

# Post Emergence Control of Smooth Crabgrass

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## Introduction

Post emergence control of smooth crabgrass (*Digitaria ischaemum*) was evaluated on a mature stand of 'Jet Elite' perennial ryegrass (*Lolium perenne* L.), at the Valentine Turfgrass Research Center, Penn State University, University Park, Pa. The objective of the study was to determine the efficacy of selected herbicides for the post emergence control of smooth crabgrass and the injury to the desired species.

## Methods and Materials

This study was a randomized complete block design with three replications. All treatments were applied on June 21, 2006 using a three foot CO<sub>2</sub> powered boom sprayer calibrated to deliver 80 gpa using one, flat fan, 11008E nozzle at 40 psi and granular treatments were applied to wet turf using a shaker jar. The site was mowed once per week with a rotary mower at one inch with clippings returned to the site.

The test site was overseeded with a native source of smooth crabgrass seed in the fall of at least two of the previous growing seasons. The test site had approximately 90% cover of smooth crabgrass in the non treated areas at the conclusion of the study.

Smooth crabgrass germination was first noted in the test site on April 24, 2006 and was at the two to three leaf stage at the time of application of these materials (June 21, 2006).

## Results and Discussion

Turfgrass phytotoxicity was rated three times during the study (Table 1). No turfgrass phytotoxicity was found during the study.

The control of smooth crabgrass was rated three times during the study (Table 2). The percent control was somewhat variable during the rating period. On the final rating date, August 29, 2006, only turfgrass treated with Dimension Ultra 2EW at 0.5 lb ai/A and Dimension 1EC at 0.5 lb ai/A provided commercially acceptable control (85% or greater) of smooth crabgrass.

It appears that the addition of MacroSorb Foliar improved the control of smooth crabgrass when applied in combination with Drive and MSO compared to Drive and MSO alone, but neither of these combinations achieved the 85% level of control.

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**Table 1.** Evaluations of phytotoxicity where 0 = worst, 7 = acceptable, and 10 = no phytotoxicity taken in 2006.

Treatment	Form	Rate LB A/A	-----Phytotoxicity-----		
			7/5	7/12	7/19
DIMENSION ULTRA	2EW	0.5	10.0	10.0	10.0
DIMENSION	1EC	0.5	10.0	10.0	10.0
DIMENSION ULTRA	40WP	0.5	10.0	10.0	10.0
19-0-6 W/ CONFRONT IV	G	5 LB/M	10.0	10.0	10.0
CHECK			10.0	10.0	10.0
DRIVE	75DF	0.75	10.0	10.0	10.0
DRIVE	75DF	0.75	10.0	10.0	10.0
MACROSORB FOLIAR	L	2 OZ/M			
DRIVE	75DF	0.75	10.0	10.0	10.0
MSO	L	1 % V/V			
DRIVE	75DF	0.75	10.0	10.0	10.0
MACROSORB FOLIAR	L	2 OZ/M			
MSO	L	1 % V/V			
ACCLAIM EXTRA	0.57EW	20 OZ/A	10.0	10.0	10.0
PENDULUM	3.8CS	1.5			

**Table 2.** Evaluations of the percent control of smooth crabgrass in 2006. Commercially acceptable control was considered to be 85% and above.

Treatment	Form	Rate LB A/A	-----% Control-----		
			7/5	8/5	8/29
DIMENSION ULTRA	2EW	0.5	82.8	89.7	88.3
DIMENSION	1EC	0.5	86.1	90.0	88.3
DIMENSION ULTRA	40WP	0.5	82.2	72.2	75.0
19-0-6 W/ CONFRONT IV	G	5 LB/M	77.8	80.8	76.7
CHECK			0.0	0.0	0.0
DRIVE	75DF	0.75	87.6	41.2	40.0
DRIVE	75DF	0.75	88.8	45.4	30.0
MACROSORB FOLIAR	L	2 OZ/M			
DRIVE	75DF	0.75	92.1	44.2	53.3
MSO	L	1 % V/V			
DRIVE	75DF	0.75	98.1	78.7	66.7
MACROSORB FOLIAR	L	2 OZ/M			
MSO	L	1 % V/V			
ACCLAIM EXTRA	0.57EW	20 OZ/A	95.4	82.9	78.3
PENDULUM	3.8CS	1.5			