



**2013-2014 Auxiliary Snow Mold Control Evaluation**  
**Tumbledown Trails Golf Course – Madison, WI**  
**Wausau Country Club – Wausau, WI**  
**Marquette Country Club – Marquette, MI**

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## **OBJECTIVES**

To evaluate fungicide treatments containing PCNB for the control of *Microdochium* patch (*Microdochium nivale*) and Typhula blight (*Typhula incarnata*, *T. ishikariensis*) on golf course turfgrass.

## **MATERIALS AND METHODS**

This evaluation was conducted at three locations; Tumbledown Trails GC in Madison, WI, Wausau Country Club in Schofield, WI and Marquette GC in Marquette, MI. All plots were on a creeping bentgrass (*Agrostis stolonifera*) and annual bluegrass (*Poa annua*) fairway maintained at 0.5. Individual plots measured 3 ft x 10 ft (30 ft<sup>2</sup>), 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 CO<sub>2</sub> pressurized boom sprayer equipped with two XR Teejet 8004 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 2 gallons of water per 1000 ft<sup>2</sup>, except for 1786-G (2.5 gallons water). Applications were made on November 5<sup>th</sup> at Marquette GC, November 14<sup>th</sup> at Wausau CC, and November 21<sup>st</sup> at Tumbledown Trails. The experimental plot area was not inoculated. Disease severity and turf quality were recorded following snow melt in April of 2014 at all three courses. Disease severity was visually rated as percent area affected, turfgrass quality was visually rated on a 1-9 scale with 6 being acceptable, and Normalized Difference Vegetative Index (turfgrass color) was rated using a HCS 100 GreenSeeker® from Trimble Navigation Ltd (Sunnyvale, CA). Treatment means were analyzed using the Waller Duncan method and are presented in Tables 1, 2, and 3.

## **RESULTS AND DISCUSSION**

Disease pressure absent at Madison and very high and both Wausau and Marquette with non-treated controls averaging 87.5% and 92.5% disease, respectively. The primary disease present in Wausau was pink snow mold and in Marquette was speckled snow mold. At both Wausau and Marquette all treatments except 1786-G reduced snow mold compared to the non-treated control. Interface and Turfcide 400 reduced snow mold significantly though not to the same degree as Instrata. It should be noted that Instrata includes three active ingredients while Interface contains two and the remaining contain only one.

**Table 1: Mean snow mold severity, turf quality, and turf color assessed on April 2<sup>nd</sup>, 2014 at Tumbledown Trails GC in Madison, WI.**

Treatment	Rate	Application Timing <sup>a</sup>	Disease Severity <sup>b</sup>	Turf Quality <sup>c</sup>	Turf Color <sup>d</sup>	
1	Nontreated Control		0.0a	7.0a	0.478a	
2	1786-G	12.0 fl oz/1000 ft <sup>2</sup>	Late	0.5a	7.5a	0.495a
3	Instrata	9.3 fl oz/1000 ft <sup>2</sup>	Late	0.0a	7.0a	0.545a
4	Interface	6.0 fl oz/1000 ft <sup>2</sup>	Late	0.0a	7.8a	0.525a
5	Turfcide 400	12.0 fl oz/1000 ft <sup>2</sup>	Late	0.0a	7.5a	0.535a

<sup>a</sup>Fungicide treatments were applied on November 21<sup>st</sup>, 2013.

<sup>b</sup>Mean percent diseased area assessed on April 2<sup>nd</sup>, 2014.

<sup>c</sup>Quality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

<sup>d</sup>Color was assessed using an HCS 100 NDVI GreenSeeker from Trimble Navigation Ltd@.

**Table 2: Mean snow mold severity, turf quality, and turf color assessed on April 21<sup>st</sup>, 2014 at Wausau CC in Wausau, WI.**

Treatment	Rate	Application Timing <sup>a</sup>	Disease Severity <sup>b</sup>	Turf Quality <sup>c</sup>	Turf Color <sup>d</sup>	
1	Nontreated Control		87.5a	1.5c	0.277d	
2	1786-G	12.0 fl oz/1000 ft <sup>2</sup>	Late	91.3a	1.3c	0.310d
3	Instrata	9.3 fl oz/1000 ft <sup>2</sup>	Late	2.5d	6.5a	0.687a
4	Interface	6.0 fl oz/1000 ft <sup>2</sup>	Late	35.0c	4.3b	0.607b
5	Turfcide 400	12.0 fl oz/1000 ft <sup>2</sup>	Late	55.0b	3.5b	0.527c

<sup>a</sup>Fungicide treatments were applied on November 14<sup>th</sup>, 2013.

<sup>b</sup>Mean percent diseased area assessed on April 21<sup>st</sup>, 2014.

<sup>c</sup>Quality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

<sup>d</sup>Color was assessed using an HCS 100 NDVI GreenSeeker from Trimble Navigation Ltd@.

**Table 3: Mean snow mold severity, turf quality, and turf color assessed on April 23<sup>rd</sup>, 2014 at Marquette GC in Marquette, MI.**

Treatment	Rate	Application Timing <sup>a</sup>	Disease Severity <sup>b</sup>	Turf Quality <sup>c</sup>	Turf Color <sup>d</sup>	
1	Nontreated Control		92.5a	1.5c	0.243b	
2	1786-G	12.0 fl oz/1000 ft <sup>2</sup>	Late	98.3a	1.0c	0.243b
3	Instrata	9.3 fl oz/1000 ft <sup>2</sup>	Late	21.3c	4.8a	0.470a
4	Interface	6.0 fl oz/1000 ft <sup>2</sup>	Late	62.5b	3.0b	0.378a
5	Turfcide 400	12.0 fl oz/1000 ft <sup>2</sup>	Late	63.8b	2.8b	0.378a

<sup>a</sup>Fungicide treatments were applied on November 5<sup>th</sup>, 2013.

<sup>b</sup>Mean percent diseased area assessed on April 23<sup>rd</sup>, 2014.