Bayer Fungicides to Control Snow Mold on Fairways in Montana, Idaho, and Washington 2012-2013

Trial ID: FE13NARRRXECN1

Charles T. Golob and William J. Johnston
Dept. Crop and Soil Sciences
Washington State University
May 28, 2013

Snow mold control trials were conducted at 3 locations in the Intermountain Region of the PNW, on a practice fairway at the Palouse Ridge Golf Club in Pullman, WA, a fairway at Meadow Lake Resort Golf Course in Columbia Falls, MT, and a fairway at the City of McCall Golf Course in McCall, ID. Individual treatment plots were 6' x 7' with four replications in a randomized complete-block design. Treatments were applied 29 Oct 12, 2 Nov 12, and 14 Nov 12 at McCall, Columbia Falls, and Pullman, respectively. Fungicides were applied at 80 GPA with a bicycle-wheeled CO_2 pressurized (40 psi) sprayer with 11008 flat fan TeeJet nozzles. At Pullman, snow cover was intermittent, totaling approximately 40 days. Columbia Falls had snow cover totaling approximately 110 days from December 2012 to the end of March 2013. Continuous snow cover lasted from the beginning of December 2012 through mid-April 2012 (approx. 140 days) at McCall. Individual plots were evaluated for pink (*Microdochium nivale*) and/or gray (*Typhula spp.*) snow mold disease severity (% area infected),turfgrass quality rated on a scale from 1 to 9; 9 = excellent and 6 = acceptable, and color rated on a scale from 1 to 9; 9 = dark green on 8 Mar 13 at Pullman, 28 Mar 13 at Columbia Falls, and 23 Apr 13 at McCall.

At Pullman, the Check had approximately 13% of the area infected with pink snow mold (Table 1). All treatments resulted in complete or nearly complete snow mold control. Surprisingly, there was no difference in turfgrass quality among the treatments even though Instrata 7 fl oz/M or Turfcide 400 8 fl oz/M had no colorant added. Figs 1-7 show the individual treatments in rep 1.

At Columbia Falls, disease pressure was very high, the Check had nearly 94% of the area infected with both pink (65%) and gray (35%) snow mold (Table 2). There was no difference in disease control or turfgrass quality with Interface 3 fl oz/M + Triton FLO 0.5 or 0.75 fl oz/M. However, these 2 treatments resulted in a significant reduction in disease compared to the Check and Turfcide 400 12 fl oz/M. Figs. 8 and 9 show the fungicide treatments in reps 1 and 2. Fig. 10 shows the entire study.

At McCall, disease pressure was very high, the Check had 90% of the area infected with both pink (75%) and gray (25%) snow mold (Table 3). Interface 3 fl oz/M + Triton FLO 0.5 or 0.75 fl oz/M resulted in a significant reduction in the amount of snow mold compared to the Check. There was no significant difference between Interface 3 fl oz/M + Triton FLO 0.75 fl oz/M and Turfcide 400 12 fl oz/M. Figs. 11-13 show fungicide treatments in rep 4.

Overall, at Pullman, there were no differences among any of the fungicide treatments and all provided excellent snow mold control compared to the Check. However, at Columbia Falls and McCall the Interface 3 fl oz/M + Triton FLO 0.5 or 0.75 fl oz/M reduced snow mold significantly compared to the Check, however the level of control may not be acceptable, especially at McCall where the best control was about 20%. For the most part, the Interface + Triton FLO treatments were better than Turfcide 400 12 fl oz/M.

Table 1. The effect of fungicides on a fairway to control pink snow mold at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 2013.

Treatment	Rate (fl oz/M)	Snow mold (% area infected)	*Turfgrass quality
Interface (iprodione + trifloxystrobin) + Triton FLO (triticonazole)	3 0.5	0.0 b	5.4 a
Interface (iprodione + trifloxystrobin) + Triton FLO (triticonazole)	4 0.5	0.0 b	5.3 a
Tartan (triadimefon + trifloxystrobin) + Interface (iprodione + trifloxystrobin)	1 3	0.0 b	5.3 a
Instrata (fludioxonil + propiconazole + chlorothalonil)	7	0.0 b	5.0 a
Turfcide 400 (PCNB) + PAR (proprietary pigment concentrate)	8 0.37	0.5 b	5.5 a
Turfcide 400 (PCNB)	8	0.5 b	5.3 a
Check	0	13.0 a	3.8 b

*Turfgrass quality was rated on a scale from 1 to 9; with 9 = excellent.

