

**SMOOTH CRABGRASS CONTROL IN A PERENNIAL RYEGRASS LAWN FOLLOWING THE APPLICATION
OF VARIOUS HERBICIDES, 2019.**

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This study was conducted at the Joseph Valentine Turfgrass Research Center in University Park, PA on a perennial ryegrass field maintained as a home lawn. Mowing was performed 2 times per week at a height of 2.0 in. Soil rootzone was a loam with a pH of 7.2 and 2.5% organic matter. Individual plots measured 3 ft x 6 ft and were arranged as a randomized complete block design with four replications. Herbicide treatments were applied with a CO²-pressurized backpack sprayer at 40 PSI with a single TeeJet AI9504 EVS nozzle and calibrated to deliver 1.0 gallon of water per 1000 ft². Treatments were initially applied on 1 May 2019 and reapplied according to schedules listed in Table 1. Percent smooth crabgrass (*Digitaria ischaemum*) was visually assessed on a 0 to 100 percent scale where 0 = no crabgrass present and 100 = entire plot area covered by crabgrass. Turfgrass injury was visually rated using a 0 to 10 scale where 0 = no injury observed, 10 = turf within plot brown or dead and 4 = unacceptable level of injury. All data were subjected to analysis of variance and means separated at $P \leq 0.05$ according to Fisher's Protected least significant difference test.

Weed pressure was considered severe in this trial with a total of 85% of the nontreated plots covered with crabgrass by 21 Aug (Table 1). Excellent control (< 4%) was provided by single or split applications of Barricade, split applications of Pendulum or Dimension, and a single application of Acclaim Extra + NIS applied on 26 Jun (2 to 4 tiller stage). Plots treated with a mid-season application of Acclaim Extra + NIS, however, reached moderate levels of crabgrass (30%) prior to application. Good control (5 to 9%) was observed within plots treated with single applications of Pendulum and Dimension. Moderate suppression (10 to 15%) of crabgrass was achieved within plots treated with Acclaim Extra and Drive XLR8 on 7 Jun. No turfgrass injury was observed on any rating date.

Table 1. Smooth crabgrass control in a perennial ryegrass lawn following the single or split applications of various herbicides, 2019.

Treatment and rate	App Code	Percent crabgrass ^z				
		1 May	7 Jun	26 Jun	26 Jul	21 Aug
1 Barricade 65 WDG 1.15 lb/A.....	A ^y	0.0 a ^x	0.0 c	0.0 b	1.3 de	3.8 de
2 Barricade 65 WDG 0.65 lb/A.....	AB	0.0 a	0.0 c	0.0 b	0.5 e	1.0 e
3 Pendulum AquaCap 4.2 pt/A.....	A	0.0 a	0.0 c	0.0 b	4.5 c	8.8 c
4 Pendulum AquaCap 3.1 pt/A.....	AB	0.0 a	0.0 c	0.0 b	0.5 e	0.5 e
5 Nontreated	-	0.0 a	7.8 ab	30.8 a	73.8 a	85.0 a
6 Acclaim Extra 13 fl oz/A	B					
Harrel's SprayMAX 32 fl oz/32 gal	B	0.0 a	5.8 ab	1.8 b	8.3 b	14.5 b
7 Acclaim Extra 20 fl oz/A	C					
Harrel's SprayMAX 32 fl oz/32 gal	C	0.0 a	6.0 b	29.5 a	3.8 c	2.0 de
8 Dimension EW 32 fl oz/A	A	0.0 a	0.0 c	0.0 b	2.5 cde	5.3 cd
9 Dimension EW 16 fl oz/A	AB					
Harrel's SprayMAX 32 fl oz/32 gal	AB	0.0 a	0.0 c	0.0 b	0.3 e	0.8 e
10 Drive XLR8 4 pt/A	B					
Harrel's SprayMAX 32 fl oz/32 gal	B	0.0 a	9.5 a	0.8 b	8.3 b	13.3 b

^z Smooth crabgrass was rated visually on 0 to 100 percent scale where 0 = no crabgrass present and 100 = entire plot area covered with crabgrass.

^y Treatments were applied on the following dates: A = 1 May, B = 7 Jun, and C = 26 Jun.

^x Means in a column followed by the same letter are not significantly different at $P \leq 0.05$ according to the Fisher's Protected least significant difference test.