

Cotton Weed Management Successes and Challenges Ahead

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A wide-angle photograph of a cotton field under a clear blue sky. The cotton plants are in the early stages of growth, appearing as small green bushes in neat rows. A dirt path or furrow runs through the field, separating the rows. The background shows a distant treeline and a clear horizon.

R & R are The Biggest Issues in Weed Control Today

- Regulation and Resistance
- Grass Weed Management
- Palmer amaranth
- Volunteer XtendFlex soybean in XtendFlex cotton

Junglerice Escaping 32 ozs/A of Roundup PM and 12 ozs/A Clarity Burndown 2015



Barnyardgrass

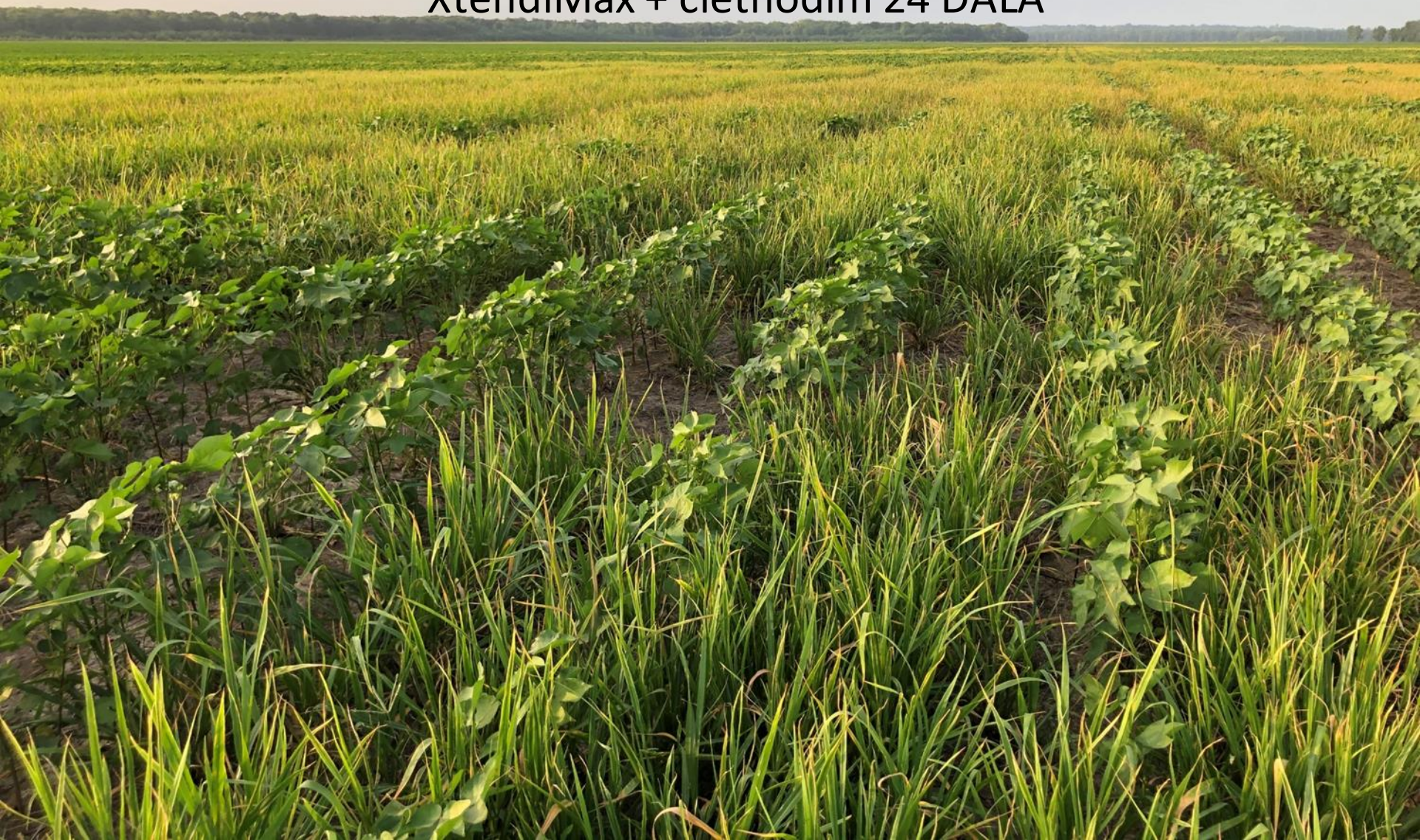


Junglerice



**Goosegrass Escaping
Engenia +
Roundup PM f/b
Engenia + Roundup
PM +
Intensity**

Fall Panicum Escapes from Dicamba + Glyphosate early burndown
fb/Gramoxone applied at planting fb/
XtendiMax + glyphosate 23 DAP fb/
XtendiMax + clethodim 24 DALA



