2018-2019 Pink Snow Mold Control Evaluation: OJ Noer Research Facility – Verona, WI

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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 Verona, 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 liquid treatments were applied at a nozzle pressure of 40 p.s.i using a CO_2-pressurized boom sprayer equipped with two XR 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 ft^2. Treatments were applied using TeeJet AI80025 nozzles. One application was made on 24 Oct 2018 (Early), and all other applications were made on 16 Nov 2018 (Late). The experimental plot area was inoculated with *M. nivale*-infested rye grains shortly after the late fungicide applications were made and then covered with custom made insulation frames and an Evergreen cover. The Evergreen cover and frames were removed on 20 Mar 2019, and disease severity, turf quality, turf color were evaluated on 21 Mar 2019. 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, with non-treated controls averaging 52% disease. Medallion, Heritage TL, Instrata, and the experimental granular products provided the most effective suppression of Microdochium patch. Though not statistically significant, higher disease was observed at lower water volumes with the contact fungicide Medallion. No differences in disease control were observed with the penetrant fungicide Heritage TL at the different water volumes. Turf quality and turf color mostly mirrored disease severity. Phytotoxicity was not observed with any treatment.

Table 1: Mean snow mold severity, turf quality, and turf color were assessed on March 22, 2019 at the OJ Noer Research Facility in Verona, WI.

	Treatment	Rate	Spray Volume/Application Timinng[a]	Disease Severity[b]	Turf Quality[c]	Turf Color[d]
1	Non-treated control			51.7ab	3.7fg	117.7f
2	AND18131 4-way G	6.6 lb /1000 ft2	Late	10.0fg	6.0abc	159.7ab
3	AND18148 3-way G	6.6 lb/1000 ft2	Late	13.3efg	5.7bcd	139.0b-f
4	Prophecy G AND18131 4-way G	2.6 lb/1000 ft2 6.6 lb/1000 ft2	Early Late	11.7efg	5.7bcd	153.0a-d
5	AND12147 G	6.67 lb/1000 ft2	Late	5.0fg	6.3ab	164.7a
6	Secure	0.5 fl oz/1000 ft2	1.5 gal H2O/1000 ft2	48.3ab	3.7fg	122.7f
7	Secure	0.5 fl oz/1000 ft2	1.0 gal H2O/1000 ft2	68.3a	3.3g	122.7f
8	Secure	0.5 fl oz/1000 ft2	0.5 gal H2O/1000 ft2	45.0abc	3.7fg	126.3ef
9	Medallion	2.0 fl oz/1000 ft2	1.5 gal H2O/1000 ft2	6.7fg	6.3ab	154.7a-d
10	Medallion	2.0 fl oz/1000 ft2	1.0 gal H2O/1000 ft2	8.3fg	6.0abc	166.7a
11	Medallion	2.0 fl oz/1000 ft2	0.5 gal H2O/1000 ft2	11.7efg	5.3b-e	157.3abc
12	Insignia	0.7 fl oz/1000 ft2	1.5 gal H2O/1000 ft2	35.0b-e	5.0cde	151.7a-d
13	Insignia	0.7 fl oz/1000 ft2	1.0 gal H2O/1000 ft2	41.7bcd	4.3efg	131.3def
14	Insignia	0.7 fl oz/1000 ft2	0.5 gal H2O/1000 ft2	38.3bcd	4.7def	132.7c-f
15	Heritage TL	2.0 fl oz/1000 ft2	1.5 gal H2O/1000 ft2	23.3c-g	4.7def	151.7a-d
16	Heritage TL	2.0 fl oz/1000 ft2	1.0 gal H2O/1000 ft2	28.3b-f	4.7def	138.3b-f
17	Heritage TL	2.0 fl oz/1000 ft2	0.5 gal H2O/1000 ft2	18.3d-g	5.0cde	147.7a-e
18	Instrata	7.0 fl oz/1000 ft2	1.5 gal H2O/1000 ft2	3.3g	7.0a	160.7ab
			LSD P=.05	23.87	1.06	24.82

[a]All applications were applied at "late" timing and 1.5 gal H2O/1000 ft2, unless otherwise noted.
[b]Mean percent diseased area assessed on March 22nd, 2019.
[c]Quality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.
[d]Color was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.