Field Identification and Management of Herbicide Resistant Johnsongrass

Daniel O. Stephenson, IV – LSU AgCenter
James L. Griffin – LSU AgCenter
Nilda R. Burgos – Univ. of Arkansas
Johnsongrass
Johnsongrass

Methods of propagation

- Rhizomes
- Seeds
Johnsongrass

Prior to glyphosate-resistant crops, johnsongrass was considered the be an extremely troublesome weed.

After glyphosate-resistant crops?
– “I don’t have a problem with johnsongrass anymore.”
Johnsongrass Fights Back!

2008:
– Complaints about glyphosate not working
  • Multiple applications of labeled rates
  • Multiple applications of 2x or more rates

2009:
– It spread across a wider geographic region

2010:
– It continues to spread
Johnsongrass Fights Back!

2007 and earlier

– I suspect that glyphosate was applied
  • As the only herbicide for weed control
  • At lower than labeled rates

– Classic example of how resistant is begins
Moving it around
What Louisiana is dealing with!
2010 County Agent Survey

Yellow = Palmer amaranth
Green = waterhemp
Red = johnsongrass
Resistance Research

Dr. Jim Griffin and myself – LSU AgCenter
- Dose response experiments
- Field management experiments

Dr. Nilda Burgos – University of Arkansas
- Dose response experiments
- Genetic experiments

Our research is indicating high levels of resistance
How can we get out of this mess?
**Fight it in all crops!**

Corn

– Don’t use only glyphosate + atrazine!

<table>
<thead>
<tr>
<th>PRE</th>
<th>POST (V3 or V4)</th>
<th>Rate</th>
<th>% Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignite</td>
<td>Ignite</td>
<td>5 oz/A fb 22 oz/A</td>
<td>95</td>
</tr>
<tr>
<td>Ignite</td>
<td>Ignite</td>
<td>5 oz/A + 1 qt/A fb 22 oz/A</td>
<td>97</td>
</tr>
<tr>
<td>Capreno</td>
<td>3 oz/A</td>
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<tr>
<td>Ignite</td>
<td>22 oz/A</td>
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<tr>
<td>Capreno + Aatrex</td>
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<td>97</td>
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<tr>
<td>Ignite + Aatrex</td>
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<tr>
<td>Resolve Q</td>
<td>1.25 oz/A</td>
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<tr>
<td>Steadfast Q</td>
<td>1.5 oz/A</td>
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</table>
CORN

Nontreated

Corvus fb Ignite

Corvus + Aatrex fb Ignite
CORN

Nontreated  Capreno + Aatrex  Ignite + Aatrex
Fight it in all crops!

Cotton and Soybean

– PRE’s?

– Graminicicides
  • Watching for resistance

– Ignite
  • Liberty Link cotton and soybean
  • Widestrike cotton
    – NOT AN ENDORSEMENT OF THIS PRACTICE!
Status in Louisiana

Corn:
- Products such as Capreno, Accent Q, Resolve Q

Cotton and Soybean
- Graminicidies
- Glyphosate + graminicide
  - High prices of soybean will cause continued pressure on glyphosate and graminicides
- Ignite
  - Liberty Link cotton an option with good varieties
  - Liberty Link soybean has not been widely adopted

Glyphosate resistance is very probable
QUESTIONS?