2022

Ryegrass Escaping Dicamba + Glyphosate Burndown



Five Grass Species are Dialed in to our POST Weed Control Tactics

Ryegrass, Goosegrass, Junglerice, Fall Panicum, Johnsongrass

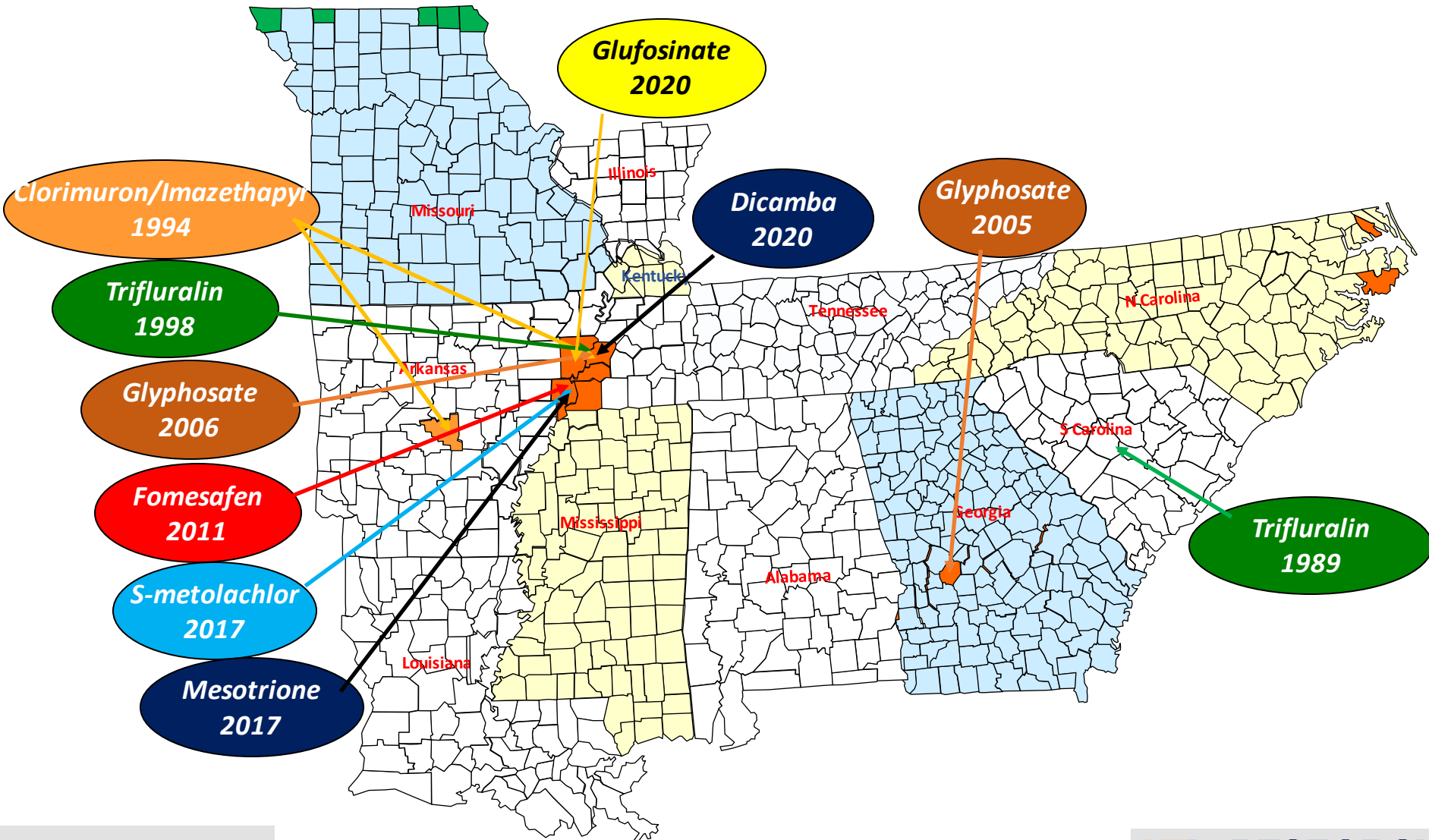
➤ **Two Reasons:**

- **Evolution of glyphosate-resistance in 4 of 5 species**
- **Dicamba tankmixes with glyphosate and clethodim is reducing control of those 5 grass species**

