Evaluation of Syngenta products to control of pink and gray snow mold in Washington, Idaho, and Montana. 2003-2004.

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Methodology:

Trials were conducted on a research green on the Washington State University Turfgrass Research Area (TRA) at Pullman, WA, a golf green on the Meadow Lake Resort Golf Course at Columbia Falls, MT, and a nursery green on the City of McCall Golf Course at McCall, ID. The research green at Pullman was constructed as a California green, the golf green at Columbia Falls was a constructed according to USGA specifications, and at McCall the nursery green was on a cobbly sandy loam soil. Individual treatment plots were 6 ft x 7 ft at Pullman and Columbia Falls and 6 ft x 5 ft at McCall with three replications in a randomized complete-block design. Fungicides were applied on 2 Dec, 6 Nov, and 29 Oct 2003 at Pullman, Columbia Falls, and McCall, respectively. Applications were made with a bicycle-wheeled CO_2 pressurized sprayer with Teejet 11004VS flat fan nozzles at 40 psi. Spray rate was 52 GPA. Snow cover at Pullman occurred from late Dec to late Feb, with roughly a two-week period in mid Jan where snow completely melted off. Snow cover was from mid-Dec to late-Mar at Columbia Falls and from late-Nov to mid-Apr at McCall. Individual plots were evaluated for disease severity (% area infected) and turf quality (rated on a scale of 1-9; 9=excellent) on 11 Mar, 25 Mar, and 22 Apr 2004 at Pullman, Columbia Falls, and McCall, respectively.

Results:

Pullman, WA. Percent snow mold rated 11 Mar 2004 was light (19%) at Pullman, WA and was essentially 100% pink snow mold. Treatment means were separated at P=0.10 to show differences (Table 1). Essentially all treatments gave good control of snow mold. However, Medallion and Daconil WS + Medallion gave the poorest disease control and were not different from the control. All treatments had turf quality better than the control. Numerically the best quality was the A13972A treatment.

Columbia Falls, MT. Percent snow mold rated 25 Mar 2004 was light (23%) at Columbia Falls, MT. There were no differences among treatments for percent disease or turf quality (Table 2). Several treatments had zero percent snow mold. Numerically the poorest treatments were Heritage, A13972A, and Daconil WS. A white residue was noted on the turf surface at the high (14.0 fl oz/M) rate of A14036.

McCall, ID. Percent snow mold rated 22 Apr 2004 was moderate (57%) at McCall, ID and was 75% pink and 25% gray snow mold, respectively. The high amount of pink snow mold is unusual for McCall. In previous years, gray snow mold was the predominate disease, often greater than 90%. Also the disease severity (57% in controls) was less than noted in past years. All treatments gave better disease control than the un-treated check (Table 3) and there was no difference among fungicide treatment. Numerically the best control was given by Banner MAXX + Medallion and A14036. All treatments had turf quality better than the control; however, Daconil WS numerically had the poorest turf quality among fungicide treatments.

Table 1. Evaluation of Syngenta products for snow mold control. Pullman, WA 2004.

Fungicide treatment	Rate (fl oz or oz prod./M)	Disease (% area infected)	Turf quality* (rated 1-9)
Banner MAXX + Heritage	4.0 fl oz 0.4 oz	0.0 a**	5.0 ab
Banner MAXX + Daconil WS	4.0 fl oz 5.5 fl oz	1.0 ab	4.7 abc
Heritage	0.4 oz	1.0 ab	4.3 bc
A14036	4.7 fl oz	1.3 ab	5.0 ab
A14036	14 fl oz	1.3 ab	4.7 abc
Medallion + Heritage	0.5 oz 0.4 oz	1.7 abc	4.3 bc
A13972A	2.0 fl oz	2.3 abc	5.3 a
A14036	9.3 fl oz	2.3 abc	4.7 abc
Banner MAXX	4.0 fl oz	2.7 abc	4.3 bc
Banner MAXX + Medallion	4.0 fl oz 0.5 oz	3.0 abc	5.0 ab
Daconil WS	5.5 fl oz	8.3 abc	4.3 bc
Medallion	0.5 oz	10.3 bcd	4.0 c
Daconil WS + Medallion	5.5 fl oz 0.5 oz	11.7 cd	4.3 bc
CHECK	0.0	19.0 d	3.0 d

*Turf quality rated 1-9; 9=excellent.