**Means within columns followed by the same letter are not significantly different. LSD P = 0.05.

Fig. 1. Snow mold fungicide treatments on a fairway at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 13.

Fig. 2. Snow mold fungicide treatments on a fairway at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 13.

Fig. 3. Snow mold fungicide treatments on a fairway at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 13.

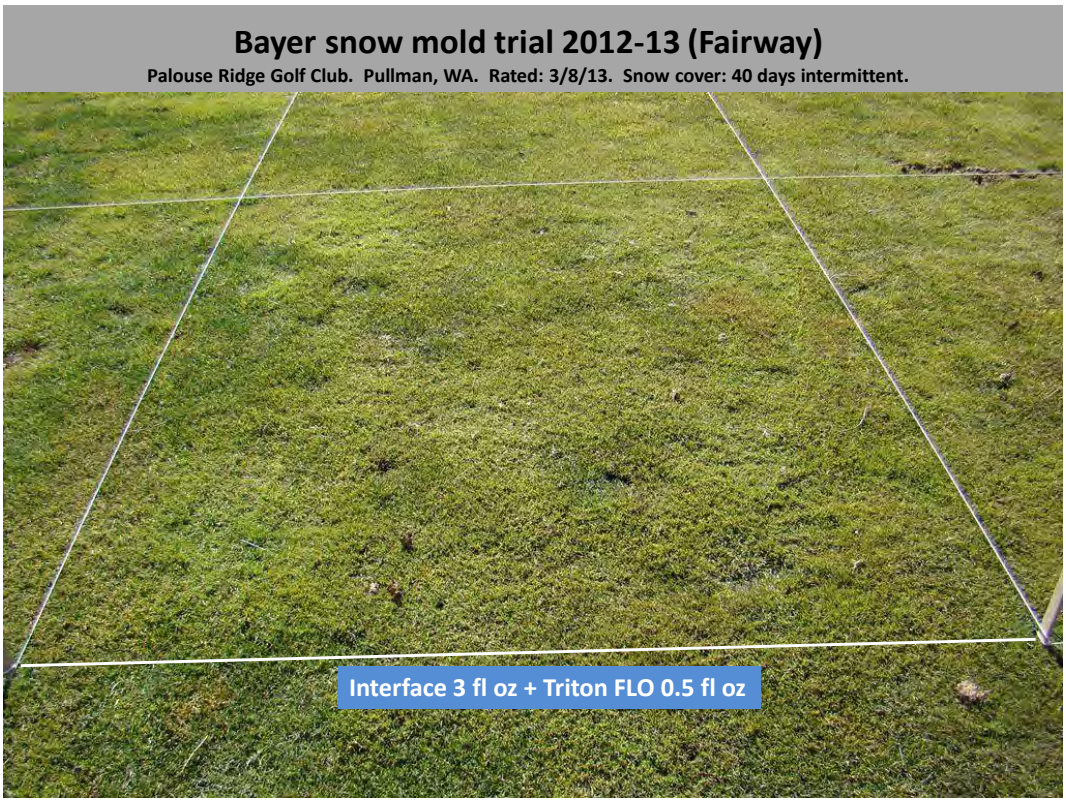

Fig. 4. Snow mold fungicide treatments on a fairway at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 13.

Fig. 5. Snow mold fungicide treatments on a fairway at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 13.

