	Mirage	2.0 fl oz/1000 ft ²	0.0b	7.8-	561.5a-g
	Interface	6.0 fl oz/1000 ft ²			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
4	Mirage	2.0 fl oz/1000 ft ²	1.3b	7.5-	549.8a-h
	Interface	6.0 fl oz/1000 ft ²			
	Secure Action	0.5 fl oz/1000 ft ²			
5	Dedicate	2.0 fl oz/1000 ft ²	0.0b	7.5-	555.5a-g
6	Dedicate	2.0 fl oz/1000 ft ²	1.3b	7.5-	547.3a-i
	Medallion	1.0 fl oz/1000 ft ²			
7	Enclave	8.0 fl oz/1000 ft ²	0.0b	7.5-	529.0b-i
	Foursome Plus	0.4 fl oz/1000 ft ²			
8	Intaglio	11.0 fl oz/1000 ft ²	0.0b	7.5-	540.3a-i
	Foursome Plus	0.4 fl oz/1000 ft ²			
9	Contend A	1.0 fl oz/1000 ft ²	0.0b	7.8-	577.5a-f
	Contend B	2.6 fl oz/1000 ft ²			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
	Ambient Plus	0.37 fl oz/1000 ft ²			
	A23543A	3.0 fl oz/1000 ft ²			
10	Daconil Weatherstik	5.5 fl oz/1000 ft ²	0.0b	7.8-	618.8ab
	Ambient Plus	0.37 fl oz/1000 ft ²			
11	Instrata	9.0 fl oz/1000 ft ²	0.0b	7.8-	606.5a-d
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
	Ambient Plus	0.37 fl oz/1000 ft ²			
12	Contend A	1.0 fl oz/1000 ft ²	0.0b	7.5-	649.5a
	Posterity XT	3.0 fl oz/1000 ft ²			
	Ambient Plus	0.37 fl oz/1000 ft ²			
13	A23543A	3.0 fl oz/1000 ft ²	0.0b	7.8-	520.3b-i
	Ambient Plus	0.37 fl oz/1000 ft ²			
14	Contend A	1.3 fl oz/1000 ft ²	0.0b	7.8-	611.8abc
	Posterity XT	3.0 fl oz/1000 ft ²			
	Daconil Weatherstik	5.5 fl oz/1000 ft ²			
	Ambient Plus	0.37 fl oz/1000 ft ²			
15	Traction	1.3 fl oz/1000 ft ²	0.0b	7.0-	432.8i
	Torque	0.3 fl oz/1000 ft ²			
	26/36	4.0 fl oz/1000 ft ²			
16	Traction	1.3 fl oz/1000 ft ²	0.0b	7.5-	544.0a-i
	Torque	0.3 fl oz/1000 ft ²			
	26/36	4.0 fl oz/1000 ft ²			
	Ambient Plus	16.0 fl oz/A			
		LSD P=.05	2.53	0.72	115.09

^aAll applications were applied on 20 Oct 2020.

^bMean percent diseased area assessed on May 5, 2021. Means followed by the same letter do not differ significantly.

^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 2 (cont): Mean snow mold severity, turf quality, and turf color were assessed on May 5, 2021 on fairway turf at the McCall Golf Club in McCall, ID.

	Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
17	NUP-19022	9.28 fl oz/A	0.0b	7.3-	503.5c-i
	Spirato	0.5 fl oz/1000 ft ²			
	Rotator	0.5 fl oz/1000 ft ²			
18	NUP-19022	9.28 fl oz/A	0.0b	7.5-	552.3a-h
	Traction	1.3 fl oz/1000 ft ²			
19	Civitas Turf Defense	30.0 fl oz/1000 ft ²	2.5b	7.0-	543.5a-i
	Enclave	8.0 fl oz/1000 ft ²			
	Proxy	5.0 fl oz/1000 ft ²			
LSD P=.05			2.53	0.72	115.09

^aAll applications were applied on 20 Oct 2020.

^bMean percent diseased area assessed on May 5, 2021. Means followed by the same letter do not differ significantly.

^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.