

Annual Bluegrass (*Poa annua* L.) Control In Non-Overseeded Bermudagrass Turf 2010-11 Report



University of California, Riverside



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- Title:** Annual Bluegrass (*Poa annua* L.) Control in Non-Overseeded Bermudagrass Turf
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- Introduction:** Where possible, maintaining bermudagrass during the winter months without overseeding cool-season turfgrasses offers several benefits including reduced water use, fewer chemical inputs, healthier bermudagrass turf, reduced *Poa annua* invasion, and more options to control this ubiquitous weed species.
- Specticle (indaziflam) is a new herbicide from Bayer Environmental Science that is soon to be registered in California. It provides pre and some early post emergence control of *Poa annua* and several other grass and broadleaf weeds in most all of the major warm-season turfgrass species including bermudagrass. Specticle offers exceptional residual weed control at low use rates.
- Tenacity (mesotrione) herbicide from Syngenta is in review for registration in California. It provides pre and post emergence control of crabgrass, bentgrass, yellow nutsedge, and several broadleaf weeds in cool-season turf and a few of the warm-season turfgrass species. Tenacity can be used safely during turfgrass establishment when most other herbicides are injurious to juvenile turfgrass plants. Although bermudagrass can be sensitive to this herbicide, and post emergence control of *Poa annua* can be inconsistent, Tenacity was included in this trial in a tank mixture with Barricade herbicide.
- Tower (dimethenamid-P) from BASF is in the chloroacetamide class of herbicides. Registration is pending in California. Tower provides pre emergence control of yellow nutsedge, several grass and broadleaf weeds in warm- and cool-season turf. Tower is mainly a shoot inhibitor with some root inhibition as well. Persistence in soil is moderate with a half-life of 14 days.

Objectives:	Evaluate new and existing herbicides and formulations for pre and post emergence control of <i>Poa annua</i> and broadleaf weeds in non-overseeded bermudagrass turf.
Location:	UCR Turfgrass Research Facility
Soil:	Hanford fine sandy loam
Experimental Design:	Randomized complete block design with three replications
Plot Size:	6 ft x 10 ft
Turfgrass Species:	Bermudagrass 'Tifgreen 328'
Mowing Height:	1.25 inches; 2 days/wk
Irrigation:	60% Et ₀ (historical from previous week)/DU
Sprayer:	Output: 60 GPA Nozzles: 8003VS flat fan Pressure: 45 PSI Groundspeed: 1.6 mph
Data Collected:	Weed cover by species (0-100%), bermudagrass injury (1-9, 9 = severe injury).

Results:

- ✓ Weather data and *Poa annua* pressure during the study are shown in Table 1 and Fig. 1, respectively.
- ✓ None of the herbicide treatments caused injury to bermudagrass in this experiment (data not shown).
- ✓ All herbicide treatments resulted in significant reduction of *Poa annua* during all rating dates compared to the untreated control (Table 2 and Fig. 2).
- ✓ Herbicide treatments that maintained less than 10% *Poa annua* cover throughout the duration of the experiment included Barricade (1.5 lb/A) + Monument (10 g/A), Specticle at 3.75 oz/A (31 August or 1 October application), and Specticle at 5 oz/A applied on 1 October 2010. The latter treatment maintained less than 2% *Poa* cover throughout the experiment.
- ✓ These data suggest that Specticle herbicide can provide effective season-long control of *Poa annua* at application rates between 2.5-5 oz/A when applied at traditional pre emergence timing or later when *Poa annua* has already emerged.

- ✓ Broadleaf weed pressure was sporadic, but it appeared that the Barricade treatments and Pendulum + Tower provided better control of *Oxalis* compared to the other treatments (data not shown). In addition, it appeared that all treatments failed to provide adequate control of wild parsley (data not shown).

Table 1. CIMIS weather data during the *Poa annua* control experiment. Riverside, CA.

Mo. Yr.	Tot ETo (in)	Tot Precip (in)	Avg Max Air Tmp (F)	Avg Min Air Tmp (F)	Avg Air Tmp (F)	Avg Rel Hum (%)	Avg Soil Tmp (F)
Aug 2010	6.99	0.00	90.7	60.8	74.7	43	73.6
Sep 2010	5.45	0.02	89.6	59.4	73.2	44	70.6
Oct 2010	2.10	0.37	75.8	56.0	64.7	61	66.0
Nov 2010	3.22	1.00	70.7	46.7	58.4	43	56.7
Dec 2010	1.78	8.59	65.6	46.0	54.7	58	53.4
Jan 2011	2.91	0.32	68.2	45.6	56.4	40	51.6
Feb 2011	2.91	2.00	64.0	40.6	51.7	49	52.2
Tot/Avg	25.36	12.30	74.9	50.7	62.0	48	60.6

Source: <http://www.cimis.water.ca.gov/cimis/monthlyReport.do>



Figure 1. *Poa annua* pressure on 13 January 2011 during the experiment. Riverside, CA.

Table 2. Annual bluegrass cover following herbicide application on 31 August 2010 (Sch. A) or 1 October 2010 (Sch. B) on 'Tifgreen 328' bermudagrass. Riverside, CA.

