

# Post Emergence Control of Smooth Crabgrass

J. A. Borger and M. B. Naedel<sup>1</sup>

## Introduction

Postemergence 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 July 19, 2006 using a three foot CO<sub>2</sub> powered boom sprayer calibrated to deliver 40 gpa using one, flat fan, 11004E nozzle at 40 psi. 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 tiller stage at the time of application of these materials (July 19, 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 on August 15, 2006 (Table 2). Turfgrass treated with Acclaim Extra alone or combined with MacroSorb Foliar at any rate provided commercially acceptable control (85% or greater) of smooth crabgrass.

Materials that contained quinclorac have not been as successful in past years in the control of smooth crabgrass when applied at the two to three tiller growth stage. Although 40% control or greater was achieved when turfgrass was treated with these product, they did not reach the commercially acceptable level of control in this study. Further research should be conducted to explore this issue.

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<sup>1</sup> Instructor and Research Technician, respectively, Department of Crop and Soil Sciences, Penn State University, University Park, Pa, 16802

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

Treatment	Form	Rate LB AI/A	(------Phytotoxicity-----)		
			7/26	8/2	8/15
ACCLAIM EXTRA	0.57EW	39 OZ/A	10.0	10.0	10.0
ACCLAIM EXTRA	0.57EW	19.5 OZ/A	10.0	10.0	10.0
ACCLAIM EXTRA	0.57EW	19.5 OZ/A	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			
CHECK			10.0	10.0	10.0
DRIVE	75DF	0.375	10.0	10.0	10.0
MACROSORB FOLIAR	L	2 OZ/M			
MSO	L	1 % V/V			
Q-4	1.55L	8 PT/A	10.0	10.0	10.0
Q-4	1.55L	4 PT/A	10.0	10.0	10.0
MACROSORB FOLIAR	L	2 OZ/M			

**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 AI/A	(----% Control----
			8/15
ACCLAIM EXTRA	0.57EW	39 OZ/A	90.0
ACCLAIM EXTRA	0.57EW	19.5 OZ/A	86.7
ACCLAIM EXTRA	0.57EW	19.5 OZ/A	85.0
MACROSORB FOLIAR	L	2 OZ/M	
DRIVE	75DF	0.75	66.7
MSO	L	1 % V/V	
CHECK			0.0
DRIVE	75DF	0.375	56.7
MACROSORB FOLIAR	L	2 OZ/M	
MSO	L	1 % V/V	
Q-4	1.55L	8 PT/A	66.7
Q-4	1.55L	4 PT/A	40.0
MACROSORB FOLIAR	L	2 OZ/M	