

Broadleaf weed control with fall applications of Certainty in cool season turf

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Background/Objective: Certainty herbicide has exhibited broadleaf weed activity in small plots and strip trials. The objective of this study is to evaluate postemergence control of dandelion and white clover and safety of Certainty to Kentucky bluegrass.

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:	fair
Turf Management: Mowing Height cm (in):	6.3 (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>)
Growth Stage:	mature

Application Information

Application Date:	27 Sep	26 Oct
Application Time:	8:30 a.m.	9:00 a.m.
Air Temperature C⁰(F⁰):	14.2 (58)	8.4 (47)
Relative Humidity(%):	73	76
Wind Speed m s⁻¹ (mph):	1.3 (3)	0.4 (1)
Soil Temperature(7.6 cm depth) C⁰(F⁰):	16.7 (62)	10 (50)
Soil Moisture:	wet	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:	Randomized complete block	
Replications:	3	
Plot Size m (ft):	1.5 X 1.5 (5 X 5)	

Results:

- The 14 Sep applications of Certainty caused noticeable phytotoxicity by 14 Oct, but the phytotoxicity was still considered acceptable (Table 1).
- By 14 Nov, Certainty at 2.0 oz/A applied only on 27 Sep and all of the sequential Certainty treatments caused phytotoxicity to the bluegrass.
- Significant phytotoxicity was still visible on Certainty at 2.0 oz/A applied 27 Nov and all of the split applications of Certainty higher than 0.75 oz/A
- All treatments reduced dandelion cover by 21 Nov (Table 2).
- All Certainty treatments other than the single application at 0.5 oz/A provided dandelion control similar to Trimec Classic by 16 May.
- All Certainty treatments provided clover control similar to Trimec Classic on 26 Oct and 21 Nov (Table 3).
- There were no significant differences in clover control among any of the treatments by 16 May.

Table 1. Phytotoxicity^a of Kentucky bluegrass treated late fall 2005 with Certainty or Trimec Classic.

Treatment ^b	Rate of application	4 Oct	14 Oct	14 Nov	21 Nov
	oz prod/A				
Certainty 75WG	0.5	9.0	8.0	8.0	8.7
Certainty 75WG	0.75	9.0	8.3	8.3	9.0
Certainty 75WG	1.0	8.7	7.7	7.7	9.0
Certainty 75WG	1.5	9.0	8.3	7.3	8.3
Certainty 75WG	2.0	8.7	7.0	5.0	5.7
Certainty 75WG	0.5	9.0	8.3	5.7	7.0
Certainty 75WG ^c	0.5				
Certainty 75WG	0.75	9.0	8.0	5.7	6.0
Certainty 75WG ^c	0.75				
Certainty 75WG	1.0	9.0	7.7	5.7	5.3
Certainty 75WG ^c	1.0				
Certainty 75WG	1.5	8.7	7.3	5.0	5.0
Certainty 75WG ^c	1.0				
Trimec Classic	1.5 ^d	8.7	9.0	8.7	8.7
Check		9.0	9.0	9.0	9.0
LSD (0.05)		NS	1.2	1.4	1.1

^a Phytotoxicity was rated on a scale of 1 to 9 with 1 = totally brown turf, 7 = acceptable damage, and 9 = no phytotoxicity.

^b Certainty treatments included a non-ionic surfactant at 0.25% v/v.

^c Indicates a split application at 4 weeks, the first application 27 Sep and second application 26 Oct.

^d Application rate was quarts/acre.

Table 2. Percent cover of dandelion^a in Kentucky bluegrass treated late fall 2005 with Certainty or Trimec

Treatment ^b	Rate of application	26 Oct 05	21 Nov 05	16 May 06
	oz prod/A			
Certainty 75WG	0.5	10.0	0.7	13.0
Certainty 75WG	0.75	3.0	0.0	6.0
Certainty 75WG	1.0	6.7	0.7	4.0
Certainty 75WG	1.5	12.3	0.0	8.7
Certainty 75WG	2.0	5.0	0.0	3.0
Certainty 75WG	0.5	11.0	0.0	0.3
Certainty 75WG ^c	0.5			
Certainty 75WG	0.75	13.3	0.3	0.0
Certainty 75WG ^c	0.75			
Certainty 75WG	1.0	11.7	0.7	0.7
Certainty 75WG ^c	1.0			
Certainty 75WG	1.5	9.3	0.0	0.0
Certainty 75WG ^c	1.0			
Trimec Classic	1.5 ^d	0.3	0.0	1.7
Check		16.7	10.0	11.7
LSD (0.05)		NS	0.9	8.3

^a Percent of the plot area covered by dandelion.

^b Certainty treatments included a non-ionic surfactant at 0.25% v/v.

^c Indicates a split application at 4 weeks, the first application 27 Sep and second application 26 Oct.

^d Application rate was quarts/acre.

Table 3. Percent cover of clover^a in Kentucky bluegrass treated late fall 2005 with Certainty or Trimec

Treatment ^b	Rate of application	26 Oct 05	21 Nov 05	16 May 06
	oz prod/A			
Certainty 75WG	0.5	2.0	0.0	3.0
Certainty 75WG	0.75	1.3	0.0	3.3
Certainty 75WG	1.0	2.0	0.0	6.7
Certainty 75WG	1.5	1.7	0.0	9.3
Certainty 75WG	2.0	1.7	0.0	5.3
Certainty 75WG	0.5	2.3	0.0	12.7
Certainty 75WG ^c	0.5			
Certainty 75WG	0.75	3.3	0.0	13.3
Certainty 75WG ^c	0.75			
Certainty 75WG	1.0	2.3	0.0	8.3
Certainty 75WG ^c	1.0			
Certainty 75WG	1.5	2.0	0.7	5.0
Certainty 75WG ^c	1.0			
Trimec Classic	1.5 ^d	0.3	0.0	0.0
Check		11.7	4.3	10.0
LSD (0.05)		5.0	0.9	NS

^a Percent of the plot area covered by clover.

^b Certainty treatments included a non-ionic surfactant at 0.25% v/v.

^c Indicates a split application at 4 weeks, the first application 27 Sep and second application 26 Oct.

^d Application rate was quarts/acre.