Selected Grass Killers on Johnsongrass in Cotton
Graham County

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Summary

Three gramicides, Poast, Fusilade and Assure, were sprayed on small plots of cotton infested with Johnsongrass. Nine days later, counts were made to determine the percent control achieved by the sprays. Control from all the materials was good, from 89.3 to 94 percent, but in all cases, a second application would be necessary to complete the job.

Materials and Methods

Plots 10 feet long and 2 rows wide were marked out in a field of Pima cotton which had a high infestation of rhizome Johnsongrass. A randomized complete block design was used with 4 replications. Non-ionic crop oil was mixed with each of the herbicides to be 1% by volume. The spray material contained 1%, 0.75% and 0.9% by volume of Poast, Fusilade and Assure, respectively.

Spray was applied by a hand held sprayer using an 8004 Teejet nozzle; sufficient spray was applied to thoroughly wet the surface of the Johnsongrass leaves. This rate was approximately 65 gallons per acre. The cotton and the weeds were approximately 6 inches in height on the 21st of May when the application was made. Nine days later, it was easy to determine which plants were terminally affected and which had escaped control. Counts were made and are tabulated in Table 1. No adverse effects were noted on the cotton.
Results

Table 1. Percent Control of Johnsongrass as Affected by Selected Gramicides.

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>PRODUCT</th>
<th>CONCENTRATION</th>
<th>% CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICI</td>
<td>Fusilade</td>
<td>0.75% + 1% oil</td>
<td>94.4 a*</td>
</tr>
<tr>
<td>Dupont</td>
<td>Assure</td>
<td>0.9% + 1% oil</td>
<td>89.8 b</td>
</tr>
<tr>
<td>BASF</td>
<td>Poast</td>
<td>1% + 1% oil</td>
<td>89.3 b</td>
</tr>
<tr>
<td>CHECK</td>
<td></td>
<td>0.0</td>
<td>c</td>
</tr>
</tbody>
</table>

* Values with the same letter are not significantly different at the .10 level using the Student-Newman-Keul's Test.

Application of Herbicides in Cotton Through Gravity Flow Furrow Irrigation

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Summary

The objective of this experiment was to evaluate the potential of applying herbicides in the irrigation water during a furrow irrigation as an alternate method of herbicide application in cotton.

Further research is needed to study this method of applying herbicides. If a program could be designed for the Arizona cotton grower, it would help reduce production costs. However before this method can be recommended the environmental impact of such a treatment must be investigated to prevent jeopardizing currently labelled herbicides in cotton.

Methods

In 1985, field research was conducted on a sandy clay loam at the University of Arizona Maricopa Agricultural Center to measure the response of 28 to 32 inch cotton and 4 to 15 inch Wright groundcherry (Phylalis wrightii) to herbicides applied through the irrigation water. Deltapine 61 was planted in moisture on 40