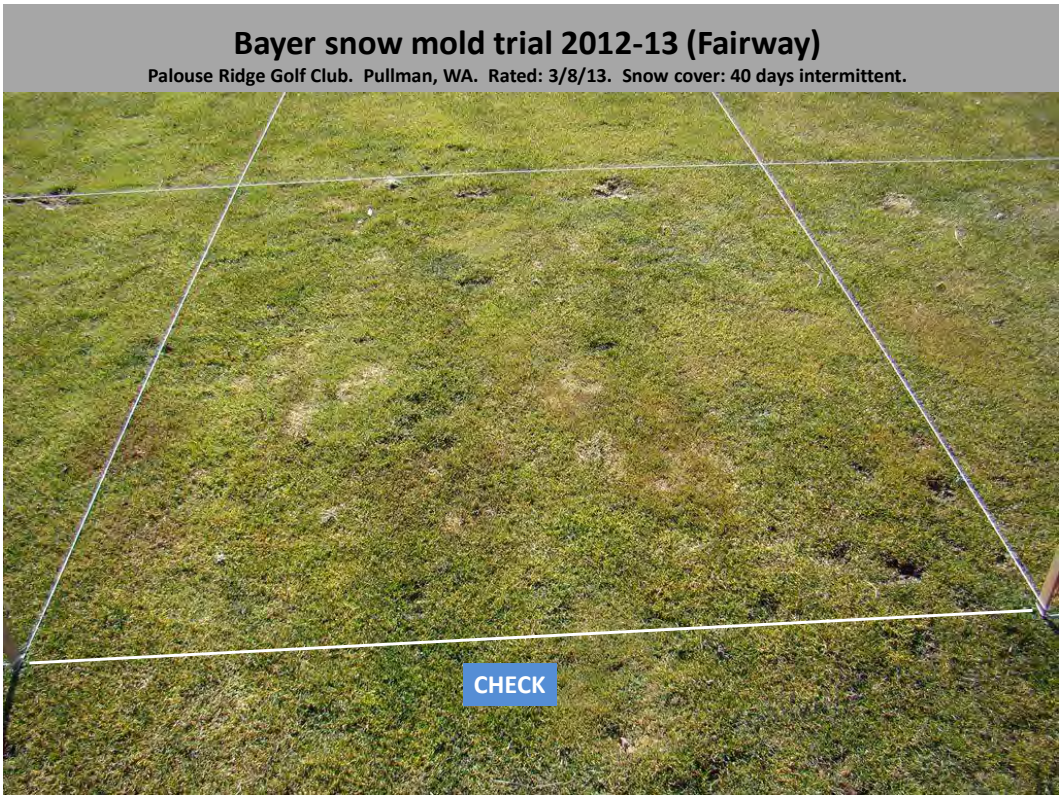

Fig. 6. Snow mold fungicide treatments on a fairway at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 13.

Fig. 7. Snow mold fungicide treatments on a fairway at the Palouse Ridge Golf Club in Pullman, WA. Rated on 8 Mar 13.

Table 2. The effect of fungicides on a fairway to control pink and gray snow mold at Meadow Lake golf course in Columbia Falls, MT. Rated on 28 Mar 2013.

Treatment	Rate (fl oz/M)	Snow mold (% area infected)	*Turfgrass quality
Interface (iprodione + trifloxystrobin) + Triton FLO (triticonazole)	3 0.5	10.5 c**	3.8 a
Interface (iprodione + trifloxystrobin) + Triton FLO (triticonazole)	3 0.75	12.3 c	3.9 a
Turfcide 400 (PCNB)	12	23.5 b	2.6 b
Check	0	93.8 a	1.0 c

*Turfgrass quality rated 1 to 9; 9 = excellent.

**Means within columns followed by the same letter are not significantly different. LSD (P = 0.05).

Fig. 8. Snow mold fungicide treatments on a fairway at Meadow Lake Resort Golf Course in Columbia Falls, MT. Rated on 28 Mar 2013.

