

2006 Preemergence Crabgrass Control Study—BASF and Dow

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Objectives:

The objectives of this study were to evaluate the level of crabgrass control with different Pendulum (pendimethalin) formulations (BASF) compared to other preemergence products and to determine if a new Dimension formulation, Dimension EW, performs as well as current dithiopyr formulations (Dow). Data were to be taken to determine if any of the treatments caused phytotoxicity to the 'common' Kentucky bluegrass.

Materials and Methods:

This study took place at the Iowa State University Turfgrass Research Facility. Plot areas were seeded to crabgrass 18 April, 2006. There were a total of three replications of 9 treatments (Table 1). Initial preemergence applications were applied 21 April, 2006. Repeat applications to specified plots were made eight weeks later on 16 June. All applications were liquid products applied using a backpack CO₂ sprayer. The soil on the site is a disturbed Nicollet clay loam with a pH of 7.5, 8 ppm P, and 58 ppm K.

Results:

There were no signs of any phytotoxicity on any of the treatments. First percentage crabgrass control data were not collected until June 3, when the first visible crabgrass was present in the plots. Crabgrass populations present in control plots are displayed in Table 2. The Pendulum products performed very well in the study, with little difference in formulations, rates and timing. Dimension EW performed just as well, if not slightly better, than the current Dimension formulations. Data were not significant between actual treatments until the last data collection date, 14 August. At this time it was an industry standard, Barricade 4FL (prodiamine) that provided slightly lesser control.

Table 1. Percent crabgrass control for 2006 BASF and Dow Preemergence studies

Treatment	Rate (lb ai/A)	Application Timing	Percent Crabgrass Control						
			20-May	3-Jun	17-Jun	5-Jul	15-Jul	4-Aug	14-Aug
Control	NA	NA	NWP*	0.0	0.0	0.0	0.0	0.0	0.0
Pendulum 3.3 EC	2.0 + 1.5	Pre + 8 WAIT	NWP*	100.0	100.0	100.0	100.0	99.3	99.7
Pendulum 3.3 EC	1.5 + 1.5	Pre + 8 WAIT	NWP*	100.0	100.0	100.0	100.0	99.7	99.7
Pendulum 3.8 CS	2.0 + 1.5	Pre + 8 WAIT	NWP*	100.0	100.0	100.0	100.0	100.0	100.0
Pendulum 3.8 CS	1.5 + 1.5	Pre + 8 WAIT	NWP*	100.0	99.7	100.0	100.0	99.7	99.7
Dimension Ultra 2EW	0.5	Preemergence	NWP*	100.0	100.0	100.0	100.0	99.7	99.3
Dimension Ultra 1EC	0.5	Preemergence	NWP*	100.0	100.0	100.0	100.0	99.7	99.0
Dimension Ultra 40WSP	0.5	Preemergence	NWP*	100.0	100.0	99.7	100.0	99.0	99.0
Barricade 4FL	0.75	Preemergence	NWP*	100.0	100.0	99.7	100.0	97.0	96.3
		LSD	NA	0.0	0.3	0.4	0.0	1.3	1.0

* indicates no weeds present

Table 2. Percent Crabgrass Populations in Replications

	Crabgrass Populations (%)						
	20-May	3-Jun	17-Jun	5-Jul	15-Jul	4-Aug	14-Aug
Rep 1	NWP	2	20	40	65	65	90
Rep 2	NWP	20	70	95	90	85	96
Rep 3	NWP	4	75	95	90	90	98
Mean	---	8.7	55.0	57.5	81.7	80	94.7