

## Kentucky Bluegrass Mitigation in Golf Course and Commercial Turf

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### Background/Objective:

ETQ Kentucky bluegrass turf will have an excellent potential technical and commercial fit in golf course and commercial turf to replace common Kentucky bluegrass. The objective is to evaluate herbicide alternatives for postemergence control of ETQ Kentucky bluegrass.

### Site Information

<b>Location:</b>	W.H. Daniel Research and Diagnostic Center
<b>Soil Type:</b>	Starks-Fincastle silt loam
<b>Soil pH:</b>	7.2
<b>Soil Organic Matter (%):</b>	6.0
<b>Turfgrass Species:</b>	Kentucky bluegrass blend
<b>Turf Condition:</b>	Good
<b>Turf Management:</b>	
<b>Mowing Height cm (in):</b>	6.3 (2.5)
<b>Fertilization:</b>	3.0 lbs N/1000 ft <sup>2</sup> /yr
<b>Irrigation:</b>	To prevent moisture stress
<b>Testing on Site Previous Year:</b>	None
<b>Target Pest:</b>	Kentucky bluegrass ( <i>Poa pratensis</i> )
<b>Growth Stage:</b>	Mature

### Application Information

<b>Application Date:</b>	8 July	6 August	1 Sept
<b>Application Time:</b>	9:00am	9:00am	8:30am
<b>Air Temperature C<sup>0</sup>(F<sup>0</sup>):</b>	21.9 (71)	16.5 (62)	24 (75)
<b>Relative Humidity(%):</b>	66	73	65
<b>Wind Speed m s<sup>-1</sup> (mph):</b>	0.4-0.9 (1-2)	calm	calm
<b>Soil Temperature(7.6 cm depth) C<sup>0</sup>(F<sup>0</sup>):</b>	21.1 (70)	18.9 (66)	19.4 (67)
<b>Soil Moisture:</b>	moist	moist	moist
<b>Spray Volume L ha<sup>-1</sup> (gal 1000 ft<sup>-2</sup>):</b>	407 (1)		
<b>Spray Pressure:</b>	35psi		
<b>Spray Nozzle:</b>	8001.5		
<b>Spray Equipment:</b>	CO <sub>2</sub> backpack		
<b>Irrigation After Application:</b>	None		
<b>Experimental Design:</b>	Randomized complete block		
<b>Replications:</b>	3		
<b>Plot Size m (ft):</b>	1.5 X 1.5 (5 X 5)		

### Results:

Four treatments provided the best control of Kentucky bluegrass and those were Roundup Pro applied once or twice at 1.5 lbs ai/A, two applications of TranXit, and two applications of Fusilade followed by Envoy. Two applications of Monument provided slightly less control than the previous four treatments, but a third application of Monument may have improved control.

**Table 1.** Percent cover of Kentucky bluegrass after application of nonselective herbicides.

Treatment	Rate of application	23 July	6 Aug	20 Aug	1 Sept	30 Sept
	lb a.i./A	-----% r <sup>a</sup> -----				
Roundup Pro 3L	1.5	8.3	1.0	0.7	0.3	6.7
Roundup Pro 3L	1.5	8.3	2.0	0.0	0.0	3.0
Roundup Pro 3L <sup>b</sup>	1.5					
Fusilade II 2L	0.38	65.0	51.7	94.3	98.3	98.3
COC	1 <sup>c</sup>					
Fusilade II 2L	0.38	66.7	50.0	20.0	2.3	73.3
COC	1 <sup>c</sup>					
Fusilade II 2L <sup>c</sup>	0.38					
COC	1 <sup>c</sup>					
Envoy 0.94L	0.25	60.0	88.3	97.3	100.0	100.0
COC	1 <sup>c</sup>					
Envoy 0.94L	0.25	53.3	85.0	68.3	63.3	83.3
COC	1 <sup>c</sup>					
Envoy 0.94L <sup>b</sup>	0.25					
COC	1 <sup>c</sup>					
Vantage 1L	0.47	58.3	68.3	84.0	88.3	96.7
COC	1 <sup>c</sup>					
Vantage 1L	0.47	56.7	58.3	13.3	5.0	73.3
COC	1 <sup>c</sup>					
Vantage 1L <sup>b</sup>	0.47					
COC	1 <sup>c</sup>					
Revolver 0.19 SC	0.03	58.3	78.3	90.7	96.7	99.0
Revolver 0.19 SC	0.03	60.0	68.3	48.3	8.3	65.0
Revolver 0.19 SC <sup>b</sup>	0.03					
Monument 75WG	0.03	43.3	35.0	30.0	53.3	76.7
NIS	0.5 <sup>c</sup>					
Monument 75WG	0.03	55.0	36.7	10.0	0.0	33.3
NIS	0.5 <sup>c</sup>					
Monument 75WG <sup>b</sup>	0.03					
NIS	0.5 <sup>c</sup>					
Tranxit 25WP	0.03	48.3	71.7	86.7	93.3	96.7
NIS	0.5 <sup>c</sup>					
Tranxit 25WP	0.03	58.3	71.7	35.0	0.7	6.3
NIS	0.5 <sup>c</sup>					
Tranxit 25WP <sup>b</sup>	0.03					
NIS	0.5 <sup>c</sup>					
Finale 1L	1	16.7	28.3	76.7	93.3	96.7
Finale 1L	1	16.7	31.7	11.7	18.3	73.3
Finale 1L <sup>b</sup>	1					
Check		100.0	98.7	100.0	100.0	100.0
Fusilade II 2L	0.38	65.0	61.7	15.0	15.0	6.0
COC	1 <sup>c</sup>					
Fusilade II 2L <sup>b</sup>	0.38					
COC	1 <sup>c</sup>					
Envoy 0.94L <sup>d</sup>	0.25					
COC	1 <sup>c</sup>					
LSD (0.05)		8.9	13.3	15.2	16.0	25.9

