



2019-2020 Pink Snow Mold Control Evaluation: OJ Noer Research Facility – Madison, WI

Kurt Hockemeyer, Reid Melton, and Paul Koch, Ph.D.
Department of Plant Pathology
University of Wisconsin-Madison

OBJECTIVE

To evaluate fungicides and varying spray volumes for the control of *Microdochium* patch (caused by *Microdochium nivale*) on fairway height turfgrass.

MATERIALS AND METHODS

This evaluation was conducted at the OJ Noer Research and Education Facility in Madison, WI on an 'Alpha' creeping bentgrass (*Agrostis stolonifera*) fairway maintained at a height of 0.5 inches. Individual plots measured 3 ft x 4 ft and were arranged in a randomized complete block design with three replications. Individual treatments were applied at a nozzle pressure of 40 psi using a CO₂-pressurized boom sprayer equipped with two AI80025 Teejet air induction nozzles. All fungicides were agitated by hand and applied in the equivalent of either 1.5, 1.0, or 0.5 gallons of water per 1000 ft². All applications were made on 18 Nov 2019. The experimental plot area was inoculated with *M. nivale*-infested rye grains 24 hours after the fungicide applications were made and then covered with custom made insulation frames and an impermeable Greenjacket cover. The cover and frames were removed on 23 Mar 2020, and disease severity, turf quality, and turf color were evaluated. Disease severity was visually rated as percent area affected, turfgrass quality was visually rated on a 1-9 scale with 6 being acceptable, and chlorophyll content (turfgrass color) was rated using a FieldScout CM 1000 Chlorophyll Meter from Spectrum Technologies, Inc. (Aurora, IL). Treatment means were analyzed using Fisher's LSD method and are presented in Table 1.

RESULTS AND DISCUSSION

Microdochium patch pressure was quite high under the cover and frames, however the third replication had very little disease and led to large variability in the results. Non-treated controls averaged 36.7% disease and of the 20 treatments, 5 performed exceptionally well with disease severity averaging near zero. Decreasing water carrier volume appeared to negatively affect the efficacy of Secure and Heritage TL. The phytomobility of these fungicides are a contact and acropetal penetrant, respectively. Decreasing water carrier volume appeared to have no effect on Insignia and Medallion, a localized penetrant and contact fungicide, respectively. Turf quality and turf color mostly mirrored disease severity and no significant differences were observed, though the lack of disease in the third replication likely played a role in the lack of overall significant differences. Phytotoxicity was not observed with any treatment.

Table 1: Mean snow mold severity, turf quality, and turf color were assessed on March 23, 2020 at the OJ Noer Research Facility in Madison, WI.

	Treatment	Rate	Spray Volume ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control			36.7a-e	4.3a	175.0a
2	Enclave	8.0 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	0.0e	7.0a	181.0a
	Foursome	0.4 fl oz/1000 ft ²				
3	Insignia	0.7 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	41.7a-e	4.3a	222.7a
	Trinity	1.0 fl oz/1000 ft ²				
4	Trinity	1.0 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	1.7de	6.7a	160.7a
	3336F	2.0 fl oz/1000 ft ²				
5	Secure	0.5 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	18.3b-e	5.7a	181.3a
6	Secure	0.5 fl oz/1000 ft ²	1.0 gal H ₂ O/1000 ft ²	53.3a-d	3.3a	188.0a
7	Secure	0.5 fl oz/1000 ft ²	0.5 gal H ₂ O/1000 ft ²	58.3abc	3.7a	199.7a
8	Medallion	2.0 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	0.0e	7.0a	189.7a
9	Medallion	2.0 fl oz/1000 ft ²	1.0 gal H ₂ O/1000 ft ²	0.0e	7.0a	160.3a
10	Medallion	2.0 fl oz/1000 ft ²	0.5 gal H ₂ O/1000 ft ²	1.7de	7.0a	193.0a
11	Insignia	0.7 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	56.7abc	3.7a	180.7a
12	Insignia	0.7 fl oz/1000 ft ²	1.0 gal H ₂ O/1000 ft ²	55.0abc	3.3a	161.0a
13	Insignia	0.7 fl oz/1000 ft ²	0.5 gal H ₂ O/1000 ft ²	50.0a-e	4.0a	163.3a
14	Heritage TL	2.0 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	55.0abc	3.3a	180.7a
15	Heritage TL	2.0 fl oz/1000 ft ²	1.0 gal H ₂ O/1000 ft ²	58.3abc	3.3a	182.3a
16	Heritage TL	2.0 fl oz/1000 ft ²	0.5 gal H ₂ O/1000 ft ²	73.3a	2.3a	177.3a
17	Instrata	7.0 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	11.7cde	5.7a	180.3a
18	Posterity	0.16 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	55.0abc	3.3a	146.7a
19	Velista	0.5 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	64.7ab	3.0a	184.3a
20	Xzemplar	0.26 fl oz/1000 ft ²	1.5 gal H ₂ O/1000 ft ²	36.7a-e	4.3a	152.0a
			LSD P=.05	51.96	3.35	45.02

^aAll applications were applied on 18 Nov 2019 timing.

^bMean percent diseased area assessed on March 23, 2020.

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

^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.