STEWARDSHIP OF HERBICIDES

Auxin Traits & Herbicides Biggest Issues
Resistance & Off-Site Movement
# WEEDS ARE A HUGE CONCERN

Results of Cotton Incorporated Survey of Growers’ Concerns

<table>
<thead>
<tr>
<th>Concern</th>
<th>Major</th>
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<th>Not an Issue</th>
<th>2011 Rank</th>
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<tbody>
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TOP 5 MAJOR PRODUCER CONcerns

**Far West:**
1. Input costs
2. Adequate water supply
3. Tolerance to heat and drought
4. Weed control
5. Herbicide resistant weeds (tied with) variety selection

**Southwest:**
1. Input costs
2. Herbicide resistant weeds
3. Weed control
4. Cottonseed value
5. Adequate water supply

**Mid-South:**
1. Input costs
2. Herbicide resistant weeds
3. Weed control
4. Cottonseed value
5. Spread of plant diseases and weeds

**Southeast:**
1. Input costs
2. Herbicide resistant weeds
3. Weed control
4. Cottonseed value
5. Adequate water supply
COUNTIES WITH CONFIRMED POPULATIONS OF GLYPHOSATE-RESISTANT PALMER AMARANTH - 2009
2015 DEMONSTRATION
NO-TILL DRIP FIELD
(Confirmed glyphosate resistant pigweed in 2014)

TOTAL COST TO CONTROL RESISTANT PIGWEED IN COTTON THIS YEAR

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<th>Liberty Link Systems</th>
<th>Roundup Ready Flex System (no dicamba)</th>
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<td>ST 4946 GLB2</td>
<td>DP 1522 B2XF</td>
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<td>$129/acre</td>
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Slide Credit: Shane Osborne, OSU
AUXIN TECHNOLOGIES
2015 (HALF SYSTEMS)

DICAMBA RESISTANT VARIETIES

2,4-D + GLYPHOSATE PREMIX (SOME STATES)
AUXIN TECHNOLOGIES
2016 (FULL SYSTEMS ANTICIPATED)

DICAMBA SYSTEM

2,4- SYSTEM

VARIETIES

VARIETIES

HERBICIDE

HERBICIDE
POTENTIAL SOURCES OF DAMAGE

TANK CONTAMINATION

DRIFT

VOLATILIZATION
RELATIVE EFFECTS OF EXPOSURE

EVERYTHING COUNTS: VARIETY, STAGE OF GROWTH, RATE

NO DIRECT RELATIONSHIP OF FOLIAR SYMPTOMS & YIELD LOSS
POTENTIAL DAMAGE

TANK CONTAMINATION
OWN CROP

DRIFT
NEIGHBORS
CROP + OTHERS

VOLATILIZATION
NEIGHBORS
CROP + OTHERS
POTENTIAL DAMAGE

**TANK CONTAMINATION**
CLEAN OUT - GROWER

**DRIFT**
APPLICATION - GROWER

**VOLATILIZATION**
FORMULATION MANUFACTURER
POTENTIAL DOWNSIDES

FORMULATIONS
AS GOOD AS CHEMISTS CAN MAKE THEM

LABELS
GOOD AS THE REGISTRATION PROCESS MAKES THEM

IF THERE IS DAMAGE
SOMEBODY DID IT
POTENTIAL DOWNSIDES

WHAT, WHO WILL BE CRITICIZED FOR OFF-SITE MOVEMENT?

FARMERS  COTTON  PESTICIDES  GMOs

DO IT RIGHT
FOLLOW APPLICATION INSTRUCTIONS
# Input Costs Are Grower’s Top Concern

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COTTON THEME
FOR WEED MANAGEMENT

Herbicide Stewardship
Protecting Crops Environment Technology

Logo - Dr. Neil Rhodes of Uni. TN