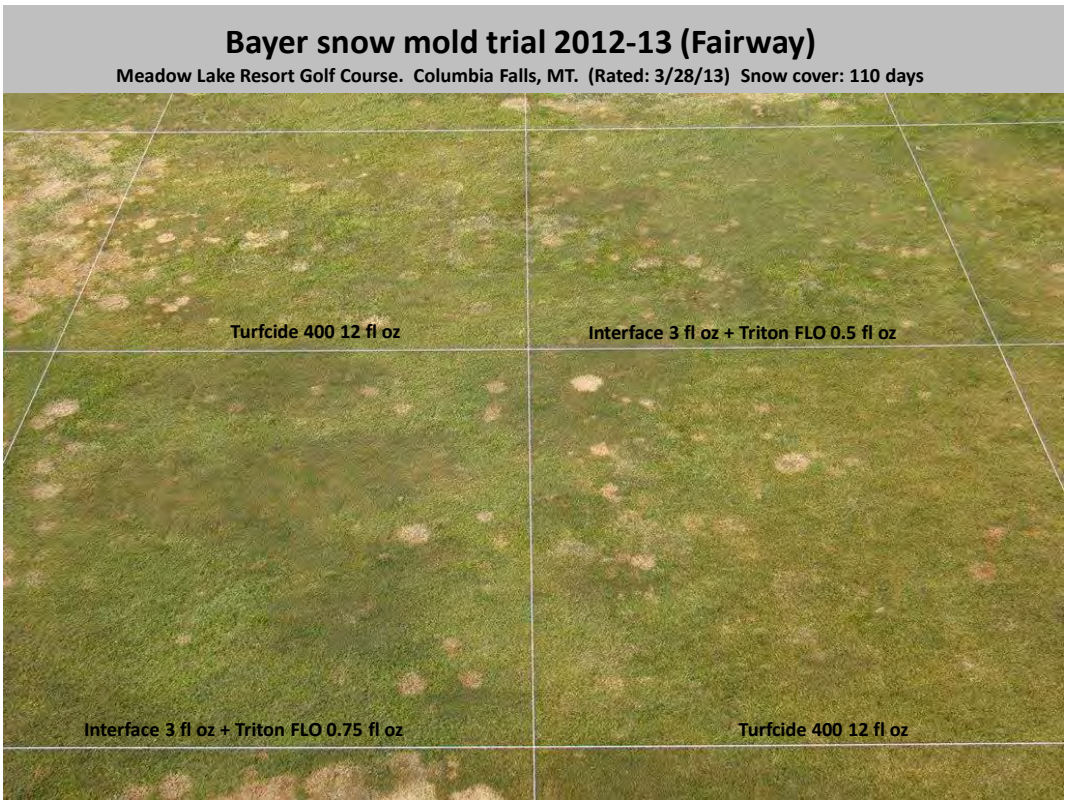

Fig. 9. Snow mold fungicide treatments on a fairway at Meadow Lake Resort Golf Course in Columbia Falls, MT. Rated on 28 Mar 2013.

