

# Selective Removal of Persistent Perennial Ryegrass from Bermudagrass Turf

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Objectives: Evaluate existing and experimental herbicides for removal of perennial ryegrass that persists in bermudagrass turf.

Location: UCR Turfgrass Research Center, Riverside, CA

Soil: Hanford fine sandy loam

Site Description: 'Princess' bermudagrass overseeded with Ewing Eagle Turfgrass Blend of perennial ryegrass (43% SR4600, 28% SR4220, 25% SR4330) on October 19, 2007

Experimental Design: Randomized complete block with 3 replications

Plot Size: 5' by 8'

Treatment Dates: July 23, 2009 (8 weeks before Field Day)  
July 28, 2009 (Treatments 10, 11 and 15 were applied)  
August 20, 2009 (4 weeks before Field Day)  
Turflon Ester was applied at 16 oz/A + 0.25% MSO nine days before Field Day to help reduce competition of bermudagrass and allow for easier determination of ryegrass control from herbicide treatments.

Application Information: CO<sub>2</sub> bicycle sprayer; 39 psi (tank)  
30 GPA

Ratings: Turfgrass phytotoxicity (1-9, 9 = none); Percent ryegrass control compared to untreated control

**Post emergence Control of Persistent Perennial Rye Grass in Bermuda Turf**  
**Plot Map**  
 5x8 plots; 30GPA  
**North**

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
2	5	1	4	8	3	7	10
16	11	15	12	13	14	6	9
1	10	7	14	3	8	16	15
13	2	9	5	11	12	4	6

**South**

#	Treatment	Rate	Timing Before Field Day
1	Revolver MSO AMS	26oz/A 0.5% V/V 3lb/A	8 weeks
2	Revolver MSO AMS	26oz/A 0.5% V/V 3 lb/A	4 weeks
3	Specticle MSO	0.094oz/1000ft2 0.5% V/V	8 weeks
4	Specticle MSO	0.094oz/1000ft2 0.5% V/V	4 weeks
5	Celsius MSO	3.5oz/A 0.5% V/V	8 weeks
6	Celsius NIS	3.5oz/A 0.5% V/V	4 weeks
7	Monument NIS	15g/A 0.25% V/V	8 weeks
8	Monument NIS	15g/A 0.25% V/V	4 weeks
9	Monument NIS	10g/A 0.25% V/V	8 weeks and 4 weeks
10	Dow Exp. NIS	16oz/A 0.25% V/V	8 weeks
11	Dow Exp. NIS	8oz/A 0.25% V/V	8 weeks and 4 weeks
12	Kerb NIS	3lb/A 0.25% V/V	8 weeks
13	Kerb Revolver MSO AMS	1.5 lb/A 18 oz/A 0.5% V/V 3lb/A	8 weeks
14	Kerb Monument NIS	1.5lb/A 10g/A 0.25% V/V	8 weeks
15	Kerb Dow Exp. NIS	1.5 lb/A 8oz/A 0.25% V/V	8 weeks
16	Control		

Table 1. Bermudagrass phytotoxicity (1-9, 1 = dead) and percent control of perennial ryegrass (0-100) following application of herbicide treatments on 7-23-09 (trts 10, 11, 15 applied on 7-28-09). Treatments 2, 4, 6, 8, 9, and 11 were applied or repeated on 8-20-09.

	July 30,2009		Aug 10, 2009	Aug 20, 2009		Aug 24, 2009		Aug31,2009	Sep 9,2009
	Phyto	% control	% control	% Control	Phyto	% Control	Phyto	%Contol	% control
Trt #									
1	8	10	95	97	9	89	9	90	90
2	9	0	0	0	8	13	8	95	96
3	8	13	43	37	9	13	9	30	37
4	9	0	0	0	9	3	9	38	40
5	6	50	95	97	9	93	9	82	92
6	9	0	0	0	7	13	7	93	98
7	7	12	95	98	9	94	9	97	96
8	9	0	0	0	8	27	8	99	98
9	7	18	95	92	7	66	8	95	97
10	9	0	13	20	9	0	9	0	0
11	9	0	43	0	8	10	9	47	53
12	9	0	73	57	9	57	9	80	67
13	7	15	85	63	9	73	9	53	50
14	7	17	88	70	9	30	9	55	70
15	8	8	33	47	9	25	9	23	43
16	9	0	0	0	9	0	9	0	0
LSD (P=.05)	0.2	3.5	9.1	10.8	0.4	15.7	0.7	11.3	10.4
CV	1.8	23.2	11.5	15.4	2.8	24.7	4.8	11.1	9.7

### Preliminary Results:

- Revolver, Monument, and Celsius provided the best overall control of ryegrass regardless of application date; however, Celsius did cause some short-term injury to bermudagrass.
- Kerb applied alone or in combination with other herbicides was not as effective for ryegrass control.