Production Costs: Importance of Variety Selection

Tom Barber
University of Arkansas
Division of Agriculture
Top 3 Input Costs for Cotton

• 1. Fuel and Fertilizer

• 2. Seed/Technology Fees

• 3. Chemicals
IT ALL BEGINS WITH THE SEED

Value Shifts Continue
- No longer just a seed...OR a variety
- Planting unit
  - Technology
  - Vigor
  - Protection
  - Fiber Quality
  - Additional Traits
- $$ FRONT END LOADED!! $$
US Transgenic Cotton Acreage
Percent Varieties Planted in Arkansas by Technology
Source – USDA-AMS Cotton Varieties Planted
Questions

• How does yield performance actually relate to the varieties that are actually planted?

• Is yield the number one factor in variety selection for a grower?
Evaluating Variety Selection Trends

• **University Variety Trial (OVT) data 1990 to 2008**
  - Which varieties were either recommended or finished in the top 25% of the OVT? Where possible, data for a two-year average were used. In limited cases, one-year data were all that was available.
  - In each year, which varieties did a producer have a good reason to choose, based on the previous year’s OVT results?

• **USDA-AMS *Cotton Varieties Planted* publication 1990-2009**
  - Lists the percent acreage devoted to specific varieties in each state.
Louisiana

Varieties planted that were in the top 25% of the OVT or recommended

Stewart 2009
Is there a preferred trait package?

- The ability to control Palmer amaranth could drive variety selection.
- Over-the-top herbicide systems will continue to rule.
- Insect traits will continue to be in demand in the Mid-South.
- Future technology??


What is the outlook for 2011 and beyond for variety selection?

- Is there a dominant variety?
- Is there a preferred trait package?
- How much influence will convenience have in variety selection?
Convenience vs. Cost

• More convenient technology has almost always been readily adopted, even with high cost.
  – Staple in the mid-1990s – first OT broadleaf herbicide
  – Bollgard cotton – despite initial variety performance
  – RR cotton – despite variety initial performance
  – Seed treatment insecticides and fungicides despite shorter residuals and a likelihood of more early sprays
# How much does it cost to plant?

<table>
<thead>
<tr>
<th>Year</th>
<th>Seed Cost</th>
<th>Tech Fee</th>
<th>IF Insecticide</th>
<th>IF Fungicide</th>
<th>Other Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$50-80/bag</td>
<td>~$40/a</td>
<td>$8/a</td>
<td>$12/a</td>
<td>$70 (before labor and fuel)</td>
</tr>
<tr>
<td>2010</td>
<td>$120-140/bag</td>
<td>~$65/a</td>
<td>~$8/a</td>
<td>~$12/a</td>
<td>$115 (before fuel and labor)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>64% increase</td>
</tr>
</tbody>
</table>

- Seed cost
- Tech fee
- IF Insecticide
- IF Fungicide
- Other costs
Costs of Seed Technology

• Focus is usually on tech fees... But, what about the rest of the seed package?
  – The seed is the delivery mechanism for
    • Genetics
    • Traits and Trait Packages
    • Insecticides
    • Fungicides
    • Nematicides

Do You Have a Choice?
## Cost of Seed Technology

<table>
<thead>
<tr>
<th></th>
<th>Seed</th>
<th>Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Increase from</td>
<td>110%</td>
<td>12%</td>
</tr>
<tr>
<td>2003 to 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Cost 2003</td>
<td>13%</td>
<td>26%</td>
</tr>
<tr>
<td>2009</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>Change</td>
<td>+6%</td>
<td>-7%</td>
</tr>
</tbody>
</table>

Source: National Cotton Council estimated costs and returns for Mississippi Delta Region.
2011 Choices?

2011 Available Technology

FLEX ONLY

Bollgard 2 Flex

Widestrike

Widestrike Flex

Liberty Link Bollgard 2

Convenience

Resistant Weeds: Pigweed

2010 Insect Pressure

$ 170/A by 2 leaf
Question

- How does the future December cotton contract price affect variety and management decisions?
  - $0.94/lb @ 1000 lb/A yields = $940/A
  - $0.52/lb @ 1000 lb/A yields = $520/A
Questions?