Sequential Application Timings for Liberty and Engenia

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Introduction

• Objective: Determine optimal window for sequential application of two rates of Liberty and one rate of Engenia

➢ 3-, 7-, or 10-days between applications
Herbicides

**Engenia** - systemic herbicide

**Liberty** - contact herbicide
Materials and Methods

• 2018 and 2019 trial located on Texas A&M AgriLife Research Station, Halfway, Texas

• Ammonium sulfate added to all Liberty treatments

• Crop: cotton

• **Weed Size: 3-6 inches**
  • 2018: 3-4 inches
  • 2019: 5-6 inches

<table>
<thead>
<tr>
<th>Application Dates</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 15&lt;sup&gt;th&lt;/sup&gt;</td>
<td>June 28&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>June 18&lt;sup&gt;th&lt;/sup&gt;</td>
<td>July 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td>June 21&lt;sup&gt;st&lt;/sup&gt;</td>
<td>July 5&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>June 25&lt;sup&gt;th&lt;/sup&gt;</td>
<td>July 8&lt;sup&gt;th&lt;/sup&gt;</td>
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## Materials and Methods

<table>
<thead>
<tr>
<th>Initial Application</th>
<th>Sequential Application</th>
<th>Herbicide Rate (oz/A)</th>
<th>A.I. or A.E. lb./A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberty</td>
<td>Liberty 3 DAA</td>
<td>32 oz/A</td>
<td>0.64 lb./A</td>
</tr>
<tr>
<td></td>
<td>Liberty 7 DAA</td>
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<tr>
<td></td>
<td>Liberty 10 DAA</td>
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<td></td>
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<tr>
<td>Liberty</td>
<td>Liberty 3 DAA</td>
<td>43 oz/A</td>
<td>0.85 lb./A</td>
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<tr>
<td></td>
<td>Liberty 7 DAA</td>
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<tr>
<td></td>
<td>Liberty 10 DAA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engenia</td>
<td>Engenia 3 DAA</td>
<td>12.8 oz/A</td>
<td>0.5 lb./A</td>
</tr>
<tr>
<td></td>
<td>Engenia 7 DAA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engenia 10 DAA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Visual Control - 31 Days after initial application

---Liberty 32 oz/A---
- 3 Days: AB (e)
- 7 Days: AB (e)
- 10 Days: C (de)

---Liberty 43 oz/A---
- 3 Days: C (cd)
- 7 Days: AB (de)
- 10 Days: A (bc)

--Engenia 12.8 oz/A--
- 3 Days: AB (bc)
- 7 Days: AB (ab)
- 10 Days: A (a)
Visual Comparison

Liberty 43 oz/A, 10-day interval

Engenia 12.8 oz/A, 10-day interval

What’s hard to capture in this picture: numerous 0.5-inch to 1-inch Palmer
Summary

Greater control in 2018 with all treatments

Applications made 10 days apart offered best visual control for both herbicides

Differences in weather and initial weed size could factor into level of control year to year
Acknowledgements

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