Reduced Rates of Herbicides in Normal Soybeans

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Objective

To determine if reduced rates of herbicides can provide adequate weed control and show no yield loss in no-tillage soybean utilizing pre-emergence and post-emergence herbicide applications.

Background

Crop Year: 1997
Cooperator: Tim Warner
County/Town: Darke/ Greenville
Drainage: N/A
Major Soil Type: Brookston Silty Clay Loam
Previous Crop: Corn
Tillage: None

Soil Test: N/A
Fertilizer Applied: N/A
Herbicide: See Methods
Variety: Becks 299
Planting Rate: 210,000 seeds/A
Planting Date: April 29, 1997
Harvest Date: September 24, 1997

Materials and Methods

The plot size for this study was 20 feet wide and 300 feet in length. Each treatment was replicated three times. 2,4-D ester at 1.0 pt/A plus Prime Oil (COC) was added to treatments 1-7 and applied alone to treatment 8 to control existing weeds seven days prior to planting. The 1X Canopy rate was 6.0 oz/A and 1X Squadron rate was 3.0 pt/A. The post-emergence application of Basagran + Poast HC + Prime Oil + 28% Nitrogen at the 1X rate was 2.0 pt/A + 10.0 floz/A + 0.5%v/v + 2.0%v/v and applied as listed in the table.
## Results

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Product and Rate¹</th>
<th>Treatment Timing</th>
<th>Weed Control (% on July 24, 1997)</th>
<th>Soybean Yield (bu/A)</th>
<th>Treatment Cost² ($/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Canopy (EPP) 1/2X -7</td>
<td>86</td>
<td>62</td>
<td>$12.06</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Canopy (EPP) 1/2X (POST) 1/4X 1.25 52</td>
<td>93</td>
<td>61</td>
<td>$22.09</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Canopy (EPP) 1/2X (POST) 1/2X 3.0 56</td>
<td>98</td>
<td>61</td>
<td>$29.32</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Squadron (EPP) 1/2X -7</td>
<td>83</td>
<td>62</td>
<td>$17.00</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Squadron (EPP) 1/2X (POST) 1/4X 1.25 52</td>
<td>95</td>
<td>61</td>
<td>$27.03</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Squadron (EPP) 1/2X (POST) 1/2X 3.0 56</td>
<td>98</td>
<td>63</td>
<td>$34.26</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Squadron (EPP) 1X -7</td>
<td>83</td>
<td>61</td>
<td>$29.16</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Roundup (POST) 1X 8.0 65</td>
<td>95</td>
<td>63</td>
<td>$37.56</td>
<td></td>
</tr>
</tbody>
</table>

| LSD (0.05%) | 7 | NS |

1. Abbreviations: Height = annual grass height, DAP = days after planting, An. Gr. = annual grass (giant foxtail and barnyardgrass), bu/A = bushels per acre, EPP = early pre-plant application, POST = post-emergence application, LSD = least significant difference, NS = no significant difference

2. Treatment cost = cost of all herbicides and additives (including burndown) and application cost at $2.00/A/application

## Summary and Notes

The annual grass pressure was light to moderate and the annual broadleaf pressure was non-existent. Canada thistle was present, which is why Basagran was used, but the thistle population was not uniform enough to rate. Treatments 1, 4, and 7 provided less than 87% control of annual grass, but yield was not significantly reduced.

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