

**2022-2023 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 both 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 sprayer equipped with one AI9508EVS Teejet nozzle. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft². All applications at Whitetail were made on 24 Oct 2022, and all applications at McCall were made on 25 Oct 2022. Snow cover lasted from early November until early May, a total of approximately 180 days. Disease severity and turf quality were assessed on 8 May 2023. Disease severity was visually rated as percent area affected and turfgrass quality was visually rated on a 1-9 scale with 6 being acceptable. 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

Disease pressure at both locations was very high, with the non-treated controls at Whitetail Club averaging 89.8% disease and McCall Golf Course 99.0% disease. The primary disease present at both locations was speckled snow mold (*T. ishikariensis*), though minor amounts (<10%) of pink snow mold were observed. Multiple rainfall/melt events in early December and extremely heavy snowfall (over 230 inches) led to a very tough test of the treatments. No treatment provided complete snow mold control, and in fact the best treatment at Whitetail still had 27.5% disease and at McCall 37.5%. Despite this pressure, most treatments were significantly lower than the non-treated control and there were clear differences among the treatments tested. While there was no single explanation for which treatments performed the best in these trials, those that did perform reasonably well were those that contained mixtures of 3 or 4 active ingredients from multiple different chemical classes. Turf quality mostly mirrored disease severity ratings, and phytotoxicity was not observed with any treatment.

Table 1: Mean snow mold severity, turf quality, and turf color were assessed on 8 May 2023 on fairway turf at the Whitetail Club in McCall, ID.

Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c
1 Non-treated Control		89.8a	1.5f
2 Rayora	1.4 fl oz/1000 ft ²	72.5a-d	2.5def
Fame C	5.9 fl oz/1000 ft ²		
A23543A	3.0 fl oz/1000 ft ²	60.0b-f	3.3b-e
3 Daconil Weatherstik	5.5 fl oz/1000 ft ²		
Ambient Plus	0.37 fl oz/1000 ft ²	55.0b-h	3.5a-e
4 Instrata	9.3 fl oz/1000 ft ²		
Ambient Plus	0.37 fl oz/1000 ft ²	62.5a-e	3.0cde
A23543A	3.0 fl oz/1000 ft ²		
5 Posterity XT	3.0 fl oz/1000 ft ²	66.3a-d	3.0cde
Ambient Plus	0.37 fl oz/1000 ft ²		
6 Ascernity	1.0 fl oz/1000 ft ²	36.3e-i	4.3abc
Posterity XT	3.0 fl oz/1000 ft ²		
7 Daconil Weatherstik	5.5 fl oz/1000 ft ²	33.8f-i	4.5ab
Ambient Plus	0.37 fl oz/1000 ft ²		
Traction	1.3 fl oz/1000 ft ²	28.8hi	4.8a
26/36	6.0 fl oz/1000 ft ²		
Torque	0.4 fl oz/1000 ft ²	27.5i	4.5ab
Par	0.18 fl oz/1000 ft ²		
8 NFA-0630-301	1.1 fl oz/1000 ft ²	53.8c-i	3.3b-e
Torque	1.0 fl oz/1000 ft ²		
Par	0.18 fl oz/1000 ft ²	66.3a-d	3.0cde
9 NFA-0800009	0.196 fl oz/1000 ft ²		
NUP-15013	0.5 fl oz/1000 ft ²	58.8b-g	2.8def
26/36	6.0 fl oz/1000 ft ²		
Par	0.18 fl oz/1000 ft ²	76.3abc	2.3ef
10 NFA-0800009	0.196 fl oz/1000 ft ²		
NFA-0630-301	1.1 fl oz/1000 ft ²	32.5ghi	4.3abc
Par	0.18 fl oz/1000 ft ²		
11 ESTC184	6.0 fl oz/1000 ft ²	27.38	1.46
ESTC120	2.0 fl oz/1000 ft ²		
ESTC184	6.0 fl oz/1000 ft ²		
12 ESTC120	2.0 fl oz/1000 ft ²		
ESTC190	5.0 fl oz/1000 ft ²		
ESTC184	6.0 fl oz/1000 ft ²		
13 ESTC120	2.0 fl oz/1000 ft ²		
ESTC444	5.0 fl oz/1000 ft ²		
ESTC184	4.0 fl oz/1000 ft ²		
14 ESTC120	2.0 fl oz/1000 ft ²		
ESTC184	4.0 fl oz/1000 ft ²		
15 ESTC120	2.0 fl oz/1000 ft ²		
ESTC111	0.196 fl oz/1000 ft ²		
	LSD P=.05		

^aAll applications were applied on 24 Oct 2022.

^bMean percent diseased area assessed on 8 May 2023. Means followed by the same letter do not differ significantly.

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

Table 1 (cont): Mean snow mold severity, turf quality, and turf color were assessed on 8 May 2023 on fairway turf at the Whitetail Club in McCall, ID.

	Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c
16	ESTC184	4.0 fl oz/1000 ft ²	76.3abc	2.5def
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC444	5.0 fl oz/1000 ft ²		
17	ESTC184	4.0 fl oz/1000 ft ²	81.3ab	2.3ef
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC191	0.5 fl oz/1000 ft ²		
18	ESTC184	4.0 fl oz/1000 ft ²	71.3a-d	2.8def
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
19	ESTC184	4.0 fl oz/1000 ft ²	46.3d-i	3.8a-d
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
	ESTC111	0.196 fl oz/1000 ft ²		
20	ESTC184	4.0 fl oz/1000 ft ²	70.0a-d	3.0cde
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
	ESTC444	5.0 fl oz/1000 ft ²		
21	ESTC184	4.0 fl oz/1000 ft ²	61.3b-e	2.8def
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
	ESTC191	0.5 fl oz/1000 ft ²		
		LSD P=.05	27.38	1.46

^aAll applications were applied on 24 Oct 2022.

^bMean percent diseased area assessed on 8 May 2023. Means followed by the same letter do not differ significantly.

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

Table 2: Mean snow mold severity, turf quality, and turf color were assessed on 8 May 2023 on fairway turf at the McCall Golf Club in McCall, ID.

Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c
1 Non-treated Control		99.0a	1.0d
2 Rayora	1.4 fl oz/1000 ft ²	60.0c-g	3.5ab
Fame C	5.9 fl oz/1000 ft ²		
3 A23543A	3.0 fl oz/1000 ft ²	58.8d-g	3.3ab
Daconil Weatherstik	5.5 fl oz/1000 ft ²		
Ambient Plus	0.37 fl oz/1000 ft ²		
4 Instrata	9.3 fl oz/1000 ft ²	58.8d-g	3.3ab
Ambient Plus	0.37 fl oz/1000 ft ²		
A23543A	3.0 fl oz/1000 ft ²		
5 Posterity XT	3.0 fl oz/1000 ft ²	37.5g	4.5a
Ambient Plus	0.37 fl oz/1000 ft ²		
6 Ascernity	1.0 fl oz/1000 ft ²	50.0fg	3.3ab
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		
7 Traction	1.3 fl oz/1000 ft ²	82.5abc	1.5cd
26/36	6.0 fl oz/1000 ft ²		
Torque	0.4 fl oz/1000 ft ²		
Par	0.18 fl oz/1000 ft ²		
8 NFA-0630-301	1.1 fl oz/1000 ft ²	65.0b-f	3.3ab
Torque	1.0 fl oz/1000 ft ²		
Par	0.18 fl oz/1000 ft ²		
9 NFA-0800009	0.196 fl oz/1000 ft ²	88.8a	1.3cd
NUP-15013	0.5 fl oz/1000 ft ²		
26/36	6.0 fl oz/1000 ft ²		
Par	0.18 fl oz/1000 ft ²		
10 NFA-0800009	0.196 fl oz/1000 ft ²	52.5fg	3.5ab
NFA-0630-301	1.1 fl oz/1000 ft ²		
Par	0.18 fl oz/1000 ft ²		
11 ESTC184	6.0 fl oz/1000 ft ²	88.8a	1.3cd
ESTC120	2.0 fl oz/1000 ft ²		
12 ESTC184	6.0 fl oz/1000 ft ²	76.3a-e	2.5bc
ESTC120	2.0 fl oz/1000 ft ²		
ESTC190	5.0 fl oz/1000 ft ²		
13 ESTC184	6.0 fl oz/1000 ft ²	90.0a	1.3cd
ESTC120	2.0 fl oz/1000 ft ²		
ESTC444	5.0 fl oz/1000 ft ²		
14 ESTC184	4.0 fl oz/1000 ft ²	90.0a	1.3cd
ESTC120	2.0 fl oz/1000 ft ²		
15 ESTC184	4.0 fl oz/1000 ft ²	88.8a	1.3cd
ESTC120	2.0 fl oz/1000 ft ²		
ESTC111	0.196 fl oz/1000 ft ²		
	LSD P=.05	23.27	1.27

^aAll applications were applied on 25 Oct 2022.

^bMean percent diseased area assessed on 8 May 2023. Means followed by the same letter do not differ significantly.

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

Table 2 (cont): Mean snow mold severity, turf quality, and turf color were assessed on 8 May 2023 on fairway turf at the McCall Golf Club in McCall, ID.

	Treatment ^a	Rate	Disease Severity ^b	Turf Quality ^c
16	ESTC184	4.0 fl oz/1000 ft ²	86.3ab	1.8cd
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC444	5.0 fl oz/1000 ft ²		
17	ESTC184	4.0 fl oz/1000 ft ²	57.5efg	3.3ab
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC191	0.5 fl oz/1000 ft ²		
18	ESTC184	4.0 fl oz/1000 ft ²	90.0a	1.0d
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
19	ESTC184	4.0 fl oz/1000 ft ²	87.5ab	1.5cd
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
	ESTC111	0.196 fl oz/1000 ft ²		
20	ESTC184	4.0 fl oz/1000 ft ²	87.5ab	1.5cd
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
	ESTC444	5.0 fl oz/1000 ft ²		
21	ESTC184	4.0 fl oz/1000 ft ²	81.3a-d	2.3bcd
	ESTC120	2.0 fl oz/1000 ft ²		
	ESTC125	1.0 fl oz/1000 ft ²		
	ESTC191	0.5 fl oz/1000 ft ²		
		LSD P=.05	23.27	1.27

^aAll applications were applied on 25 Oct 2022.

^bMean percent diseased area assessed on 8 May 2023. Means followed by the same letter do not differ significantly.

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