

Seedhead Suppression of Annual Bluegrass on a 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 Penn State Blue Golf Course in State College, PA. The objective of the study was to evaluate selected growth regulators, with and without adjuvants, for the seedhead suppression of annual bluegrass.

Methods and Materials

This study was a randomized complete block design with three replications, and a plot size of 21 ft². Treatments were applied on April 21 (BT), and May 15 (3 WAT), 2007 using a three-foot CO₂ powered boom sprayer calibrated to deliver 40 gpa using one 11004E even tip/flat fan nozzle at 40 psi.

The site was maintained using cultural practices for irrigation, mowing, and fertilization that would be typical for a putting green. The test area was mowed with a Toro Triplex with an eleven blade reel, bench set to 0.115”. Prior to the initiation of the study, the site was fertilized with a Nature Safe 8-3-5 fertilizer at a rate of 1 lb N/M in February and again with Anderson’s Contec DG 18-9-18 at a rate of 1lb N/M on May 10, 2007. Boot stage of the annual bluegrass was observed April 27, 2007.

Results and Discussion

Turfgrass phytotoxicity was rated five times during the study (Table 1). There was no phytotoxicity below acceptable (7.0) observed on any rating date.

The percent annual bluegrass seedhead cover was rated once on June 1, 2007 (Table 2). All treated turfgrass had significantly fewer seedhead cover than non treated turfgrass except for the Eco-N only treated turfgrass. It should be noted that turfgrass treated with Primo MAXX plus Proxy alone and Proxy alone were not significantly different than turfgrass treated with Embark T&O. This type of seedhead suppression is unusual and not typical of data observed in prior years at this site. Additionally, it should be noted that the test site had relatively “light seedhead production” during the 2007 season. In 2007 the non treated turfgrass only had 20% coverage of annual bluegrass seedheads in contrast to prior years when the site had 90% or more coverage in non treated areas. The relatively “light pressure” of 2007 may have lead to the increase of suppression that had not previously been observed.

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Table 1. Ratings of phytotoxicity of an annual bluegrass/creeping bentgrass putting green on a scale of 0 to 10 where 0 = complete phytotoxicity, 7 = acceptable, and 10 = no phytotoxicity in 2007.

Treatment	Form	Rate oz/M	Timing	(-----Phytotoxicity-----)				
				4/30	5/8	5/15	5/24	6/1
EMBARK T&O	0.2SL	40 oz/A	BT	7.7	7.8	7.3	10.0	10.0
EMBARK T&O	0.2SL	40 oz/A	BT	10.0	7.8	9.3	10.0	10.0
FERROMECH	L	5	BT					
EMBARK T&O	0.2SL	40 oz/A	BT	9.7	7.5	8.3	10.0	10.0
ECO-N (24-0-0)	2.2L	0.065 lb N/M	BT					
EMBARK T&O	0.2SL	40 oz/A	BT	9.7	7.3	8.3	10.0	10.0
GARY'S GREEN ULTRA	L	6	BT					
EMBARK T&O	0.2SL	40 oz/A	BT	8.0	8.0	8.3	10.0	10.0
GARY'S GREEN ULTRA	L	5	BT					
AMINOPLEX	L	4	BT					
CHECK				10.0	10.0	10.0	10.0	10.0
EMBRARK T&O	0.2SL	20 oz/A	BT	7.3	7.3	8.0	10.0	10.0
EMBRARK T&O	0.2SL	20 oz/A	BT	9.7	7.7	7.0	10.0	10.0
GARY'S GREEN ULTRA	L	5						
AMINOPLEX	L	4						
PRIMO MAXX	1MEC	0.125	BT/3 WAT	8.3	8.7	9.3	10.0	10.0
PROXY	2SL	5	BT/3 WAT					
PRIMO MAXX	1MEC	0.125	BT/3 WAT	10.0	8.5	10.0	10.0	10.0
PROXY	2SL	5	BT/3 WAT					
GARY'S GREEN ULTRA	L	6	BT/3 WAT					
PROXY	2SL	5	BT	10.0	8.2	8.3	10.0	10.0
PROXY	2SL	5	BT	10.0	7.7	9.7	10.0	10.0
GARY'S GREEN ULTRA	L	5	BT					
AMINOPLEX	L	4	BT					
ECO-N (24-0-0)	2.2L	0.065 lb N/M	BT	10.0	10.0	10.0	10.0	10.0

Table 2. Ratings of the percent seedhead cover of an annual bluegrass/creeping bentgrass putting green in 2007.

Treatment	Form	Rate oz/M	Timing	(-%cover¹-) June 1, 2007
EMBARK T&O	0.2SL	40 oz/A	BT	5.0ef
EMBARK T&O	0.2SL	40 oz/A	BT	6.7def
FERROMECH	L	5	BT	
EMBARK T&O	0.2SL	40 oz/A	BT	6.7def
ECO-N (24-0-0)	2.2L	0.065 lb N/M	BT	
EMBARK T&O	0.2SL	40 oz/A	BT	11.7cd
GARY'S GREEN ULTRA	L	6	BT	
EMBARK T&O	0.2SL	40 oz/A	BT	10.0cde
GARY'S GREEN ULTRA	L	5	BT	
AMINOPLEX	L	4	BT	
CHECK				20.0a
EMBRARK T&O	0.2SL	20 oz/A	BT	10.0cde
EMBRARK	0.2SL	20 oz/A	BT	13.3bc
GARY'S GREEN ULTRA	L	5		
AMINOPLEX	L	4		
PRIMO MAXX	1MEC	0.125	BT/3 WAT	2.3f
PROXY	2SL	5	BT/3 WAT	
PRIMO MAXX	1MEC	0.125	BT/3 WAT	1.0f
PROXY	2SL	5	BT/3 WAT	
GARY'S GREEN ULTRA	L	6	BT/3 WAT	
PROXY	2SL	5	BT	2.3f
PROXY	2SL	5	BT	5.0ef
GARY'S GREEN ULTRA	L	5	BT	
AMINOPLEX	L	4	BT	
ECO-N (24-0-0)	2.2L	0.065 lb N/M	BT	17.4ab

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