

**Evaluation of Late Season Applications of Experimental Compounds
Applied to Fairway Height Creeping Bentgrass/Annual Bluegrass
J.A. Borger, M.B. Naedel, M. T. Elmore¹**

Introduction

This study was conducted on a mature stand of ‘Penneagle’ creeping bentgrass (*Agrostis stolonifera*) and annual bluegrass (*Poa annua*) at the Valentine Turfgrass Research Center, Penn State University, University Park, Pa. The objective of the study was to determine the efficacy of late season applications of materials to control annual bluegrass using phytotoxicity and percent population change ratings.

Methods and Materials

This study was a randomized complete block design with three replications. The plot size was 30ft². Treatments were applied on November 2 (NOV) and November 27, 2007 (21 DAT) using a three foot CO₂ powered boom sprayer calibrated to deliver 87.12 gpa using one, flat fan, 11008E nozzle at 40 psi. The test site was maintained similar to that of a golf course fairway with respect to irrigation, fertilization, and mowing.

Percent control of annual bluegrass was rated on May 8, 2008 and data were transformed using an Abbot’s transformation (ARM). This transformation uses the untreated test plots as the baseline population to determine percent change in the population of the treated test plots.

Results and Discussion

Turfgrass spring greenup was rated twice during the study (Table 1). On the last rating date, 4/24/08, all treated turfgrass had a slight delay in greenup compared to non treated turfgrass.

The percent control of annual bluegrass was rated on May 8, 2008 (Table 2). All treated turfgrass significantly reduced the annual bluegrass population compared to non treated.

Table 1. Spring green up ratings on a scale of 0-10, where 0 = dormant turf and 10 = full green up, of a mixed fairway height sward of ‘Penneagle’ creeping bentgrass and annual bluegrass in 2008.

Treatment	Form	Rate oz/M	Timing	-----Green Up-----	
				4/14/08	4/24/08
PROGRASS	EC	1.5	NOV/21DAT	6.2	8.7
NORTON SC	SC	0.563	NOV/21DAT	6.2	8.5
CHECK				6.8	10.0
NORTON SC	SC	0.563	NOV/21DAT	6.5	8.5
MSO	L	1 qt/A			
POA CONSTRICTOR	EC	0.563	NOV/21DAT	6.5	8.7

Table 2. Percent annual bluegrass population change in a mixed fairway height sward with ‘Penneagle’ creeping bentgrass taken in 2008.

Treatment	Form	Rate oz/M	Timing	---% Change ¹ ---
				5/8/08
PROGRASS	EC	1.5	NOV/21DAT	48.3b
NORTON SC	SC	0.563	NOV/21DAT	83.6a
CHECK				0.0c
NORTON SC	SC	0.563	NOV/21DAT	67.2ab
MSO	L	1 qt/A		
POA CONSTRICTOR	EC	0.563	NOV/21DAT	73.9a

1 – Means followed by the same letter do not significantly differ (P = 0.05, Duncan’s New MRT).

¹ Instructor, Research Technician, and Wage Payroll Employee, Respectively, Department of Crop and Soil Sciences, Penn State University, University Park, Pa, 1680