Canada Thistle Control in Cool-Season Pastures

Michael D. Owen  
*Iowa State University*, mdowen@iastate.edu

James F. Lux  
*Iowa State University*, jlux@iastate.edu

Damian D. Franzenburg  
*Iowa State University*, dfranzen@iastate.edu

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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
Agricultural Science | Agriculture | Agronomy and Crop Sciences
Canada Thistle Control in Cool-Season Pastures

Micheal D. K. Owen, professor
James F. Lux, ag specialist
Damian D. Franzenburg, ag specialist
Department of Agronomy

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate</th>
<th>Appl. time</th>
<th>Canada thistle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Product/acre</td>
<td></td>
<td>July 30</td>
</tr>
<tr>
<td>Control</td>
<td>—</td>
<td>—</td>
<td>0</td>
</tr>
<tr>
<td>Grazon P+D 2.5SL + NIS</td>
<td>1.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>70</td>
</tr>
<tr>
<td>Grazon P+D 2.5SL + NIS</td>
<td>2.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>76</td>
</tr>
<tr>
<td>Grazon P+D 2.5SL + NIS</td>
<td>3.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>83</td>
</tr>
<tr>
<td>Redeem R&amp;P 3SL + NIS</td>
<td>1.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>76</td>
</tr>
<tr>
<td>Redeem R&amp;P 3SL + NIS</td>
<td>1.5 pt + 0.25 % v/v</td>
<td>POST</td>
<td>80</td>
</tr>
<tr>
<td>Redeem R&amp;P 3SL + NIS</td>
<td>2.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>89</td>
</tr>
<tr>
<td>Redeem R&amp;P 3SL + NIS</td>
<td>3.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>96</td>
</tr>
<tr>
<td>2, 4-D amine 4SL + NIS</td>
<td>2.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>73</td>
</tr>
<tr>
<td>Weedmaster 3.87SL + NIS</td>
<td>3.0 pt + 0.25 % v/v</td>
<td>POST</td>
<td>79</td>
</tr>
</tbody>
</table>

LSD (0.05) 4 5 9

*NIS = Activator 90, a non-ionic surfactant penetrant from Loveland Industries.