



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

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### **OBJECTIVE**

To evaluate the impact of fall fertilizer timing on *Microdochium* patch (caused by *Microdochium nivale*) and grey snow mold (*Typhula incarnata*) development 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. Summer maintenance applications were made on 19 May 2023, 16 Jun 2023, 14 Jul 2023, and 15 Aug 2023 so that all treatments received the same nutrient totals over the course of the season. The only difference between treatments was the timing of the last fertilizer application in fall. The experimental plot area was covered with an Evergreen tarp on 20 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 evaluated 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 45% disease, while fertilizer treatments appeared to perform only marginally better. No statistically significant differences were observed among treatments suggesting that fall fertilizer timing does not impact the severity of snow mold development the following winter.

**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 <sup>a</sup>	Disease Severity <sup>b</sup>	Turf Quality <sup>c</sup>	Turf Color <sup>d</sup>
1	Non-treated control			45.0a	3.8a	145.5a
2	Urea	0.5 lb N/1000 ft2	BFJO	39.0a	4.0a	127.2a
	Potassium sulfate	0.5 lb K2O/1000 ft2	BFJO			
3	Urea	1.0 lb N/1000 ft2	S	22.6a	5.0a	161.9a
	Potassium sulfate	0.5 lb K2O/1000 ft2	BFJO			
4	Urea	1.0 lb N/1000 ft2	X	29.0a	4.7a	146.9a
	Potassium sulfate	0.5 lb K2O/1000 ft2	BFJO			
5	Urea	0.75 lb N/1000 ft2	Z	31.3a	4.3a	143.3a
	Potassium sulfate	0.25 lb K2O/1000 ft2	BFJO			
6	Potassium sulfate	1.0 lb N/1000 ft2	S	37.3a	4.3a	124.9a
	Urea	0.75 lb N/1000 ft2	BFJO			
7	Potassium sulfate	0.25 lb K2O/1000 ft2	X	45.6a	4.0a	125.5a
	Potassium sulfate	1.0 lb N/1000 ft2	Z			
LSD P=.05				17.08	0.71	38.03

<sup>a</sup>B = May 19, F = Jun 16, J = Jul 14, O = Aug 15, S = Sep 15, X = Oct 16, Z = Nov 15.

<sup>b</sup>Mean percent diseased area assessed on 5 Mar 2024.

<sup>c</sup>Quality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

<sup>d</sup>Color was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.