**Numbers within a column followed by the same letter are not significantly different at *P*=0.10.

Table 2. Evaluation of Syngenta products for snow mold control. Columbia Falls, MT, 2003-2004.

Fungicide treatment	Rate (fl oz or oz prod./M)	Disease (% area infected)	Turf quality* (rated 1-9)
Daconil WS + Medallion	5.5 fl oz 0.5 oz	0.0	5.7
Banner MAXX + Medallion	4.0 fl oz 0.5 oz	0.0	5.7
Medallion	0.5 oz	0.0	5.7
A14036	9.3 fl oz	0.0	5.3
A14036	14 fl oz	0.0	5.0
A14036	4.7 fl oz	0.3	5.7
Banner MAXX	4.0 fl oz	0.7	5.7
Heritage	0.4 oz	10.3	5.7
A13972A	2.0 fl oz	10.3	5.3
Daconil WS	5.5 fl oz	15.3	5.3
CHECK	0.0	23.3	5.3

*Turf quality rated 1-9; 9=excellent.

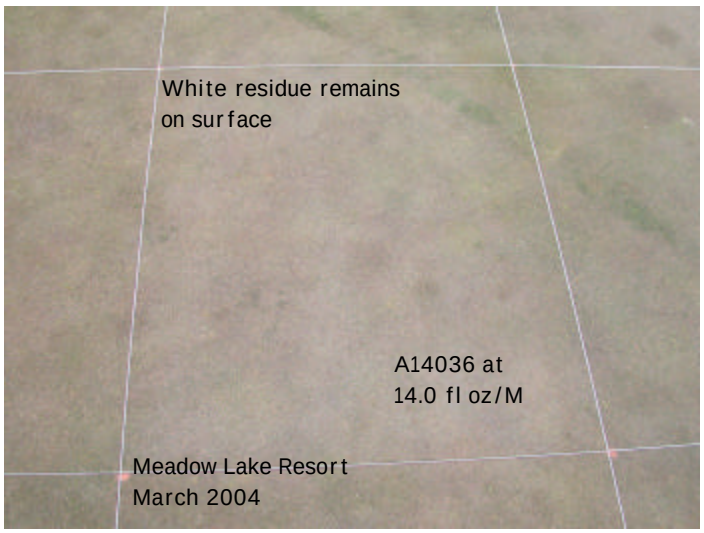

Figure 1. A14036 at Meadow Lake Resort. March 2004.

Figure 2. A13972A at the City of McCall Golf Course at McCall, ID. April 2004.

Table 3. Evaluation of Syngenta products for snow mold control. McCall, ID, 2003-2004.

Fungicide treatment	Rate (fl oz or oz prod./M)	Disease (% area infected)	Turf quality* (rated 1-9)
Banner MAXX + Medallion	4.0 fl oz 0.5 oz	0.3 a**	6.7 a
A14036	9.3 fl oz	0.5 a	6.5 a
Banner MAXX	4.0 fl oz	1.7 a	6.3 a
A14036	4.7 fl oz	4.0 a	6.0 a
A14036	14 fl oz	5.3 a	5.7 a
Daconil WS + Medallion	5.5 fl oz 0.5 oz	6.0 a	6.0 a
Heritage	0.4 oz	6.0 a	5.7 a
Medallion	0.5 oz	7.7 a	5.3 ab
A13972A	2.0 fl oz	8.3 a	5.3 ab
Daconil WS	5.5 fl oz	17.3 a	4.0 b
CHECK	0.0	57.3 b	1.7 c

*Turf quality rated 1-9; 9=excellent.

**Numbers within a column followed by the same letter are not significantly different at *P*=0.05.