

Annual Bluegrass Prevention on a Newly Established Putting Green

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Introduction

This study was conducted on a mixed stand of ‘Penncross’ creeping bentgrass (*Agrostis stolonifera*) and annual bluegrass (*Poa annua*) at the Valentine Turfgrass Research Center, University Park, PA. The objective of the study was to evaluate selected materials for the suppression of annual bluegrass encroachment into a newly established area maintained similar to a putting green.

Methods and Materials

This study was a randomized complete block design with three replications. Treatments were applied on September 4 (FALL), September 16 (14DAT), October 1, 2003 (28DAT) as well as August 25 (FALL), September 7 (14 DAT), and September 21, 2004 (28 DAT) using a three-foot CO₂ powered boom sprayer calibrated to deliver 80 gpa using two 11004 flat fan nozzles at 40 psi.

The test area established in July of 2002. Normal practices for a putting green establishment were conducted. Subsequently, the turf was maintained using cultural practices for irrigation, mowing, and fertilization that would be typical for a putting green.

Results and Discussion

None of the treatments caused discernable phytotoxicity to the turf (Table 1). Ratings for annual bluegrass encroachment in 2004 revealed that the untreated turf had the greatest percent increase, but the amount was not significantly different from that found as a result of any of the treatments (Table 2). Annual bluegrass encroachment rated in the spring of 2005 revealed some significant differences. Turfgrass treated with Betasan at 9.2 oz/M followed by Rubigan at 2 oz/M (applied twice) and Rubigan at 2 oz/M alone applied three times had significantly less annual bluegrass encroachment than untreated turfgrass.

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Table 1. Phytotoxicity ratings of a simulated 'Penncross' creeping bentgrass/annual bluegrass putting green on a scale of 0 to 10 where 0 =most, 7 = acceptable, and 10 = none. Ratings were taken in 2003.

Treatment	Form	Rate oz/M	Timing	9/5	9/8	9/11	9/16	9/18	9/23	9/30	10/7
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RUBIGAN	AS	2	14DAT								
CHECK				10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RUBIGAN	AS	2	14DAT/28DAT								
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RUBIGAN	AS	2/4	14DAT/28DAT								
RUBIGAN	AS	2	FALL /14DAT/28DAT	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Table 1 (continued). Phytotoxicity ratings of a simulated 'Penncross' creeping bentgrass/annual bluegrass putting green on a scale of 0 to 10 where 0 =most, 7 = acceptable, and 10 = none. Ratings were taken in 2004.

Treatment	Form	Rate oz/M	Timing	9/1	9/8	9/16	9/22	9/29	10/18	11/3	11/17
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RUBIGAN	AS	2	14DAT								
CHECK				10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RUBIGAN	AS	2	14DAT/28DAT								
BETASAN	4EC	9.2	FALL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RUBIGAN	AS	2/4	14DAT/28DAT								
RUBIGAN	AS	2	FALL /14DAT/28DAT	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Table 2. Percent annual bluegrass ratings of a simulated 'Penncross' creeping bentgrass/annual bluegrass putting green.

Treatment	Form	Rate oz/M	Timing	9/4/03	4/21/04	5/2/05
BETASAN	4EC	9.2	FALL	1.0a ¹	1.3a	15.0ab
BETASAN	4EC	9.2	FALL	1.0a	1.7a	13.3ab
RUBIGAN	AS	2	14DAT			
CHECK				1.0a	2.7a	18.3a
BETASAN	4EC	9.2	FALL	1.0a	1.7a	8.3b
RUBIGAN	AS	2	14DAT/28DAT			
BETASAN	4EC	9.2	FALL	1.0a	1.0a	13.3ab
RUBIGAN	AS	2/4	14DAT/28DAT			
RUBIGAN	AS	2	FALL /14DAT/28DAT	1.0a	1.0a	8.3b

1 - Means followed by same letter do not significantly differ (P = 0.05 Duncan's New MRT)