Roundup Ready Alfalfa Management Trial—Otter Tail County

Cooperator: Paul Beckman
Nearest Town: Underwood
Soil Type: Silty Loam
Tillage: Chisel Plow and Field Cultivator
Previous Crop: Wheat
Variety: Dekalb RR05-060104
Planting Date: 5-17-06
Emergence Date: 5-27-06
Planting Rate: 16 Lbs. PLS/a
Row Width: 6 inches
Fertilizer: Spring Applied Dairy Manure
Treatment: 6-7-06 Alfalfa = 3rd trifoliate
Weeds = 3-6 inches
Herbicide: Roundup WeatherMax @ .56 lb + AMS @ 2.5 lb
Treatments: Roundup WeatherMax @ .56 lb + AMS @ 2.5 lb
Raptor @ .031 lb. + COC @ 1 Qt + 28% @ 2Qt
Select @ .125 lb + COC @ 1 Qt + 28% @ 2Qt
Select @ .156 lb + Buctril @ .312 lb + COC @ 1 Qt
Harvest Dates: 7-28-06 and 10-6-06
Experimental Design: Randomized Complete Block (4 reps)
Plot Size: 10 feet by 20 feet (center 6’ sprayed and center 3 harvested)

Purpose of study:
Evaluate the performance of herbicide chemistries on establishment year Roundup Ready alfalfa yield, quality, and weed control.

Results:
Herbicide applications did result in visual differences with alfalfa injury (data not shown) expressed as discoloration and height reductions but did not factor significantly into first harvest yield. Alfalfa yields are reported as clean yields using visual and plant separation harvests to determine weed composition. Forage quality work is currently being conducted and subsequent years of yield will be gathered to develop an analysis of the economic feasibility of incorporating Round Up Ready alfalfa into livestock cropping systems.

<table>
<thead>
<tr>
<th>Treatment: Product (spray rate)/a</th>
<th>1st harvest</th>
<th>2nd harvest</th>
<th>Total Alfalfa Yield (ton/a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Alfalfa Yield (ton/a)</td>
<td>Weed comp (%)</td>
<td>Alfalfa Yield (ton/a)</td>
</tr>
<tr>
<td>Round Up (16 oz)</td>
<td>1.7</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Round Up (22 oz)</td>
<td>1.7</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Raptor (4 oz)</td>
<td>1.5</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>Select (8 oz)</td>
<td>1.1</td>
<td>58</td>
<td>1.1</td>
</tr>
<tr>
<td>Select + Buctril (10 + 20 oz)</td>
<td>1.5</td>
<td>7</td>
<td>1.2</td>
</tr>
<tr>
<td>Untreated control</td>
<td>1.4</td>
<td>55</td>
<td>1.3</td>
</tr>
<tr>
<td>Mean</td>
<td>1.5</td>
<td>21</td>
<td>1.2</td>
</tr>
<tr>
<td>LSD 0.05</td>
<td>NS</td>
<td>19</td>
<td>0.1</td>
</tr>
</tbody>
</table>

1Weeds present included foxtail, pigweed, lambsquarters, mustard, and w. buckwheat.