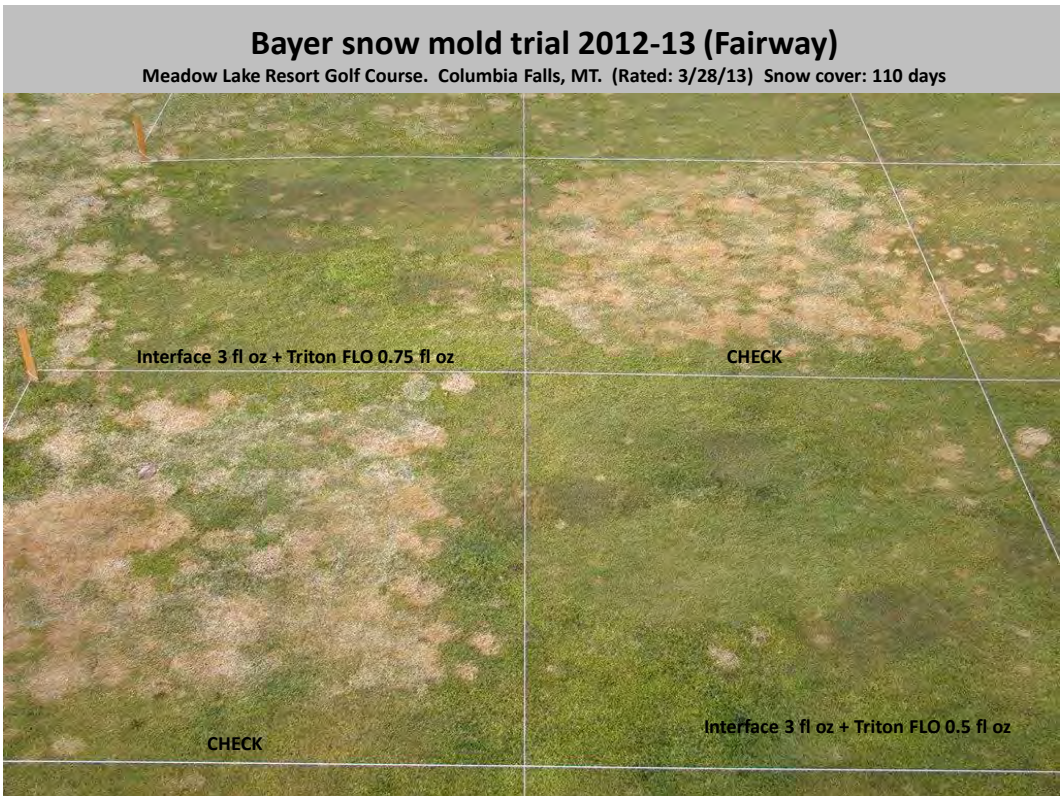

Fig. 10. Snow mold fungicide treatments on a fairway at Meadow Lake Resort Golf Course in Columbia Falls, MT. View of study area. Rated on 28 Mar 2013.

Table 3. The effect of fungicides on a fairway to control pink and gray snow mold at the City of McCall Golf Course in McCall, ID. Rated on 23 Apr 2013.

Treatment	Rate (fl oz/M)	Snow mold (% area infected)	*Turfgrass quality
Check	0	89.5 a**	1.1 b
Interface (iprodione + trifloxystrobin) + Triton FLO (triticonazole)	3 0.5	18.5 c	3.1 a
Interface (iprodione + trifloxystrobin) + Triton FLO (triticonazole)	3 0.75	26.3 bc	3.1 a
Turfcide 400 (PCNB)	12	35.0 b	2.5 a

*Turfgrass quality rated 1 to 9; 9 = excellent.

**Means within columns followed by the same letter are not significantly different. LSD (P = 0.05).

Fig. 11. Snow mold fungicide treatments on a fairway at the City of McCall Golf Course in McCall, ID. Rated on 23 Apr 2013.

