



2013-2014 Pink Snow Mold Control Evaluation OJ Noer Center – Verona, WI

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OBJECTIVES

To evaluate fungicides for the control of *Microdochium* patch caused by the fungus *Microdochium nivale*.

MATERIALS AND METHODS

This evaluation was conducted at the OJ Noer Turfgrass Research and Educational Facility in Madison, WI on an ‘Alpha’ creeping bentgrass (*Agrostis stolonifera*) plot maintained at a height of 0.5 inches. 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 p.s.i using a CO₂ 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 ft². Early applications were made on November 7th, 2013 and late applications were made on December 2nd, 2013. The experimental plot area was inoculated with *M. nivale*-infested rye grain and covered with a GreenJacket® cover on December 3rd. Snow cover was consistent from mid-December until late March, a period of approximately 100 days. Disease severity, turf quality, and turf color were recorded on April 1st, 2014. 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 Table 1. In addition, surface temperature on the research plot was recorded using a Spectrum Watchdog® datalogger and is presented in Figure 1.

RESULTS AND DISCUSSION

Despite the prolonged snow cover in 2013-2014, *Microdochium* patch severity was very low on the experimental area with non-treated controls averaging just 3.8%. Disease was not observed on any other treatment with the exception of minor amounts on treatments 26 and 29. Other snow mold diseases such as gray (*Typhula incarnata*) and speckled (*T. ishkariensis*) were not observed. This decreased severity was likely due to the extremely cold temperatures observed in southern Wisconsin and a lack of snow depth required to properly insulate the turf surface, as evidenced by the cold surface temperatures observed in Figure 1. Differences in turf color were not observed using the NDVI meter, though products containing green pigments did appear slightly more green and resulted in a slight increase in turf quality.

Table 1: Mean snow mold severity, turf quality, and turf color assessed on April 1st, 2014 at the OJ Noer Turfgrass Research Facility in Madison, WI.

Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control		3.8a	7.0cd	0.555a
2	Chipco26GT	4.0 fl oz/1000 ft2 Late	0.0a	7.0cd	0.572a
3	Banner MAXX II	2.0 fl oz/1000 ft2 Late	0.0a	7.0cd	0.562a
4	Triton FLO	0.85 fl oz/1000 ft2 Late	0.0a	7.3c	0.582a
5	Heritage TL	2.0 fl oz/1000 ft2 Late	0.0a	7.3c	0.562a
6	1786-G	12.0 fl oz/1000 ft2 Early/Late	0.0a	8.8a	0.590a
7	Interface Triton FLO	6.0 fl oz/1000 ft2 0.85 fl oz/1000 ft2 Late Late	0.0a	7.8b	0.575a
8	Interface Triton FLO Droplex	3.0 fl oz/1000 ft2 0.55 fl oz/1000 ft2 10.0 fl oz/a Late Late Late	0.0a	8.0b	0.580a
9	Instrata Droplex	5.5 fl oz/1000 ft2 10.0 fl oz/a Late Late	0.0a	7.0cd	0.560a
10	Banner MAXX II Civitas Harmonizer Droplex	1.0 fl oz/1000 ft2 8.0 fl oz/1000 ft2 0.5 fl oz/1000 ft2 10.0 fl oz/a Late Late Late Late	0.0a	8.0b	0.575a
11	A13705W	2.6 fl oz/1000 ft2 Late	0.0a	7.0cd	0.592a
12	Secure	0.5 fl oz/1000 ft2 Late	0.0a	7.3c	0.582a
13	Secure Daconil Weatherstik	0.5 fl oz/1000 ft2 5.5 fl oz/1000 ft2 Late Late	0.0a	7.0cd	0.580a
14	Concert II	8.5 fl oz/1000 ft2 Late	0.0a	7.0cd	0.582a
15	A13705W Daconil Weatherstik	2.6 fl oz/1000 ft2 5.5 fl oz/1000 ft2 Late Late	0.0a	7.0cd	0.555a
16	A15457 A17856 A7087 PAR	0.236 fl oz/1000 ft2 1.09 fl oz/1000 ft2 0.5 fl oz/1000 ft2 0.36 fl oz/1000 ft2 Late Late Late Late	0.0a	8.0b	0.575a
17	A15457 A17856 Heritage TL PAR	0.236 fl oz/1000 ft2 1.09 fl oz/1000 ft2 1.01 fl oz/1000 ft2 0.36 fl oz/1000 ft2 Late Late Late Late	0.0a	8.0b	0.587a
18	A15457 A17856 Banner MAXX II PAR	0.236 fl oz/1000 ft2 1.09 fl oz/1000 ft2 2.0 fl oz/1000 ft2 0.36 fl oz/1000 ft2 Late Late Late Late	0.0a	7.8b	0.567a
19	A19188 A17856 PAR	1.0 fl oz/1000 ft2 1.09 fl oz/1000 ft2 0.36 fl oz/1000 ft2 Late Late Late	0.0a	8.0b	0.590a
20	Instrata PAR	9.4 fl oz/1000 ft2 0.36 fl oz/1000 ft2 Late Late	0.0a	8.0b	0.565a

^aEarly fungicide treatments were applied on Nov. 7th, 2013 and late treatments applied on Dec. 2nd, 2013.

