



2023-2024 Fertilizer Rate Snow Mold Control Evaluation: OJ Noer Turfgrass Research Facility – Madison, WI

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OBJECTIVE

To evaluate the impact of the rate of summer-applied fertilizers on *Microdochium* patch (caused by *Microdochium nivale*) and gray snow mold (*Typhula incarnata*) on fairway height turfgrass.

MATERIALS AND METHODS

This evaluation was conducted at the OJ Noer Turfgrass 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 5 ft and were arranged in a randomized complete block design with four replications. Individual treatments were applied using a shaker jar of premeasured fertilizer to evenly apply the fertilizer over the plot. Fertilizers were applied over the course of the growing season on 19 May 2023, 16 Jun 2023, 15 Aug 2023, and 15 Sep 2023. The experimental plot area was covered with an Evergreen tarp on 11 Nov 2023 to help insulate the turf surface and encourage snow mold development. The tarp was removed on 21 Feb 2024 and disease severity, turf quality, and turf color were assessed on 5 Mar 2024. 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

The main disease present on the plot was gray snow mold caused by *Typhula incarnata* (90% of disease present) with a small amount of pink snow mold caused by *Microdochium nivale* (10% of disease present). Nontreated control plots averaged 40% disease, while fertilizer treatments appeared to perform only marginally better. None of the fertilizer treatments controlled disease to acceptable levels. There does not appear to be any discernible relationship between summer fertilizer rates and snow mold severity.

Table 1: Mean snow mold severity, turf quality, and turf color were assessed on 5 Mar 2024 at the OJ Noer Research Facility in Madison, WI.

	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control			40.0a	4.3a	120.5a
2	Urea	0.25 lb N/1000 ft2	BFOS	42.5a	4.0a	124.3a
3	Urea	0.5 lb N/1000 ft2	BFOS	30.0a	4.5a	152.8a
4	Urea	1.0 lb N/1000 ft2	BFOS	32.5a	4.5a	114.8a
5	Urea Potassium sulfate	0.25 lb N/1000 ft2 0.25 lb K2O/1000 ft2	BFOS	40.0a	4.0a	110.3a
6	Urea Potassium sulfate	0.5 lb N/1000 ft2 0.25 lb K2O/1000 ft2	BFOS	32.5a	4.3a	119.3a
7	Urea Potassium sulfate	1.0 lb N/1000 ft2 0.25 lb K2O/1000 ft2	BFOS	35.0a	4.3a	116.5a
8	Urea Potassium sulfate	0.25 lb N/1000 ft2 0.5 lb K2O/1000 ft2	BFOS	35.0a	4.5a	128.5a
9	Urea Potassium sulfate	0.5 lb N/1000 ft2 0.5 lb K2O/1000 ft2	BFOS	31.3a	4.5a	137.0a
10	Urea Potassium sulfate	1.0 lb N/1000 ft2 0.5 lb K2O/1000 ft2	BFOS	23.8a	5.0a	147.0a
11	Urea Potassium sulfate	0.25 lb N/1000 ft2 1.0 lb K2O/1000 ft2	BFOS	28.8a	4.5a	138.3a
12	Urea Potassium sulfate	0.5 lb N/1000 ft2 1.0 lb K2O/1000 ft2	BFOS	28.8a	4.5a	152.5a
13	Urea Potassium sulfate	1.0 lb N/1000 ft2 1.0 lb K2O/1000 ft2	BFOS	27.5a	4.8a	132.3a
			LSD P=.05	12.12	0.79	35.2

^aB = 19 May, F = 16 Jun, O = 15 Aug, S = 15 Sep.

^bMean percent diseased area assessed on 5 Mar 2024.

^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.