

Knotweed Control using Tenacity
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Background/Objective: Does Tenacity control knotweed?

Site Information

Location:	William H. Daniel Research and Diagnostic Center	
Soil Type:	Starks-Fincastle silt loam	
Soil pH:	7.2	
Turfgrass Species:	annual bluegrass	
Turf Condition:	poor	
Turf Management:	Mowing Height cm (in):	2.5 (1)
	Fertilization:	none
	Irrigation:	none
Testing on Site Previous Year:	none	
Target Pest:	Prostrate knotweed (<i>Polygonum aviculare</i> L.)	
Growth Stage:		

Application Information

Application Date:	30 May	20 June
Application Time:	1:30	8:30
Air Temperature C°(F°):	32.3 (90)	22.0 (72)
Relative Humidity(%):	29	61
Wind Speed m s⁻¹ (mph):	0.9 (2)	0.4 (1)
Soil Temperature(7.6 cm depth) C°(F°):	23.5 (74)	20 (68)
Soil Moisture:	moist	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:

- Initial applications of Tenacity reduced knotweed cover measured on 15 June, which was two weeks after initial application (Table 1).
- Injury caused by Tenacity was visible primarily on the younger leaves of the plant with very little injury to the older leaves and stems.
- Though injury was still visible on 27 June, no reduction of knotweed cover was evident on 27 June and 12 July.
- Sequential applications of Tenacity made at 2 weeks rather than 3 weeks may have improved control as we have seen with other weeds.

Table 1. Knotweed percent cover^a and injury^b after Tenacity applications.

Treatment ^c	Rate of application	15 June	27 June	12 July	8 June	27 June
	lb ai/A	— % cover —			— injury —	
Tenacity 4SC	0.156	18	25	12	7	7
Tenacity 4SC ^d	0.156					
Tenacity 4SC	0.187	15	18	6	7	6
Tenacity 4SC ^d	0.187					
Tenacity 4SC	0.25	15	15	7	8	6
Tenacity 4SC ^d	0.25					
Check		40	22	6	9	9
LSD (0.05)		16	NS	NS	1	1

^a Percent of the plot area covered by knotweed.

^b Injury was rated on a scale of 1 to 9 with 9 = no injury.

^c All applications received NIS at the rate of 0.25 %v/v.

^d Treatments were a split application with the initial 30 May and split 20 June.