Herbicide Programs in Mississippi Row Crops

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Acknowledgment

- ADAMA USA
- AMVAC Chemical
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- Horizon Ag

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- Riceco LLC
- Sipcam USA
- Syngenta Crop Protection
- United Phosphorus, Inc.
- Valent USA Corporation
2019 Weed Control Issues

• Delayed field prep, burndown, and large weeds
• Terminating failed stands of all crops
• Off-target Group 4 (auxin) herbicide on Xtend cotton
• Prickly sida control in Xtend crops
• Poor grass control in all crops
Delayed Field Prep/Burndown

Have you ever had anyone burn-down into standing cotton stalks? I have a guy who needs to kill ryegrass and winter weeds.

If I have deep ruts in my field what do I need to do about applying a residual herbicide?
Delayed Field Prep/Burndown
GR Italian Ryegrass
GR Italian Ryegrass

- Two MS populations of Italian ryegrass were 10- and 4-fold resistant to clethodim.
- In a random sampling in Delta counties, 14% of Italian ryegrass populations had plants survive clethodim at 1X.
- Counties with confirmed clethodim resistance: Bolivar, Coahoma, Humphries, Leflore, Sunflower, Washington, Yazoo
GR Italian Ryegrass
Dual Magnum at 1.33 PT/A; November

No POST

Select Max 12 OZ/A; Jan.

Gramoxone SL 4 PT/A; Feb.

Select Max fb Gramoxone SL
GR Italian Ryegrass

Clethodim Labeling:

• CDMS lists 27 clethodim products.
• Concentrations = 0.97 to 3 lb ai/gallon.
• Rate = 0.094 to 0.125 lb ai/A.
• Adjuvant requirement varies with product, but most labels list crop oil at 1% v/v plus ammonium sulfate.
• Spray volume = 15 GPA by ground; 5 GPA by air.
• “Do not apply to grasses that have tillered, formed seedheads, or exceeded recommended stage.”
• Targeted Italian ryegrass size = 2 to 6 inches.
GR Italian Ryegrass

Clethodim and Water Quality:

• Clethodim uptake and translocation in treated plants can be reduced due to poor water quality.

• Clethodim antagonism due to poor water quality often caused by carbonates.

• pH>7.0 indicates a possibility carbonates are present.

• Carbonates can occur in hard and soft water.

• Spray water to be utilized with clethodim should be treated with a conditioner such as spray grade AMS prior to adding herbicide.

Source: Michael Kenty, Helena Products Group
GR Italian Ryegrass

Gramoxone SL at 4 PT/ A
Paraquat Regulations:

- Closed system packaging for all non-bulk (<120 gallons) containers.
- Only certified pesticide applicators may use paraquat.
- Applicators, mixers, loaders, or tank cleaners must be certified applicators.
- Applicators, mixers, loaders, or tank cleaners must complete paraquat training (www.usparaquattraining.com)
- Training must be completed every 3 years with 100% score on applicator test.

Source: Syngenta
GR Italian Ryegrass

Management Suggestions:

• Spring tillage will require multiple passes due to root volume of Italian ryegrass.

• Ensure good POST treatment...weed size, herbicide rate, spray volume, spray mixtures, sprayer speed.

• Target 100% control prior to planting.

• Budget for minimum two burndown treatments.

• Manage field borders to prevent encroachment.

• Grass crops are most susceptible to interference from GR Italian ryegrass.
Grass Control
Grass Control
**Grass Control**

Barnyardgrass ranking among the most **common** and **troublesome** weeds in Midsouth

<table>
<thead>
<tr>
<th>Crop</th>
<th>Arkansas</th>
<th>Louisiana</th>
<th>Mississippi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Cotton</td>
<td>2</td>
<td>6</td>
<td>2</td>
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<tr>
<td>Grain sorghum</td>
<td>1</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Rice</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Soybean</td>
<td>3</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: T.M. Webster 2012, 2013; E.P. Webster and D.O. Stephenson, personal communication
Grass Control

Barnyardgrass control 14 days after application of herbicide treatments applied with different nozzles

*Data pooled over five herbicide treatments.

*Data pooled over three nozzles.

Source: Hunter Bowman
Grass Control

- Glyphosate; flat-fan (FF)
- Glyphosate + Select Max; FF
- Glyphosate + Engenia; FF
- Glyphosate + Select Max + Engenia; FF
Grass Control

Nontreated

Glyphosate + Select Max + Engenia; flat-fan

Glyphosate + Select Max + Engenia; AirMix

Glyphosate + Select Max + Engenia; Turbo Induction
Grass Control

Barnyardgrass control 14 days after application of Engenia with different glyphosate formulations

Source: Hunter Bowman
Grass Control

- K salt; 4.5 lb/gal
- IPA salt; 3 lb/gal
- K salt; 4.5 lb/gal + Engenia
- IPA salt; 3 lb/gal + Engenia
Key Points to Remember

• Italian ryegrass resistant to glyphosate, clethodim, and ALS-inhibiting herbicides is common in the Delta.
• Complete control of dense populations of Italian ryegrass requires multiple herbicide applications.
• Clethodim is sensitive to spray water quality and choice of adjuvant.
• Summer annual grass control can be influenced by nozzles, spray mixtures, and application volume.
• Severe infestations of summer annual grasses should be managed as a primary target.
Questions?

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