

MON 44951 Screen on Various *Poa trivialis* Cultivars

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Background/Objective:

To determine the performance of MON 44951 on various *Poa trivialis* cultivars. Earlier studies suggested that there may be differential susceptibility among cultivars of *Poa trivialis* to MON 44951. Since *Poa trivialis* originates from seed contamination, it is likely that multiple cultivars of *Poa trivialis* may be on a single golf course, homelawn, or athletic field. It is critical to understand the potential differences in response to MON 44951 in order to set realistic expectations of control and to hopefully maximize control.

Site Information

Location:	W.H. Daniel Research and Diagnostic Center
Soil Type:	Starks-Fincastle silt loam
Soil pH:	7.2
Turfgrass Species:	Creeping bentgrass harvested from 5 IN golf Courses
Turf Condition:	Good
Turf Management:	
Mowing Height cm (in):	1.3 (0.5)
Fertilization:	NA
Irrigation:	To prevent moisture stress

Application Information

Application Date:	15 June	8 July	29 July
Application Time:	8:30a.m.	9:00a.m.	1:00p.m.
Air Temperature C⁰(F⁰):	28.4 (83)	21.9 (71)	25.2 (77)
Relative Humidity(%):	68	66	56
Wind Speed m s⁻¹ (mph):	0.4 – 0.9 (1-2)	0.4 – 0.9 (1-2)	1.3 - 2.2 (3-5)
Soil Temperature(7.6 cm depth) C⁰(F⁰):	23.9 (75)	21.1 (70)	26.1 (79)
Soil Moisture:	moist	moist	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:	Split plot		
Replications:	4		
Plot Size m (ft):	1.5 X 1.5 (5 X 5)		

Results:

Cup-cutter sized plugs of *Poa trivialis* were harvested from five IN golf courses and the Daniel Research Center in May of 2004 and transplanted to plots at the Daniel Research Center. After the plugs were allowed to establish for 3 to 4 weeks, treatments were applied. Data was recorded in March 2005.

The *Poa trivialis* cultivars can be categorized into 3 response groups:

1. Increasing damage (decreased % cover) with increasing rate of MON 44951. This group included samples numbers 1, 2, 3, 4, 5, 6, 9, and 10.
2. Marked damage from both rates of MON 44951, but little difference in effect between the rates or in some cases, less damage at the higher rate. This group included sample numbers 7, 8, 11, and 12.
3. Little or no effect of MON 44951. These samples included numbers 13 and 14 both of which were from the Daniel Center originally.

These results are preliminary, and somewhat variable given the size of the plugs used. However, the data indicate there are differential susceptibilities among the *Poa trivialis* cultivars to MON 44951. A more in-depth study will be done at Cobblestone in 2005 to help better define these effects.

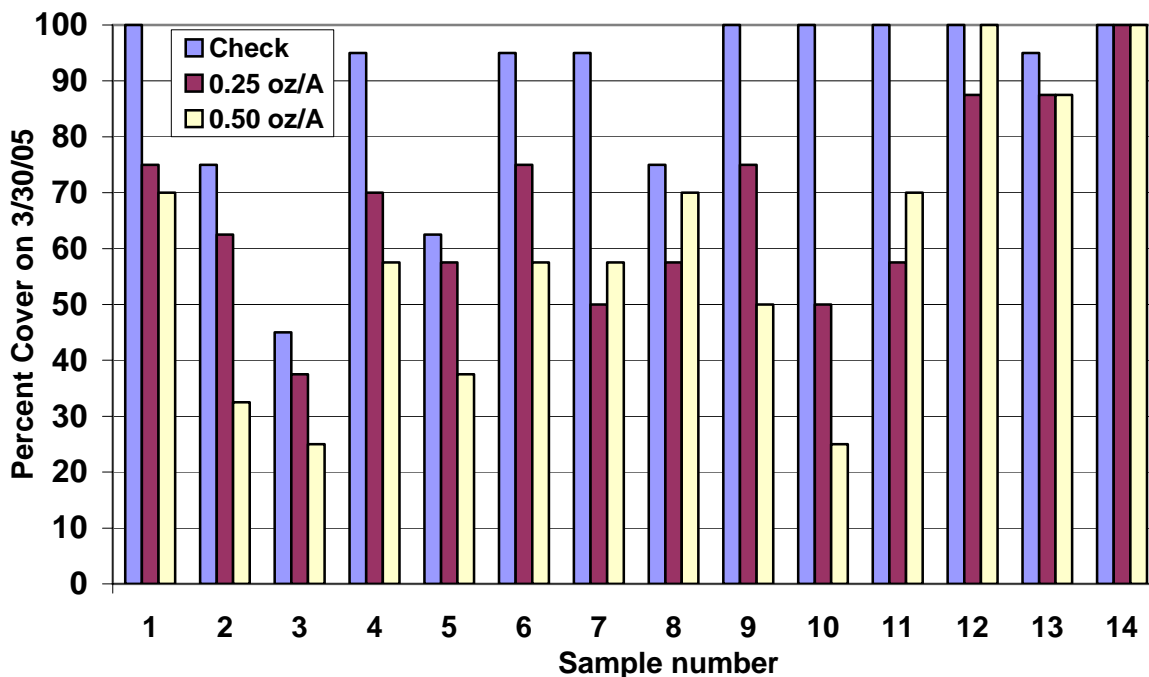


Figure 1. Effect of MON44951 applied in June on percent cover of *Poa trivialis* plugs that were transplanted from 6 locations in Indiana. The samples were harvested from the following locations:

Sample ID	Location	Sample ID	Location
1	Brickyard Crossing 11 fairway, Indianapolis	8	Sycamore Hills, Fort Wayne
2	Brickyard Crossing 12 fairway, Indianapolis	9	Cobblestone 1, Kendallville
3	Wolf Run 1, Indianapolis	10	Cobblestone 2, Kendallville
4	Wolf Run 2, Indianapolis	11	Cobblestone 3, Kendallville
5	Wolf Run 3, Indianapolis	12	Cobblestone 4, Kendallville
6	Prairie View 1, Indianapolis	13	Daniel Turf Center plot 4, West Lafayette
7	Prairie View 2, Indianapolis	14	Daniel Turf Center plot 7, West Lafayette