

Peradigm Safety on Creeping Bentgrass

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Background/Objective:

Determine the Peradigm concentration that causes phytotoxicity on 7 year old Pennlinks creeping bentgrass on a USGA sand-based green.

Site Information

Location:	W.H. Daniel Research and Diagnostic Center
Soil Type:	7 year old USGA sand
Soil pH:	7.6
Soil Organic Matter (%):	1.7
Turfgrass Species:	'Pennlinks' Creeping bentgrass
Turf Condition:	Good
Turf Management:	
Mowing Height cm (in):	0.36 (.14)
Fertilization:	5 lbs N/1000ft ² /yr
Irrigation:	To prevent moisture stress
Testing on Site Previous Year:	None
Target Pest:	Phytotoxicity
Growth Stage:	N/A

Application Information

Application Date:	2 Aug
Application Time:	9:00am
Air Temperature C⁰(F⁰):	24.5 (76)
Relative Humidity(%):	75
Wind Speed m s⁻¹ (mph):	1.8-3.1 (4-7)
Soil Temperature(7.6 cm depth) C⁰(F⁰):	23.9 (75)
Soil Moisture:	moist
Spray Volume L ha⁻¹ (gal 1000 ft⁻²):	814 (2)
Spray Pressure:	35psi
Spray Nozzle:	8001.5
Spray Equipment:	CO ₂ backpack
Irrigation After Application:	None
Experimental Design:	Randomized complete block
Replications:	3
Plot Size m (ft):	1.5 X 1.5 (5 X 5)

Results:

- On 3 Aug (1 day after application), Peradigm at 12, 24, and 48 oz/1000 ft² caused significant phytotoxicity, which was still evident by 5 Aug. (Table 1).
- By 9 Aug (6 days after application), only the 24 and 48 oz/1000 ft² rates of Peradigm caused noticeable phytotoxicity.
- No long-term stand reduction was seen with any of the rates (data not shown).
- Peradigm at rates up to 6.0 oz/1000 ft² can be used safely under the conditions of this study.

Table 1. Phytotoxicity^a to creeping bentgrass following an application of Peradigm on 2 Aug 2004.

Treatment	Rate of application	3 Aug	5 Aug	9 Aug
	oz/M			
Peradigm	0.6	9.0	9.0	9.0
Peradigm	1.2	9.0	9.0	9.0
Peradigm	3.0	9.0	9.0	9.0
Peradigm	6.0	8.7	9.0	8.0
Peradigm	12.0	6.3	7.7	8.0
Peradigm	24.0	2.3	4.3	5.0
Peradigm	48.0	1.0	2.0	2.7
Check		9.0	9.0	9.0
LSD (0.05)		0.6	0.5	1.1

^a Phytotoxicity was rated on a scale of 1 to 9 where 1 = completely brown turf, 7 = acceptable damage, and 9 = no phytotoxicity.