

Drive for Post-emergent Crabgrass Control

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INTRODUCTION

The purpose of this study was to determine the efficacy of a new compound for pre- and post-emergent crabgrass control.

EXPERIMENTAL METHODS

The study was designed as a randomized complete block design with 4 replications to evaluate the effect of crabgrass growth stage on the efficacy of Drive (quinclorac). The turf was Kentucky bluegrass with a history of crabgrass infestation. The soil type was a Miami silt loam. Each plot was 5 ft X 10 ft. The plot was scalped three times in the spring to simulate a homeowner mowing regime. The regular mowing schedule of the area was 2X weekly at 2.5 inches. Irrigation was set to run 2X weekly at 100%ET.

The treatments and the dates they were applied are listed below.

Treatment/Timing	Rate (oz/M)	Application Date
Untreated control	--	--
Pre-emergent	0.376	April 27 th
Post-emergent, pre-tiller	0.376	June 26 th
Post-emergent, 2-4 tiller	0.376	July 20 th
Post-emergent, mature	0.376	September 12 th

The trial was rated on 6/5/00, 7/5/00, 9/5/00, and 9/25/00 by counting the number of crabgrass plants in each plot. Data were subjected to analysis of variance using Fisher's Protected LSD ($p=0.05$) to determine least significant difference values when appropriate.

RESULTS AND DISCUSSION

Weather conditions during 2000 were extremely favorable for cool-season turfgrass growth. Temperatures were relatively mild, and rainfall was usually abundant and frequent (Fig. 1 and 2). Crabgrass was not evident in the plots until after the second rating (Table 1). By 20th July, scattered crabgrass plants were visible exhibiting a range of tillering stages, including 2-4 tillers per plant. Both pre- and post-emergent applications of Drive effectively controlled crabgrass, with few to zero plants in the treated plots. Even the late post-emergent treatment, applied to mature crabgrass in early September, effectively controlled crabgrass. At no time did the Drive applications cause any phytotoxicity to the turf.

The favorable climatic conditions appeared to favor turfgrass growth over crabgrass. Crabgrass pressure was generally much lower throughout the research facility in 2000 than in years past. Soil temperatures at a 2 inch depth were favorable for crabgrass germination by late April/early May (Fig. 3). It is likely some crabgrass was in the untreated plots prior to September but remained unnoticeable due to the steady growth of the turf. By late summer/early autumn the crabgrass plants were large enough to be noticed.

Table 1. Effect of Drive (quinclorac) on pre- and post-emergent control of crabgrass (*Digitaria* spp.), Verona, WI.

Treatment/Timing	# crabgrass plants per plot			
	-----Date-----			
	6/5/00	7/5/00	9/5/00	9/25/00
Untreated control	0	0	14.0	14.5
Pre-emergent	0	0	4.2	4.0
Post-emergent, pre-tiller	0	0	0.8	1.0
Post-emergent, 2-4 tiller	0	0	0.2	0.8
Post-emergent, mature	0	0	17.0†	2.0
LSD (0.05)	ns	ns	10.2	7.9

ns = not significant.

† Treatment was not applied until 12th September, 2000.

RAW DATA

Plants = # of Crabgrass plants emerged

<u>Rep</u>	<u>treatment</u>	# Plants = # of Crabgrass plants emerged			
		<u>6/5/00</u>	<u>7/5/00</u>	<u>9/5/00</u>	<u>9/20/00</u>
1	1	0	0	26	27
1	2	0	0	5	6
1	3	0	0	0	0
1	4	0	0	0	1
1	5	0	0	19	3
2	1	0	0	20	16
2	2	0	0	0	0
2	3	0	0	2	1
2	4	0	0	0	1
2	5	0	0	21	1
3	1	0	0	1	3
3	2	0	0	12	10
3	3	0	0	1	3
3	4	0	0	1	1
3	5	0	0	23	4
4	1	0	0	9	12
4	2	0	0	0	0
4	3	0	0	0	0
4	4	0	0	0	0
4	5	0	0	5	0