Treatment	Rate	Sch.	<i>Poa annua</i> Cover (0-100%)				
			23-Oct	5-Nov	23-Dec	21-Jan	14-Feb
Barricade 65WG	1.5 lb/A	A	5.0	5.0	16.7	15.0	18.3
Barricade 65WG Monument 75WG	1.5 lb/A 10 g/A	A A	0.0	0.3	5.7	6.3	7.7
Barricade 65WG Tenacity 4SC	1.5 lb/A 6 oz/A	A A	1.7	2.3	6.7	9.0	11.7
Pendulum Aqua Cap 3.8CS Tower 6EC	64 oz/A 32 oz/A	A A	2.3	2.3	11.7	14.0	16.7
Specticle 20WP	3.75 oz/A	A	1.7	1.3	6.7	4.0	7.7
Specticle 20WP	1.2 oz/A	B	4.0	3.3	23.3	20.0	23.3
Specticle 20WP	2.5 oz/A	B	1.4	0.8	9.7	10.9	10.0
Specticle 20WP	3.75 oz/A	B	2.3	0.0	5.7	4.7	6.7
Specticle 20WP	5 oz/A	B	0.0	0.0	1.3	1.7	1.7
Untreated control	--		18.3	7.3	61.7	71.7	65.0
LSD ($P = 0.05$)	--	--	6.0	4.0	21.9	17.8	15.8

Treatment mean differences in columns greater than or equal to LSD are significantly different, Fisher's Protected LSD, $P=0.05$.

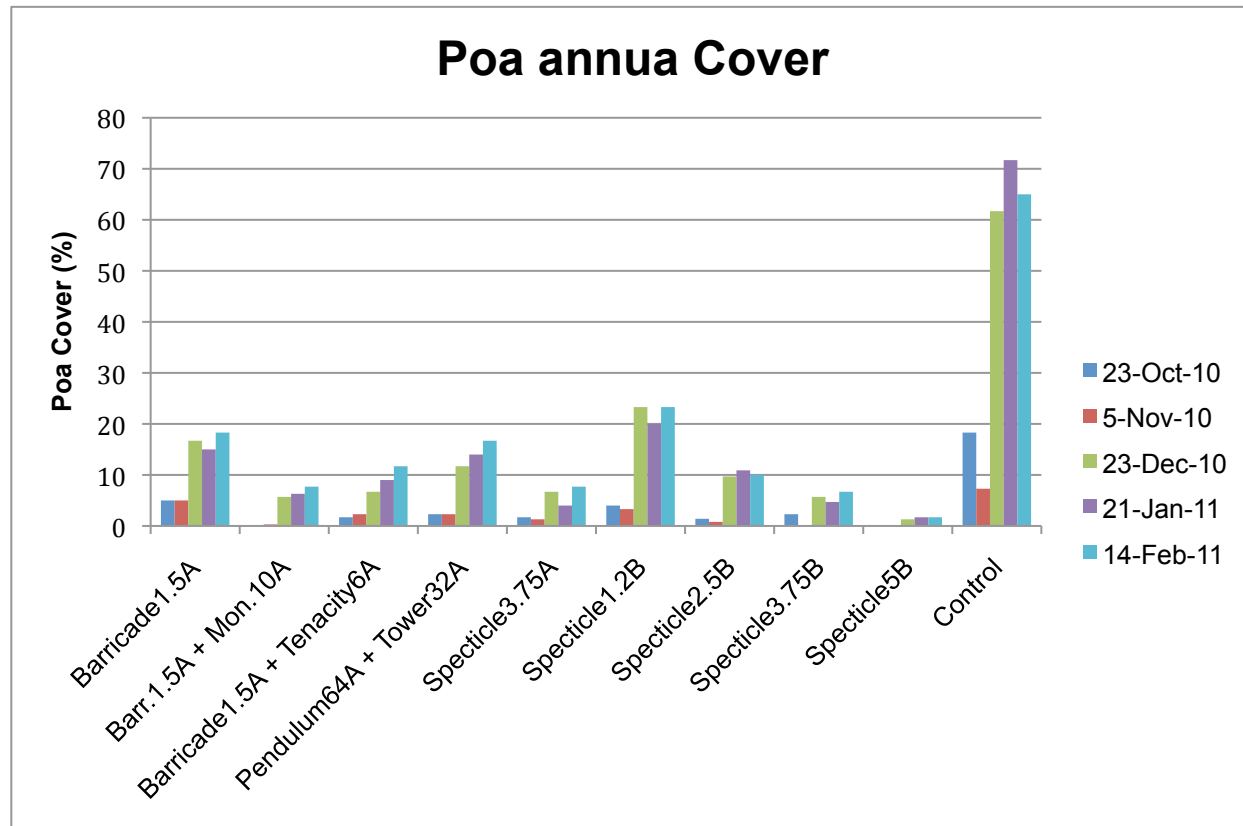


Figure 2. *Poa annua* cover following herbicide applications on August 31, 2010 (A) and October 1, 2010 (B) on 'Tifgreen 328' bermudagrass. Riverside, CA.