



Reduced-Risk Weed Management

Shane Sommers, Kurt Hockemeyer and Paul Koch, Ph.D.
University of Wisconsin - Madison
Department of Plant Pathology

OBJECTIVE

To determine the efficacy of various reduced-risk herbicides for the control of various broadleaf weeds in lawn-height turfgrass.

MATERIALS AND METHODS

The study was conducted at the O.J. Noer Turfgrass Research and Education Facility in Madison, WI on lawn-height Kentucky bluegrass/perennial ryegrass mixture with heavy weed infestations. The 2017 trial was initiated in fall 2016 and was repeated for the 2018 season. The individual plots measured 3 ft X 10 ft and were arranged in a randomized complete block design with four replications. Individual treatments were applied at a nozzle pressure of 40 p.s.i using a CO₂ pressurized boom sprayer equipped with XR Teejet AI8004 VS nozzles. All treatments were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft², except for Adios herbicide (4.5 gallons of water per 1000 ft²) and Civitas WEEDfree (1.15 gallons of water per 1000 ft²) per the label recommendations. One herbicide application was initiated on 10/25/2017, while the rest were initiated in the spring of 2018 on various dates. Weed counts were conducted 3 times in spring/summer of 2018. Results were subjected to an analysis of variance and means were separated using Fisher's LSD (P = 0.05). Results are displayed in Tables 1.

RESULTS AND DISCUSSION

The second year of this trial did have significant differences in percent weeds per plot at the beginning of the season due to the previous year's herbicide applications. Only Tenacity and A.D.I.O.S did not significantly decrease weed cover compared to the non-treated control on the July 3rd rating date. Defendor – Fall App, Turflon Ester Ultra, Trimec, and Civitas WEEDfree were the most effective treatments on the July 3rd rating date, with Defendor – Spring App just behind in terms of weed control efficacy.

Table 1. Mean percent weeds per treatment at the OJ Noer Turfgrass Research and Education Facility in Madison, WI in 2018. Study was initiated in fall 2016.

Treatment	Rate	Application Date	Percent Weed Cover ^a			
			May 18	Jun 8	July 3	
1	Non-treated control		67.36a	76.39a	75.00a	
2	Fiesta	25.2 fl oz/1000 ft ²	5/16	31.25c	41.67b	40.28cd
3	Tenacity Spreader Sticker	5 fl oz/A	5/16	53.47ab	54.17b	63.19ab
		3 pts/100 gal	5/16			
4	Quicksilver	2 fl oz/A	5/16	49.31b	43.75b	50.00bc
5	Adios	192 fl oz/1000 ft ²	5/16	50.00b	56.25b	69.44a
6	Defendor-Spring Spreader Sticker	4 fl oz/A	4/23	9.72e	4.86cd	24.31de
		3 pts/100 gal				
7	Defendor-Fall Spreader Sticker	4 fl oz/A	10/25	24.31cde	20.83c	15.28ef
		3 pts/100 gal				
8	Turflon Ester Ultra	0.5 qts/A	5/16	49.31b	13.19cd	10.42ef
9	Trimec 1000	1.5 fl oz/1000 ft ²	5/16	13.89de	0.00d	0.00f
10	Civitas WEEDfree	4 gal/a	5/16	27.78cd	15.28cd	6.94ef

^aWeeds were visually assessed using a 36-point grid and tallying weeds at each point per plot. Means in each column followed by the same letter do not significantly differ (P=.05, Fisher LSD).