

Comparison of Velocity* Rates with Multiple Applications for *Poa annua* Control in Turf

Kai Umeda

Abstract

Velocity at 40 gm a.i./A was more active than 20 gm a.i./A which was more active than 10 gm a.i./A. Velocity at 40 gm a.i./A consistently gave better than 74% Poa control but less than commercially acceptable levels. Velocity at 20 gm a.i./A gave between 50 to less than 70% control. Velocity at 10 gm a.i./A was marginally active against Poa giving less than 60% control.

Introduction

Annual bluegrass (*Poa annua*) is a troublesome weed in turf. Typically, preemergence herbicides applied in the fall of the year can provide very good control through the winter season. Bermudagrass turf that is overseeded in the fall with perennial ryegrass is usually treated with dinitroaniline herbicides in the late summer about four weeks before overseeding to ensure ryegrass safety. The preemergence herbicides do not always offer full season control of *Poa*. There are currently no effective postemergence herbicides to completely control *Poa* in winter overseeded turf. Plant growth regulators are commonly used to suppress seedhead formation only. Velocity* herbicide (bispiribac) was introduced for postemergence *Poa* control in turf; however, it has not shown to be effective in the desert region. Previously, Velocity rates and sequential applications were evaluated and showed less than acceptable levels of *Poa* control. This experiment was conducted to further evaluate how multiple Velocity applications could be optimized to provide acceptable *Poa* control.

Materials and Methods

A small plot field experiment was conducted at the Arizona Biltmore Country Club in Phoenix, AZ. Bermudagrass turf was winter overseeded with perennial ryegrass in the test site that was heavily infested with *Poa annua*. Individual plots measured 5 ft by 25 ft and treatments were replicated four times in a randomized complete block design. Herbicide treatments were sprayed using a backpack CO₂ sprayer equipped with a hand-held boom with three 8003 flat-fan nozzles spaced 20 inches apart. Sprays were delivered with 28 gpa water and included a non-ionic surfactant, Latron CS-7 at 0.25% v/v pressurized to 30 psi. The first of five applications made every two weeks was initiated on 9 March 2007 when the *Poa* was flowering and the turf mowing height was about 1.5 inches. The air temperature was 60°F, clear sky, and no wind during applications. Two weeks later, on 23 March, the temperature was 68°F, rain during the night before, very slight breeze, and developing clouds. The third application was on 6 April on a clear, sunny day that reached a high of 90°F, and fourth application was 20 April with temperature at 70°F during spraying, high overcast sky with rain in the forecast. The fifth application on 4 May was made when temperature was 70°F, calm air, with scattered clouds. The turf was mowed weekly and dew was present during all of the morning applications. The *Poa* control was evaluated at intervals following applications.

Results and Discussion

The *Poa* exhibited a rate response to varied rates of Velocity at all rating dates. Velocity at 40 gm a.i./A consistently gave better than 74% control but less than commercially acceptable levels. At 4 weeks after treatment of the last application, the highest level of control was 80%. Seedhead formation was reduced compared to the lower rate treated *Poa*. Velocity at 20 gm a.i./A showed between 50 to less than 70% control. Velocity at 10 gm a.i./A was marginally active against *Poa* giving less than 60% control.

Five applications of Velocity at 10, 20, or 40 gm a.i./A did not provide acceptable *Poa* control. Velocity at 40 gm a.i./A was more active than 20 gm a.i./A which was more active than 10 gm a.i./A. All studies conducted with Velocity have been initiated when *Poa* was maturing and in the flowering stage. Further research is warranted to determine if earlier timing of application would be more effective against younger *Poa*.

Acknowledgements

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Reference

Umeda, K. 2004. Evaluation of Velocity Herbicide for *Poa annua* Control in Turf. In 2004 Turfgrass and Ornamental Research Report, D. Kopec editor. The University of Arizona College of Agriculture. Indexed at: <http://cals.arizona.edu/pubs/crops/az1359/>.

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Table. Comparison of Velocity* (bispyribac) rates for *Poa annua* control in turf

Treatment	Rate gm a.i./A	<u><i>Poa annua</i> control</u>			
		23 Mar	06 Apr	04 May	01 Jun
Untreated check		0	0	0	0
Bispyribac	10	45	60	38	40
Bispyribac	20	50	66	61	68
Bispyribac	40	74	76	76	80
LSD (p=0.05)		8.2	14.4	17.4	13.7

Application dates – 9, 23 March, 6, 20 Apr, 4 May 2007