

Postemergence Broadleaf Weed Control

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- Objectives:** Evaluate existing, experimental, and biological herbicides for broadleaf weed control in combinations of 4 and 8 weeks prior to Field Day.
- Location:** UCR Turfgrass Research Center, Riverside, CA
- Soil:** Hanford fine sandy loam
- Site Description:** Former low-input, reduced maintenance study established in May 2003 with 24 traditional, experimental, and native warm and cool season grasses. Until 2009, study received deficit irrigation for warm season turf (50% ET_o) and 1 lb N/1000 ft²/year. In 2009, irrigation was returned to cool season (80% ET_o) level and fertilized with 2 lbs N/1000 ft² prior to application of herbicide treatments.
- Experimental Design:** Randomized complete block with 3 replications; herbicide treatments were assigned randomly according to turfgrass species; therefore phytotoxicity to turfgrass was noted on a plot by plot basis; unless otherwise noted, each plot was divided into 4 sections: untreated, application 4 weeks before Field Day, 8 weeks, and 4 + 8 weeks.
- Plot Size:** 5' by 10'
- Treatment Dates:** July 28, 2009 (8 weeks before Field Day)
August 21, 2009 (4 weeks before Field Day)
- Application Information:** CO₂ hand-boom sprayer; 45 or 90 GPA
- Notes:** Irrigation was mistakenly turned off from July 28 to August 3; plots were well-watered on July 27.
- Ratings:** Turfgrass phytotoxicity (1-9, 9 = none); Percent weed control based on untreated area of each plot.

Post Emergence Broadleaf Weed Control Plot Map

5x10 Plots; 45 GPA

North

1A	2B	3C	4D	5E	6F	7G	8H	9I
I								
10J	11K	12L	13M	14N	15O	16P	17Q	18R
19S	20T	21U	22V	23W	24X	7B	23T	12O
						II		
22J	9E	21Q	2H	14M	6R	8U	13N	24K
5W	15D	3X	10V	17F	11H	19C	20L	1S
16P	4A	18G	14N	4U	22G	6K	15M	7Q
			III					
5D	16I	2F	18C	8S	1T	12B	13O	24R
10L	3H	17E	9V	19W	21P	11X	23A	20J

South

#	Treatment	Rate	Timing before Field Day	Letter	Name
1	Dow 0002 NIS	2.5pints/A 0.25% V/V	8 Weeks	A	Hybrid Texas bluegrass
2	Dow 0002 NIS	3.5pints/A 0.25% V/V	8 Weeks	B	<i>Zoysia tenuifolia</i>
3	Dow 0003 NIS	3pints/A 0.25% V/V	8 Weeks	C	Hard Fescue
4	Dow 0003 NIS	4pints/A 0.25% V/V	8 Weeks	D	Canada Bluegrass
5	Escalade 2 NIS	2.25pints/A 0.25% V/V	8 Weeks	E	Seashore Paspalum
6	Escalade 2 NIS	3pints/A 0.25% V/V	8 Weeks	F	Crested hairgrass
7	Trimec Classic NIS	3.0pints/A 0.25% V/V	8 Weeks	G	Russian wildrye
8	Trimec Classic NIS	4.0pints/A 0.25% V/V	8 Weeks	H	Blue grama 'Hatchita'
9	Turflon Ester NIS	2pints/A 0.25% V/V	8 Weeks	I	Blue grama 'Alma'
10	Turflon Ultra NIS	2pints/A 0.25% V/V	8 Weeks	J	Buffalograss 'SWI 2000'
11	Touchdown NIS	2qts/A 0.25% V/V	8 Weeks	K	Sideoats grama
12	Touchdown NIS	2qts/A 0.25% V/V	4 Weeks	L	Bermudagrass 'Sahara'
13	Touchdown Tenacity NIS	2qts/A 8oz/A 0.25% V/V	8 Weeks	M	Bermudagrass 'Princess'
14	Tenacity NIS	8oz/A 0.25% V/V	8 Weeks	N	Saltgrass 'A137'
15	Tenacity NIS Tenacity NIS	8oz/A 0.25% V/V 5oz/A 0.25% V/V	4 Weeks 8 Weeks	O	Saltgrass 'A138'
16	Tenacity NIS	5oz/A 0.25% V/V	4 Weeks	P	Buffalograss 'UC Verde'
17	Celsius MSO	3.5oz/A 0.5% V/V	8 Weeks	Q	Buffalograss 'Legacy'
18	Celsius MSO	3.5oz/A 0.5% V/V	8 Weeks	R	Buffalograss 'Cody'
19	Celsius MSO	4.5oz/A 0.5% V/V	8 Weeks	S	Zoysiagrass 'De Anza'
20	Celsius MSO	4.5oz/A 0.5% V/V	8 Weeks	T	Zoysiagrass 'Zenith'
21	Corn Gluten Meal	10lbs/1000ft2	8 Weeks and 4 Weeks	U	Spike Muhly
22	Urea	9lbs/1000ft2	8 Weeks and 4 Weeks	V	D. sporobolis 'DT 18'
23	Clove Oil Urea	8% V/V 9lbs/1000ft2	8 Weeks and 4 Weeks	W	D. sporobolis 'DT 12'
24	Clove Oil Corn Gluten Meal	8% V/V 10lbs/1000ft2	8 Weeks and 4 Weeks	X	D. sporobolis 'DT 16'

