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Canada Thistle Control in Cool-Season Pastures

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Abstract

The purpose of this study was to evaluate herbicides for Canada thistle control in a cool-season pasture.

Keywords

Agronomy

Disciplines

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Canada Thistle Control in Cool-Season Pastures

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Introduction

The purpose of this study was to evaluate herbicides for Canada thistle control in a cool-season pasture.

Materials and Methods

A randomized complete block design with four replications was used. Herbicides were applied in 20 gallons of water/acre. Visual estimates of percentage Canada thistle control were made three times following treatment. These observations were compared with an untreated control and made on a zero to 100% rating scale (0% = no control; 100% = complete control).

Herbicide treatments were applied on July 5, 2002, to a grass pasture mixture of orchard, fescue, smooth brome, and Kentucky blue. Grasses were 4 to 8 inches tall. Canada thistle was 3 to 12 inches tall with numerous leaves. Growth stage was vegetative.

Results and Discussion

Summarized in Table 1 are the results of the study. Grazon P+D, Redeem R&P, 2, 4-D amine, and Weedmaster caused negligible injury to the grass species present when observed on July 30 (data not shown). Grazon P+D applied at 2.0 and 3.0 pints/acre provided 90 and 94% Canada thistle control, respectively, when observed on August 23, fifty-five days after application. These Grazon P+D application rates continued to provide good to excellent control when observed on October 16. There was no significant difference in control between the treatments on either observation date. Grazon P+D applied at 1.0 pint/acre provided 68% Canada thistle control on October 16. This was significantly less than that achieved by the 2.0 and 3.0 pint/acre treatments and was considered unacceptable. Redeem R&P application rates of 1.0, 1.5, 2.0, and 3.0 pints/acre were very effective in controlling Canada thistle when observed on August 29 and October 16. All treatments achieved 90% control or more, and few significant differences were observed between them. Weedmaster and 2, 4-D amine provided only poor to fair Canada thistle control when observed on August 29 and October 16.

Table 1. Evaluation of Grazon P+D, Redeem R&P, 2,4-D amine, and Weedmaster herbicides for Canada thistle control in a cool-season pasture, Chariton, 2002.

Treatment	Rate	Appl. time	□	Canada thistle		
				July 30	Aug 29	Oct 16
				----- (% control) -----		
Control	—	—		0	0	0
Grazon P+D 2.5SL + NIS ^a	1.0 pt + 0.25 % v/v	POST		70	81	68
Grazon P+D 2.5SL + NIS	2.0 pt + 0.25 % v/v	POST		76	90	86
Grazon P+D 2.5SL + NIS	3.0 pt + 0.25 % v/v	POST		83	94	91
Redeem R&P 3SL + NIS	1.0 pt + 0.25 % v/v	POST		76	95	90
Redeem R&P 3SL + NIS	1.5 pt + 0.25 % v/v	POST		80	91	90
Redeem R&P 3SL + NIS	2.0 pt + 0.25 % v/v	POST		89	98	96
Redeem R&P 3SL + NIS	3.0 pt + 0.25 % v/v	POST		96	98	97
2, 4-D amine 4SL + NIS	2.0 pt + 0.25 % v/v	POST		73	71	74
Weedmaster 3.87SL + NIS	3.0 pt + 0.25 % v/v	POST		79	66	63
LSD (0.05)	□	□	□	4	5	9

^aNIS = Activator 90, a non-ionic surfactant penetrant from Loveland Industries.