<sup>a</sup> Percent of the plot covered by Kentucky bluegrass.<sup>b</sup> Indicates split application with 4 week split on 6 Aug<sup>c</sup> Rate of application was percent volume per volume.<sup>d</sup> Indicates split application with 8 week split on 1 Sep.

**Table 2.** Percent injury of Kentucky bluegrass after application of nonselective herbicides.

Treatment	Rate of application	23 July	6 Aug	20 Aug	1 Sept	30 Sept
	lb a.i./A	-----% <sup>a</sup> -----				
Roundup Pro 3L	1.5	91.7	98.3	99.3	100.0	93.3
Roundup Pro 3L	1.5	91.7	97.3	100.0	100.0	97.0
Roundup Pro 3L <sup>b</sup>	1.5					
Fusilade II 2L	0.38	35.0	50.0	5.0	0.0	1.7
COC	1 <sup>c</sup>					
Fusilade II 2L	0.38	33.3	53.3	85.0	95.0	26.7
COC	1 <sup>c</sup>					
Fusilade II 2L <sup>b</sup>	0.38					
COC	1 <sup>c</sup>					
Envoy 0.94L	0.25	40.0	8.3	0.0	0.0	0.0
COC	1 <sup>c</sup>					
Envoy 0.94L	0.25	46.7	15.0	50.0	60.0	16.7
COC	1 <sup>c</sup>					
Envoy 0.94L <sup>b</sup>	0.25					
COC	1 <sup>c</sup>					
Vantage 1L	0.47	41.7	36.7	18.3	6.7	3.3
COC	1 <sup>c</sup>					
Vantage 1L	0.47	43.3	63.3	86.7	93.3	26.7
COC	1 <sup>c</sup>					
Vantage 1L <sup>b</sup>	0.47					
COC	1 <sup>c</sup>					
Revolver 0.19 SC	0.03	41.7	31.7	0.0	1.7	1.0
Revolver 0.19 SC	0.03	40.0	45.0	65.0	81.7	35.0
Revolver 0.19 SC <sup>b</sup>	0.03					
Monument 75WG	0.03	56.7	71.7	63.3	43.3	23.3
NIS	0.5 <sup>c</sup>					
Monument 75WG	0.03	45.0	65.0	91.7	100.0	66.7
NIS	0.5 <sup>b</sup>					
Monument 75WG <sup>b</sup>	0.03					
NIS	0.5 <sup>c</sup>					
Tranxit 25WP	0.03	51.7	36.7	0.0	3.3	3.3
NIS	0.5 <sup>c</sup>					
Tranxit 25WP	0.03	41.7	40.0	63.3	98.3	93.7
NIS	0.5 <sup>c</sup>					
Tranxit 25WP <sup>b</sup>	0.03					
NIS	0.5 <sup>c</sup>					
Finale 1L	1	83.3	65.0	6.7	6.7	3.3
Finale 1L	1	83.3	70.0	91.7	80.0	26.7
Finale 1L <sup>b</sup>	1					
Check		0.0	0.0	0.0	0.0	0.0
Fusilade II 2L	0.38	35.0	51.7	85.0	80.0	94.0
COC	1 <sup>c</sup>					
Fusilade II 2L <sup>b</sup>	0.38					
COC	1 <sup>c</sup>					
Envoy 0.94L <sup>d</sup>	0.25					
COC	1 <sup>c</sup>					
LSD (0.05)		8.9	16.3	16.2	21.7	25.9

<sup>a</sup> Percent of the Kentucky bluegrass injured.<sup>b</sup> Indicates split application with 4 week split on 6 Aug<sup>c</sup> Rate of application was percent volume per volume.<sup>d</sup> Indicates split application with 8 week split on 1 Sep.