

Postemergent Broadleaf Weed Control

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Objective

Our objective was to determine the effectiveness of commercially available and experimental postemergence herbicides for broadleaf weed control.

Rationale

Broadleaf weeds are a problem on many turf sites. Postemergence herbicides are often applied on these sites to broadleaf weeds. It is important to continually examine new herbicides and new ways to use existing herbicides for their ability to control broadleaf weeds.

How It Was Done

A stand of Kentucky bluegrass turf, at the William H. Daniel Turfgrass Research and Diagnostic Center, with a substantial population of broadleaf weeds was selected as the site for this experiment. The site was mowed at 2.5 inches twice per week with clippings returned. No fertilizer was applied during the course of this experiment and irrigation was applied to prevent any sign of drought stress. Date of herbicide application was 7 June-00. The liquid treatments were applied using a three nozzle hand held boom in 2 gals H₂O/ 1000 ft². The dry treatments were applied using a hand shaker bottle. Data collected were visual ratings of control of each weed species and percent of plot area covered by each weed species. Data were collected for dandelion, white clover, and broadleaf plantain.

Results

Weed control ratings were made on 22 June, 2 weeks after treatment (2 WAT), 30 June (3 WAT) and 6 July (4 WAT). After 6 July it was difficult to accurately rate weed control so percent weed cover data were collected on 6 July (4 WAT), 18 July (6 WAT) and 3 Aug (8 WAT). Dandelion control was greatest in plots treated with liquid applications of broadleaf herbicides. Confront 3SL at all rates, Lontrel 3SL, Trimec Classic and Momentum provided significantly better dandelion control than the check and other herbicide treatments on all rating dates (Table 1). Dandelion cover ratings on 6 and 18 July and 3 Aug confirm liquid applications of Confront 3SL at all rates, Lontrel 3SL, Trimec Classic and Momentum provided plots with the least dandelion cover.

Most all herbicide treatments provided significantly better white clover control than the untreated check. Confront 3SL at all rates, Lontrel 3SL, Trimec Classic, Lebanon Experimental 1.58 G applied to wet turf and Momentum provided the highest level of white clover control over all rating dates (Table 2). Percent cover by white clover was significantly less in all plots treated with a herbicide compared to the untreated check. Plots treated with L-0387 and rated on 3 Aug had significantly more white clover cover than all other plots treated with a herbicide.

All herbicide treatments provided significantly better control of plantain than the untreated check (Table 3). Trimec Classic and Momentum provided significantly better plantain control than the other herbicide treatments on 22 and 30 June. There was a small population of plantain on the experimental site. Therefore, percent plantain cover data show no significant differences (Table 3).

Table 1. Dandelion control following treatment with experimental and commercially available postemergence herbicides.

Treatment	Rate of application pints/A	Control			Cover		
		22 June	30 June	6 July	6 July	18 July	3 Aug
					----- %-----		
Confront 3SL	1.0	4.7 ^a	5.3	7.0	1.7 ^b	6.0	6.3
Confront 3SL	1.5	6.3	7.3	8.0	1.3	1.0	2.0
Confront 3SL	2.0	5.7	8.0	9.0	0.0	0.0	1.0
Lontrel 3SL	0.67	6.3	6.7	9.0	0.3	0.7	1.0
Trimec Classic	4.0	5.7	8.0	9.3	0.0	0.7	1.7
Check	---	0.0	0.0	0.0	5.0	13.3	18.3
Lebanon Experimental 1.58G	157.0 ^{cd}	1.7	1.3	1.3	6.0	11.7	10.3
Lebanon Experimental 1.58G	157.0 ^{ce}	1.0	1.7	1.3	4.7	11.7	15.0
L-0386	3.6 ^f	1.7	2.0	0.7	6.3	11.7	15.0
L-0387	3.6 ^f	3.0	3.0	0.7	7.7	11.7	16.7
Momentum	3.0	8.0	7.3	8.7	0.3	1.3	1.7
LSD (0.05)		2.1	2.8	2.9	3.7	6.8	6.8

^a Control was rated on a scale of 0 - 10 where 0 = no control and 10 = 100% control.

^b Percent of plot area covered by dandelion.

^c Rate of application was pounds product/A.

^d Treatment was applied to dry turf.

^e Treatment was applied to wet turf.

^f Rate of application was pounds product/1000 ft².

Table 2. White clover control following treatment with experimental and commercially available postemergence herbicides.

Treatment	Rate of application pints/A	Control			Cover		
		22 June	30 June	6 July	6 July	18 July	3 Aug
Confront 3SL	1.0	5.7 ^a	8.0	9.3	0.0 ^b	0.0	0.0
Confront 3SL	1.5	7.0	8.3	6.7	0.0	0.0	0.0
Confront 3SL	2.0	7.0	9.0	10.0	0.0	0.0	0.0
Lontrel 3SL	0.67	7.0	9.0	10.0	0.0	0.0	0.0
Trimec Classic	4.0	6.3	8.7	7.7	0.3	0.3	0.3
Check	---	0.0	0.0	0.0	10.0	6.3	16.7
Lebanon Experimental 1.58G	157.0 ^{cd}	2.7	7.7	4.3	1.0	0.7	0.7
Lebanon Experimental 1.58G	157.0 ^{ce}	4.3	6.7	7.7	1.0	0.0	0.0
L-0386	3.6 ^f	2.0	5.3	2.7	1.7	2.3	1.7
L-0387	3.6 ^f	3.0	6.0	3.3	2.7	2.3	6.7
Momentum	3.0	5.0	8.0	7.3	0.3	0.3	0.0
LSD (0.05)		2.2	2.3	5.5	4.8	2.0	5.2

^a Control was rated on a scale of 0 - 10 where 0 = no control and 10 = 100% control.

^b Percent of plot area covered by white clover.

^c Rate of application was pounds product/A.

^d Treatment was applied to dry turf.

^e Treatment was applied to wet turf.

^f Rate of application was pounds product/1000 ft².

Table 3. Plantain control following treatment with experimental and commercially available post-emergence herbicides.

Treatment	Rate of application pints/A	Control			Cover		
		22 June	30 June	6 July	6 July	18 July	3 Aug
Confront 3SL	1.0	3.7 ^a	5.3	4.3	0.3 ^b	1.0	1.0
Confront 3SL	1.5	4.0	6.3	5.0	0.7	1.3	0.7
Confront 3SL	2.0	5.0	6.0	3.3	0.7	1.3	0.7
Lontrel 3SL	0.67	4.7	5.0	2.3	1.0	2.0	1.3
Trimec Classic	4.0	6.0	8.7	7.3	0.0	0.3	0.0
Check	---	0.0	0.0	0.7	1.3	2.3	1.7
Lebanon Experimental 1.58G	157.0 ^{cd}	2.0	5.7	4.0	0.7	1.0	1.7
Lebanon Experimental 1.58G	157.0 ^{ce}	3.0	4.3	5.3	0.7	2.0	1.3
L-0386	3.6 ^f	3.7	5.7	5.0	0.0	0.3	0.3
L-0387	3.6 ^f	2.0	3.0	3.0	1.0	1.3	1.3
Momentum	3.0	7.0	8.3	8.0	0.3	0.0	0.0
LSD (0.05)		2.6	2.0	NS	NS	NS	NS

^a Control was rated on a scale of 0 - 10 where 0 = no control and 10 = 100% control.

^b Percent of plot area covered by plantain.

^c Rate of application was pounds product/A.

^d Treatment was applied to dry turf.

^e Treatment was applied to wet turf.

^f Rate of application was pounds product/1000 ft².