

Broadleaf Weed Control in Cool Season Turf with MON 44951 75WDG

Zac Reicher and Dan Weisenberger

Dept. of Agronomy

Purdue University

West Lafayette, IN

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Background/Objective: MON 44951 has exhibited activity on some broadleaf weeds in small plots. The objective of this study was to determine the selective postemergence control of common broadleaf weeds in cool-season turf using single or sequential applications of MON 44951 75WDG.

Site Information

Location:	William H. Daniel Research and Diagnostic Center
Soil Type:	Starks-Fincastle silt loam
Soil pH:	7.2
Turfgrass Species:	Kentucky bluegrass blend
Turf Condition:	good
Turf Management:	
Mowing Height cm (in):	6.25 (2.5)
Fertilization:	1 lb N/M/YR
Irrigation:	To prevent moisture stress
Testing on Site Previous Year:	none
Target Pest:	Dandelion (<i>Taraxacum officinale</i>) White clover (<i>Trifolium repens</i>) Ground ivy (<i>Glechoma hederacea</i>)
Growth Stage:	mature

Application Information

Application Date:	25 May	7 July
Application Time:	7:30 A.M.	8:30 A.M.
Air Temperature C°(F°):	13.2 (56)	22.7 (73)
Relative Humidity(%):	62	71
Wind Speed m s⁻¹ (mph):	2.2 (5)	1.3 (3)
Soil Temperature(7.6 cm depth) C°(F°):	13.3 (56)	23.3 (74)
Soil Moisture:	Dry	Moist
Spray Volume L ha⁻¹ (gal 1000 ft⁻²):	814 (2)	
Spray Pressure:	30psi	
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:

Ground ivy: All treatments of MON44591 reduced cover of ground ivy on 8 July and 22 July compared to the check except the single application at 0.5 oz./A. By 18 Sep, only the sequential applications reduced ground ivy cover compared to the check. Trimec Classic consistently reduced ground ivy cover compared to single or sequential applications of MON 44951.

Dandelion: All treatments of MON44591 reduced cover of dandelion on 23 June and 22 July compared to the check except the single application at 0.5 oz./A. By 18 Sep, all MON 44951 treatments reduced dandelion cover compared to the check. MON44951 and Trimec Classic reduced dandelion cover similarly

Clover: Clover cover on our plots was not as consistent as cover of dandelion or ground ivy, and thus treatments effects were more difficult to detect. However, MON44951 did not reduce clover cover compared to the untreated check at any time in this study.

Table 1. Percent cover^a of groundy ivy treated in summer with MON 44951 or Trimec.

Treatment	Rate of application	10 June	23 June	8 July	22 July	18 Sept
	oz prod./A					
MON 44951 ^b	0.5	33.3	31.7	31.7	36.7	95.7
MON 44951 ^b	0.75	30.0	25.0	18.3	26.7	91.7
MON 44951 ^b	1.0	28.3	30.0	21.7	23.3	88.3
MON 44951 ^b	1.5	31.7	35.0	20.0	26.7	91.7
MON 44951 ^b	2.0	35.0	31.7	16.7	26.7	90.3
MON 44951 ^b	0.5	26.7	30.0	25.0	18.3	65.0
MON 44951 ^{bc}	0.5					
MON 44951 ^b	0.75	21.7	25.0	16.7	8.0	55.0
MON 44951 ^{bc}	0.75					
MON 44951 ^b	1.0	23.3	20.0	13.3	8.7	68.3
MON 44951 ^c	1.0					
Trimec Classic	4.0 ^d	16.7	4.3	2.7	3.0	23.3
Check		31.7	30.0	35.0	46.7	95.7
LSD (0.05)		NS	NS	13.5	11.4	26.7

^a Percent of the plot area covered by ground ivy.

^b The surfactant MON 0818 was included at 0.25 percent volume per volume.

^c Indicates a split application with the first application on 25 May and the second application on 7 July.

^d Rate of application was pints per acre.

Table 2. Percent cover^a of dandelion treated in summer with MON 44951 or Trimec.

Treatment	Rate of application	10 June	23 June	8 July	22 July	18 Sept
	oz prod./A					
MON 44951 ^b	0.5	20.0	16.0	8.7	23.3	30.0
MON 44951 ^b	0.75	26.7	10.0	22.7	12.7	25.0
MON 44951 ^b	1.0	16.7	8.3	11.7	11.3	11.7
MON 44951 ^b	1.5	15.0	6.0	5.7	3.0	11.7
MON 44951 ^b	2.0	13.3	3.7	15.0	3.7	10.0
MON 44951 ^b	0.5	21.7	10.0	9.7	1.7	16.7
MON 44951 ^{b c}	0.5					
MON 44951 ^b	0.75	20.0	5.3	16.0	1.0	8.3
MON 44951 ^{b c}	0.75					
MON 44951 ^b	1.0	23.3	10.0	2.7	0.7	10.0
MON 44951 ^{b c}	1.0					
Trimec Classic	4.0 ^d	13.3	3.7	3.3	5.0	18.3
Check		23.3	25.0	18.3	30.0	43.3
LSD (0.05)		NS	10.5	NS	13.0	12.4

^a Percent of the plot area covered by dandelion.

^b The surfactant MON 0818 was included at 0.25 percent volume per volume. ^c Indicates a split application with the first application on 25 May and the second application on 7 July.

^d Rate of application was pints per acre.

Table 3. Percent cover^a clover treated in summer with MON 44951 or Trimec.

Treatment ^b	Rate of application	10 June	23 June	8 July	22 July	18 Sept
	oz prod./A					
MON 44951 ^b	0.5	3.0	8.0	18.3	21.7	8.3
MON 44951 ^b	0.75	5.3	9.0	20.0	43.3	10.0
MON 44951 ^b	1.0	6.0	9.0	13.3	35.0	18.3
MON 44951 ^b	1.5	4.0	1.7	6.7	10.7	13.3
MON 44951 ^b	2.0	2.0	0.0	8.3	5.3	7.7
MON 44951 ^b	0.5	11.7	13.3	18.3	16.7	18.3
MON 44951 ^{bc}	0.5					
MON 44951 ^b	0.75	7.7	4.3	11.7	4.3	5.7
MON 44951 ^{bc}	0.75					
MON 44951 ^b	1.0	5.7	5.3	13.3	6.0	6.7
MON 44951 ^{bc}	1.0					
Trimec Classic	4.0 ^d	1.3	0.0	1.7	1.0	0.7
Check		5.0	3.3	21.7	11.7	9.0
LSD (0.05)		NS	NS	NS	13.7	NS

^a Percent of the plot area covered by clover.

^b The surfactant MON 0818 was included at 0.25 percent volume per volume.

^c Indicates a split application with the first application on 25 May and the second application on 7 July.

^d Rate of application was pints per acre.