Table 1. Percent control of broadleaf weeds (0-100) on 9-4-09, six weeks after 1st treatment (8 weeks before Field Day) and two weeks after 2nd treatment (4 weeks before Field Day). Turf Injury rated on a 1-9 scale, 9 = no injury.

Weed Species	Dandelion			Spurge			Cudweed			Turf Injury		
	1st	2nd	1+2	1st	2nd	1+2	1st	2nd	8+4	1st	2nd	1+2
Trt #												
1	80	85	93	60	83	93	60	80	95	8	9	8
2	74	85	100	75	87	95	100	85	100	9	9	8
3	73	82	100	83	77	93	87	83	100	9	8	8
4	60	87	100	63	80	87	50	80	100	8	8	7
5	53	87	88	53	85	90	93	88	98	9	9	8
6	90	98	98	85	100	95	88	95	97	9	9	9
7	63	73	60	35	55	70	95	55	95	8	9	8
8	73	70	97	63	70	90	93	65	100	9	9	9
9	70	90	97	60	77	97	93	75	95	9	9	9
10	47	90	97	45	93	97	40	85	95	8	8	7
11	57	73	95	45	45	98	93	83	97	5	5	4
12	15	78		0	0		32	98		9	7	
13	63	98	100	48	48	100	95	98	100	7	7	5
14	11	90	100	53	30	80	45	90	90	9	7	7
15	52	90	90	10	10	67	80	80	100	9	9	9
16	13	58		13	13		0	58		9	8	
17	83	73	95	75	75	92	90	65	95	9	8	8
18	90	70	95	77	77	95	93	70	95	7	9	8
19	97	87	98	90	90	95	58	75	93	9	8	7
20	60	72	100	63	63	100	93	68	100	9	8	8
21	0	0	0	0	0	0	0	0	0	9	9	9
22	3	85	88	3	3	88	0	85	85	8	6	6
23	13	90	87	10	10	90	95	90	85	8	6	6
24	47	33	33	23	23	33	20	0	0	9	7	7
LSD (P=.05)	49.4	30.8	17.4	52.8	38.1	21.6	44.9	30.4	6.2	1.5	1.5	2.0
CV	55.8	24.3	12.1	67.7	42.4	15.4	40	24.6	4.2	10.6	11.3	16.4

Preliminary Results:

- Weed populations and densities varied among the plots and were impacted by turfgrass species.
- Several herbicides provided effective control of all broadleaf species, especially following two applications.
- Urea and Matran provide quick weed burndown (and turf injury) but weed recovery appears eminent.