

EVALUATION OF HERBICIDES FOR CONTROL OF BROADLEAF WEEDS IN KENTUCKY BLUEGRASS, 2000

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Abstract

Broadleaf herbicides Peak, Express, 2,4-D, and Bronate were evaluated in a first-year commercial Kentucky bluegrass seed field near Madras, Oregon. Weeds were 4 to 8 inches tall when herbicides were applied. None of the herbicide treatments controlled dog fennel or buttonweed, while flixweed was controlled by all herbicide treatments except Bronate. 2,4-D provided total control of shepherdspurse either alone or in combination with other herbicides. Peak provided 100 percent control of flixweed at either rate and 100 percent control of shepherdspurse at 1 oz/acre. Express at 0.5 oz/acre provided 100 percent control of flixweed and 67 percent control of common groundsel.

Introduction

Broadleaf weeds in Kentucky bluegrass seed fields in central Oregon are generally controlled with 2,4-D, Bronate, and Express. The objective of this project was to evaluate against the industry standards a new broadleaf herbicide, Peak, which is similar to Express but expected to have greater crop safety on grasses.

Methods and Materials

Herbicides Peak, Express, 2,4-D and Bronate alone and in combination were evaluated in a first-year commercial Kentucky bluegrass seed field near Madras, Oregon. Plots 9 ft x 30 ft were replicated three times in a randomized complete block design. Treatments were applied with a CO₂-pressurized, hand-held boom sprayer at 40 psi and 20 gal/acre water. A non-ionic surfactant was applied at 0.25 percent volume/volume in combination with all herbicides. Treatments were applied April 12 when the weeds were 4 to 8 inches tall.

Plots were evaluated for the presence of dogfennel, flixweed, shepherds purse, buttonweed, henbit, and groundsel on May 31, 2000. Because of the growth of the crop and weeds present, each species was considered either present or absent without determining the percent control or the number of plants present.

Results and Discussion

Weeds were mature when the herbicides were applied, and this undoubtedly reduced the herbicide efficacy. The weed spectrum across the untreated plots was 59 percent dog fennel, 25 percent flixweed, 5 percent shepherdspurse, 5 percent buttonweed, 4 percent henbit, and 2 percent common groundsel.

None of the herbicides controlled dog fennel or buttonweed (Table 1). Flixweed was controlled by all herbicide treatments but Bronate. Peak provided complete control of flixweed and shepherdspurse at 1.0 oz/acre, 33 percent control of shepherdspurse at 0.5 oz/acre, 33 percent control of henbit at either rate, and no control of either buttonweed or common groundsel. Both alone or in combination with other herbicides, 2,4-D provided 100 percent control of shepherdspurse. Express at 0.5 oz/acre controlled all of flixweed, 67 percent of common groundsel and 33 percent of shepherdspurse.

Table 1. Efficacy of herbicides applied to Kentucky bluegrass April 12,2000, for broadleaf weed control and evaluated May 31, 2000, near Madras, Oregon.

Treatment	Rate/acre	Weed control (%)								
		Dog fennel	Flixweed	Shepherds-Purse	Button-weed	Henbit	Common groundsel			
Peak	0.5 oz	0	100	a ¹	33	b	0	33	0	b
Peak	1.0 oz	0	100	a	100	a	0	33	0	b
Peak + 2,4-D	0.5 oz	0	100	a	100	a	0	0	0	b
	1.0 pt			a						
Express	0.5 oz	0	100	a	33	b	0	0	67	a
Express + 2,4-D	0.3 oz	0	100	a	100	a	0	0	33	a
	1.0 pt			a						
2,4-D	1.5 pt	0	100	a	100	a	0	0	0	b
Bronate	1.0 qt	0	0	b	33	b	0	0	33	a
Untreated		0	0	b	0	b	0	0	0	b
		NS					NS	NS		

Mean separation with Student-Newman-Keuls P 0.05.