^bMean percent diseased area assessed on April 1st, 2014.

Table 1: Mean snow mold severity, turf quality, and turf color assessed on April 1st, 2014 at the OJ Noer Turfgrass Research Facility in Madison, WI.

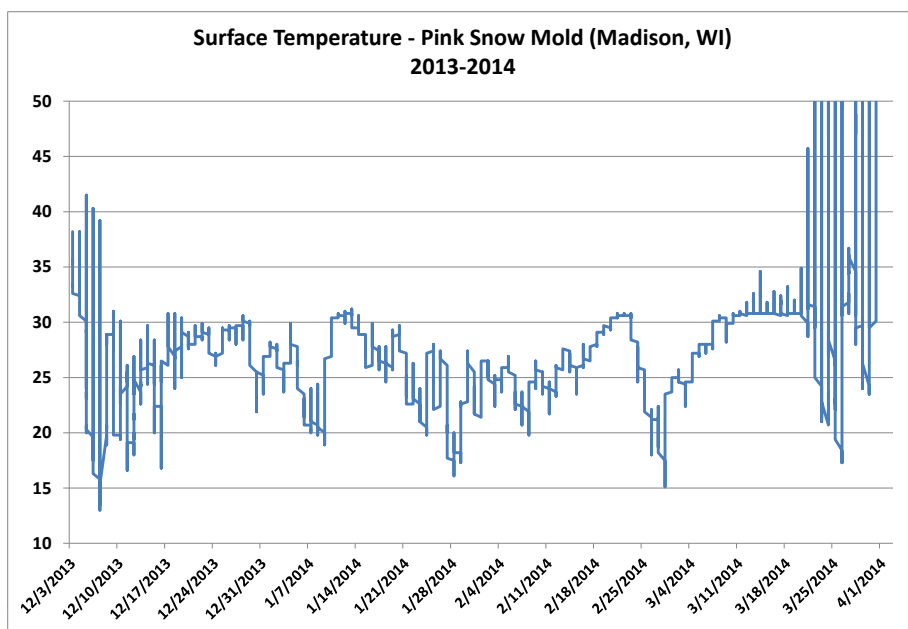
Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
21	A20744 A17856 A7087 PAR	0.5 oz/1000 ft2 1.09 fl oz/1000 ft2 0.5 fl oz/1000 ft2 0.36 fl oz/1000 ft2	Late Late Late Late	0.0a	8.0b 0.600a
22	A20744 A17856 Heritage TL PAR	0.5 oz/1000 ft2 1.09 fl oz/1000 ft2 1.01 fl oz/1000 ft2 0.36 fl oz/1000 ft2	Late Late Late Late	0.0a	8.0b 0.597a
23	A20744 A17856 Banner MAXX II PAR	0.5 oz/1000 ft2 1.09 fl oz/1000 ft2 2.0 fl oz/1000 ft2 0.36 fl oz/1000 ft2	Late Late Late Late	0.0a	8.0b 0.582a
24	A20581 PAR	0.47 fl oz/1000 ft2 0.36 fl oz/1000 ft2	Late Late	0.0a	8.0b 0.577a
25	1786-A	12.0 fl oz/1000 ft2	Early/Late	0.0a	9.0a 0.587a
26	1786-B	12.0 fl oz/1000 ft2	Early/Late	1.3a	8.8a 0.595a
27	1786-C	12.0 fl oz/1000 ft2	Early/Late	0.0a	7.3c 0.590a
28	1786-D	12.0 fl oz/1000 ft2	Early/Late	0.0a	7.3c 0.570a
29	1786-E	12.0 fl oz/1000 ft2	Early/Late	1.3a	7.0cd 0.585a
30	1786-F	12.0 fl oz/1000 ft2	Early/Late	0.0a	6.8d 0.555a

^aEarly fungicide treatments were applied on Nov. 7th, 2013 and late treatments applied on Dec. 2nd, 2013.

^bMean percent diseased area assessed on April 1st, 2014.

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

^dColor was assessed using an HCS 100 NDVI GreenSeeker from Trimble Navigation Ltd®.



Pink snow mold pressure was low at the Madison, Wisconsin test plots.