BMP for Grass

- **Try to keep grass from emerging!**
- **Cotton**
 - **Brake Pre Plant**
 - **Prowl Pre**
 - **Dual Magnum POST also an option**
 - **Warrant applied split 32 oz PRE/32 oz POST**
 - **Zidua applied via fertilizer V6**
- **Dicamba will reduce grass control of glyphosate and clethodim**

Palmer Amaranth First Documented Resistance



Flooding Along Rivers Helps Weed Genetics Become more Diverse



Engenia 12.8 ozs +
Roundup PM
32 ozs 12 DAA



Engenia 12.8 ozs +
Roundup PM
32 ozs 19 DAA



Engenia + Roundup + Outlook 1" Palmer f/b Engenia + Roundup



Engenia 12.8 ozs +
Roundup PM 32 ozs f/b
14 days later with
Engenia 12.8 ozs +
Roundup PM 32 ozs f/b
2 days later with
Liberty 32 oz



Engenia + Roundup + Outlook 1" Palmer f/b Liberty 7 DAYS
f/b Cultivation f/b Zidua applied via Fertilizer



Engenia 24 ozs + Roundup PM 32 ozs + Warrant 32 ozs f/b
Engenia 24 ozs + Roundup PM 32 ozs



If a few days
late will not
control
Palmer –
Regardless of
rates



Engenia 32 ozs + Roundup PM 32 ozs + Warrant 32 ozs f/b
Engenia 24 ozs + Roundup PM 32 ozs f/b
Engenia 24 ozs + Roundup PM 32 ozs



Engenia 12.8 ozs + Roundup PM 32 ozs + Outlook 12 ozs
f/b Engenia 12.8 ozs + Roundup PM 32 ozs



Engenia 12.8 ozs + Roundup PM 32 ozs + Outlook 12 ozs
f/b Engenia 12.8 ozs + Roundup PM 32 ozs



Engenia 20 ozs + Liberty 32 ozs + Outlook 12 ozs f/b
Engenia 20 ozs + Liberty 32 ozs



Zidua applied via fertilizer to cotton



Zidua Applied Via Fertilizer

- Used on about 25% of cotton acres in 2023
- Timing: 5 to 7 leaf current label
- Looking to move earlier to 2 to 7 leaf
- 250 lbs of fertilizer
- Zidua rate 3.2 ozs/A
- Needs very little water to get activated
 - ❖ A couple tenths

Examining Dicamba Volatility From a Broadcast Tankmix vs See & Spray Split Boom Application of Dicamba and Glufosinate



Methods and Materials:

- Field application: 22 fl oz/A of XtendiMax + 32 fl oz/A of Liberty
- Treatment 1: Applied tankmix broadcast
- Treatment 2: Applied in separate booms using See & Spray
- Both treatments were applied simultaneously on an acre of soybean in fields that were 0.25 mile apart

Methods and Materials:

- Split Boom:

- Broadcast with Liberty, See & Spray with dicamba
- Palmer amaranth infestation was very high: See & Spray never cut off
- Nozzles See & Spray: TTI8003 for Broadcast; PSLDMQ2003 for S&S
- Speed 8 mph

- Broadcast:

- Tankmix was broadcast with roller pump sprayer mounted on a JD 5300 tractor
- Nozzle: TTI8002
- Speed 4 mph

Methods and Materials:

Application

4" Palmer amaranth

Soybean V4



Methods and Materials:

- Both tanks had Voliminate VRA added: Tank pH 6.5
- Applications made at same time (6:45 AM) on July 11, 2023
- Wind SW 4 mph
- Air temp = 70F, RH = 76%, 0 clouds
- First sampler started 30 minutes after application