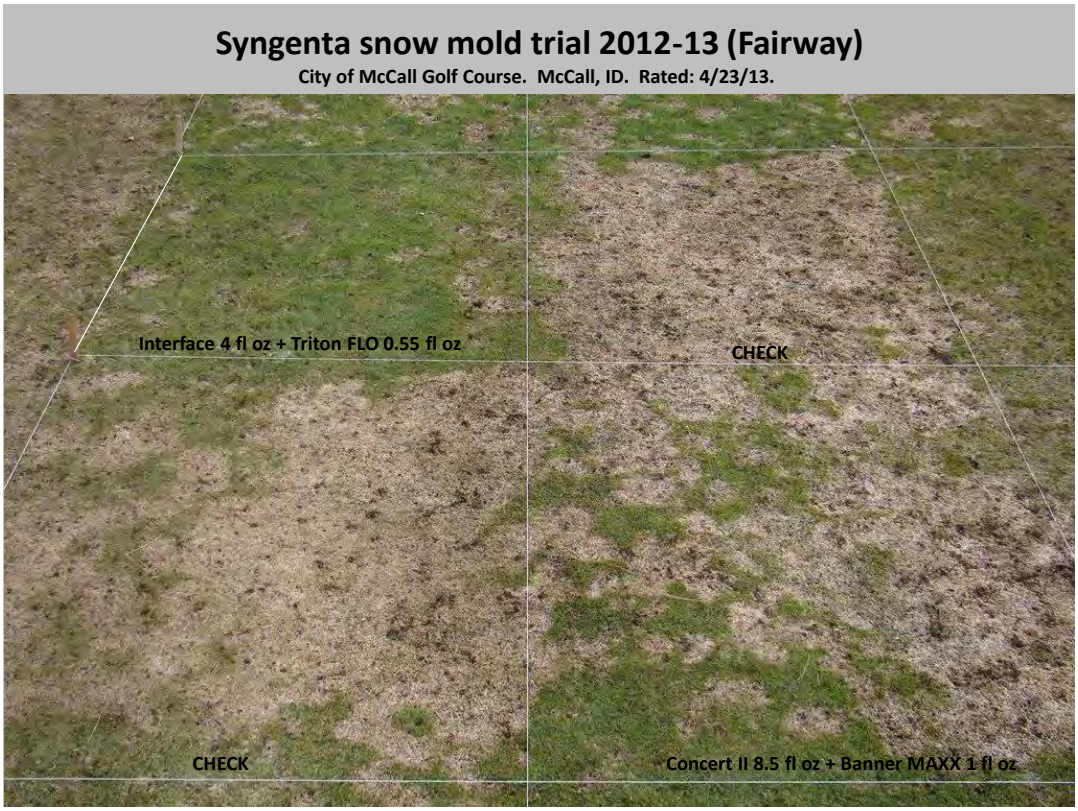

Fig. 12. Snow mold fungicide treatments on a fairway at the City of McCall Golf Course in McCall, ID. Rated on 23 Apr 2013.

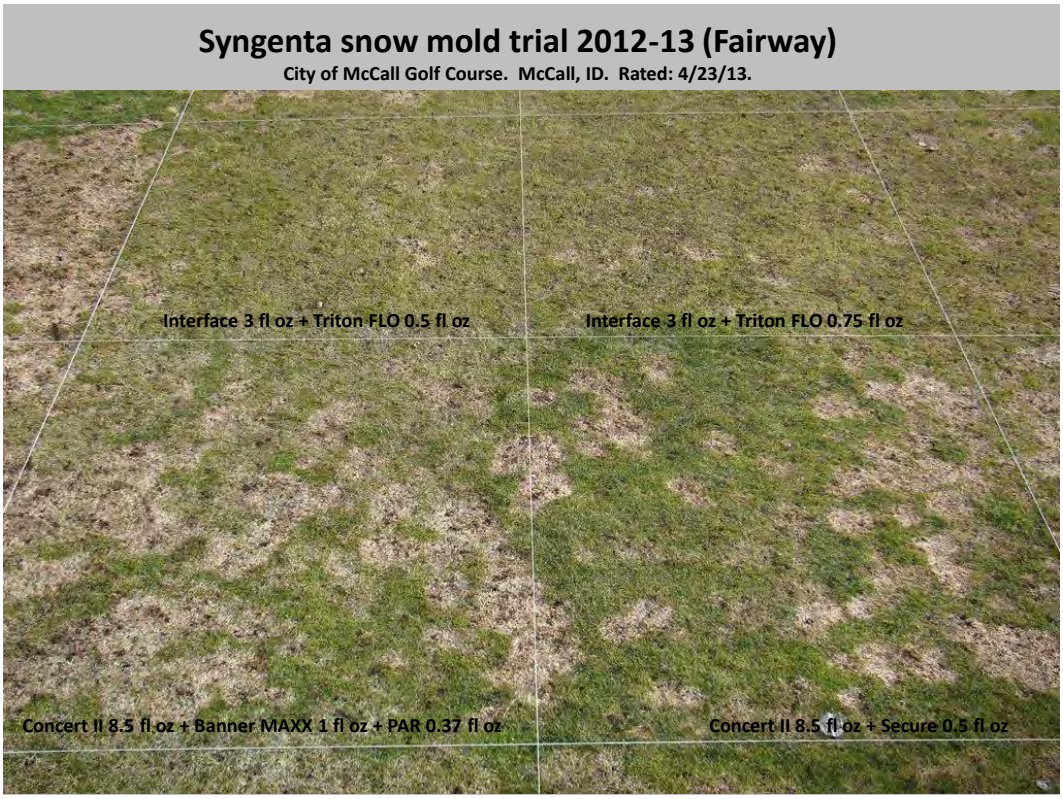

Fig. 13. Snow mold fungicide treatments on a fairway at the City of McCall Golf Course in McCall, ID. Rated on 23 Apr 2013.