

Tall Fescue Control in Kentucky bluegrass with Certainty

Zac Reicher and Dan Weisenberger

Dept. of Agronomy, Purdue University, West Lafayette, IN

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Background/Objective: Evaluate tall fescue control in Kentucky bluegrass with sequential applications of Certainty. Determine the safety of Kentucky bluegrass from sequential applications of Certainty.

Site Information

Location:	William H. Daniel Research and Diagnostic Center
Soil Type:	Starks-Fincastle silt loam
Soil pH:	7.2
Turfgrass Species:	Separate stands of a turf-type tall fescue blend and a Kentucky bluegrass blend
Turf Condition:	both good
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
Growth Stage:	mature

Application Information

Application Date:	2 May	30 May	27 June	2 Aug
Application Time:	8:30 am	1:30 pm	8:30 am	9:30 am
Air Temperature C^o(F^o):	15.1 (59)	32.3 (90)	24 (75)	27 (81)
Relative Humidity(%):	82	29	82	79
Wind Speed m s⁻¹ (mph):	1.3 (3)	1.3 (3)	2.2 (5)	calm
Soil Temperature(7.6 cm depth) C^o(F^o):	15.2 (59)	23.5 (74)	22.8 (73)	23.9 (75)
Soil Moisture:	moist	moist	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:	4			
Plot Size m (ft):	1.5 X 1.5 (5 X 5)			

Results:

- As expected, Certainty at 0.25 oz/A damaged tall fescue less than the higher rates through 22 June (Table 1).
- However, all treatments of Certainty were equally effective in reducing tall fescue cover through 11 October (Table 2). The exception to this was Certainty at 0.75+0.75 when rated on 14 Sep, but this may have been an aberration in the data.
- All Certainty treatments injured Kentucky bluegrass to some extent, but injury did not last more than 2 weeks after application. Unacceptable injury (<7) was recorded only once, from 0.75+0.75 oz Certainty when rated on 8 June.
- Certainty has promise for tall fescue control regardless of rates and number of applications used in this study. Though four applications of 0.25 oz/A may be the safest on Kentucky bluegrass, three applications at 0.5 oz/A were also effective with little additional injury.

Table 1. Injury^a to turf-type tall fescue after applications of Certainty.

Treatment ^b	Rate of application	Timing ^c	17 May	30 May	8 Jun	22 Jun
	oz prod/A					
Certainty 75WG	0.25	4	8.0	7.5	7.0	5.8
Certainty 75WG	0.5	3	7.3	6.0	4.5	3.3
Certainty 75WG	0.75	2	7.5	5.3	4.8	3.3
Check			9.0	9.0	9.0	9.0
LSD (0.05)			0.5	1.0	1.0	1.7

^a Injury was rated on a 1 to 9 scale with 1 = brown turf, 7 = acceptable injury, and 9 = no injury.

^b Certainty treatments included a NIS at 0.25% v/v.

^c Timing is total number of applications with 2 = 2 May and 30 May; 3 = 2 May, 30 May, and 27 June; and 4 = 2 May, 30 May, 27 June, and 2 Aug.

Table 2. Percent cover^a tall fescue after applications of Certainty.

Treatment ^b	Rate of application	Timing ^c	22 Jun	13 Jul	3 Aug	16 Aug	14 Sep	28 Sep	11 Oct
	oz prod/A								
Certainty 75WG	0.25	4	59	14	4	2	2	4	13
Certainty 75WG	0.5	3	25	3	2	2	4	7	9
Certainty 75WG	0.75	2	21	6	3	4	11	6	13
Check			97	96	56	76	59	55	59
LSD (0.05)			22	10	4	4	3	7	9

^a Cover is the percent of the plot area covered with tall fescue.

^b Certainty treatments included a NIS at 0.25% v/v.

^c Timing is total number of applications with 2 = 2 May and 30 May; 3 = 2 May, 30 May, and 27 June; and 4 = 2 May, 30 May, 27 June, and 2 Aug.

Table 3. Injury^a to Kentucky bluegrass from treatments of Certainty

Treatment ^b	Rate of application	Timing ^c	17 May	30 May	8 Jun	22 Jun	13 Jul	3 Aug	16 Aug	14 Sep	28 Sep
	oz prod/A										
Certainty 75WG	0.25	4	8.8	8.5	8.0	9.0	9.0	9.0	7.5	9.0	9.0
Certainty 75WG	0.5	3	8.0	7.3	7.0	8.3	9.0	9.0	9.0	9.0	9.0
Certainty 75WG	0.75	2	8.0	7.5	6.5	7.8	9.0	9.0	9.0	9.0	9.0
Check			9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
LSD (0.05)			0.4	0.8	0.5	0.5	NS	NS	0.5	NS	NS

^a Injury was rated on a 1 to 9 scale with 1 = brown turf, 7 = acceptable injury, and 9 = no injury.

^b Certainty treatments included a NIS at 0.25% v/v.

^c Timing is total number of applications with 2 = 2 May and 30 May; 3 = 2 May, 30 May, and 27 June; and 4 = 2 May, 30 May, 27 June, and 2 Aug.