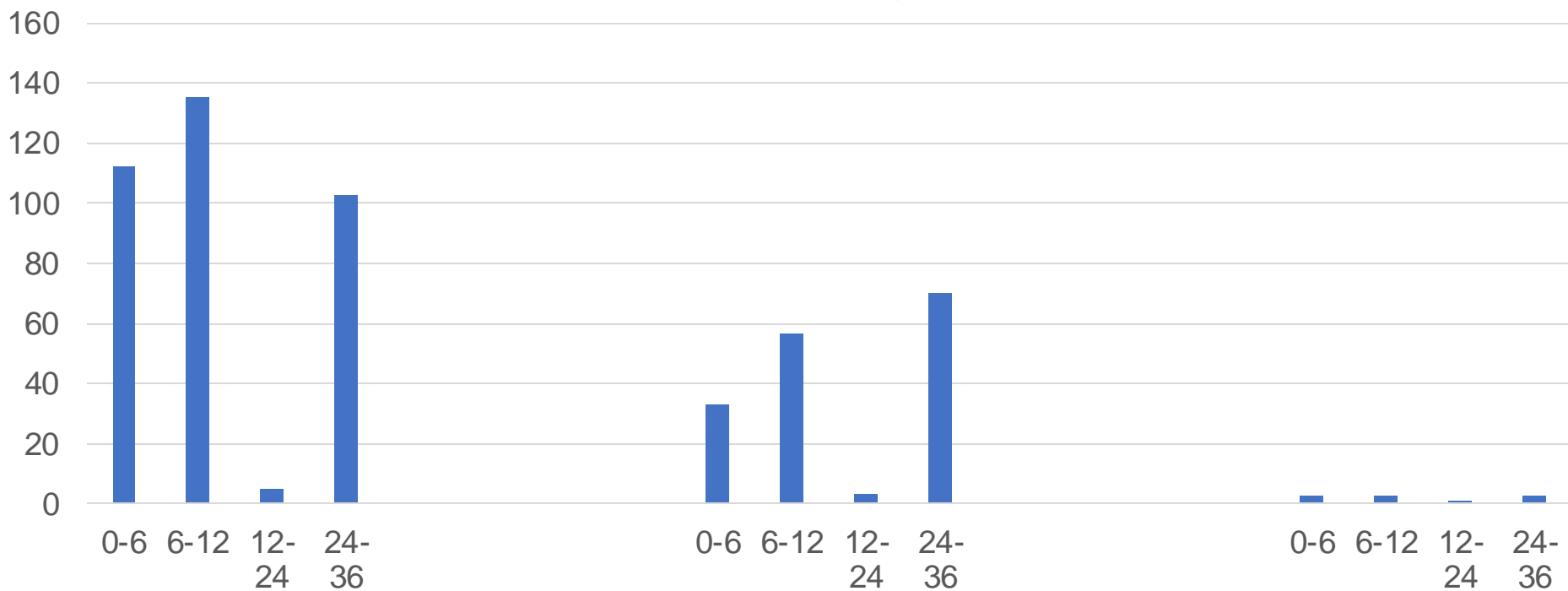
Methods and Materials:



This is the sampler used in the field for field studies in 2023

Dicamba Emissions for First 36 Hours After Application

Dicamba ng/hour



Tank Mix

Split Boom

Untreated

Tankmix Broadcast

Weed Control

Split Boom



Implications:

- 50% less volatility when applied in a split boom
- This combined with See & Spray technology may reduce dicamba volatility to similar level of dicamba applied alone
- Palmer control maybe improved with split boom application

Laser Weeder



Volunteer XtendFlex Soybeans in XtendFlex Cotton



Control of Volunteer XtendFlex Soybean in XtendFlex

Pest: Asgrow AG47XF2

Soybean height 8"

Herbicide	Soybean control
Envoke 0.15 oz + XtendiMax 22 oz + Glyphosate 32 oz	98%
Envoke 0.1 oz + XtendiMax 22 oz + Glyphosate 32 oz	90%
Envoke 0.15 oz + Liberty 32 oz	99%
Envoke 0.1 oz + Liberty 32 oz	99%

Old/New Herbicide

➤ Envoke

- ❖ Rate 0.1 to 0.15 ozs
- ❖ Applied to cotton with at least 5 true leaves
 - 5th leaf size of quarter
 - Stunting can happen if applied earlier
- ❖ Do not apply if OP insecticide has been used recently!!!
- ❖ Use an 80/20 surfactant not a 90/10

Take Home

- Dicamba will reduce grass control of glyphosate and clethodim
- BMP: for grass and Palmer control do not let them emerge
- Liberty is a must in both Xtend and Enlist cotton
 - Always tankmix Liberty with Enlist for best Palmer control
 - Apply Liberty ASAP after dicamba in Xtend cotton
- Envoke is good option for volunteer soybean in cotton

Questions

