Cotton Variety Selection
- Select 4 or 5 proven varieties to spread risk and maturity across farm
- Plant new varieties on 10 - 15% of farm
- Refer to Official Cotton Variety Trial results for variety performance information

Varieties That Show Potential

<table>
<thead>
<tr>
<th>Variety</th>
<th>ST 5122 GLT</th>
<th>DP 1518 NR B2XF</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 430 W3FE</td>
<td>ST 5471 GLTP</td>
<td>ST 3214 B2XF</td>
</tr>
</tbody>
</table>

Proven Varieties

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 312 WRF</td>
<td>ST 4949 GLB2</td>
<td>ST 4615 GLB2</td>
<td></td>
</tr>
<tr>
<td>PHY 444 WRF</td>
<td>DG 3214 B2XF</td>
<td>DG 3385 B2XF</td>
<td></td>
</tr>
</tbody>
</table>

Cotton Planting Dates

Percent of Total Yield Potential by Planting Date

<table>
<thead>
<tr>
<th>Week Planted</th>
<th>North I-40</th>
<th>South I-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr 16-22</td>
<td>NA</td>
<td>100</td>
</tr>
<tr>
<td>Apr 23-30</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>May 1-9</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>May 10-16</td>
<td>95</td>
<td>99</td>
</tr>
<tr>
<td>May 17-21</td>
<td>85</td>
<td>90</td>
</tr>
<tr>
<td>May 22-31</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>June 1-7</td>
<td>65</td>
<td>70</td>
</tr>
</tbody>
</table>

Seeding Rates

- General Recommendation – 48 K Seed/A
- Sandy Loams 35 – 40 K seed/A (2.5 seed/ft)
- Silt Loams 40 – 48 K seed/A (3.0 seed/ft)
- Clay Loams 55 K seed/A (4.0 seed/ft)

Seeding rates should be increased 10% if cotton is planted in late May or early June.

Replant Decisions

Uniform stands as low as one healthy plant per foot of row are generally preferred over late-planted cotton. Cotton will compensate if skips greater than 3 foot skips are not frequent. When the decision to replant is not clear, it is usually best not to replant.

Plants Recommendations

A mid-morning soil temperature of 68°F at the depth of planting for three consecutive days and a favorable five-day forecast following planting is best.

<table>
<thead>
<tr>
<th>Outlook for Planting</th>
<th>Five Day DD60s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Good</td>
<td>50 or greater</td>
</tr>
<tr>
<td>Good</td>
<td>26 to 49</td>
</tr>
<tr>
<td>Marginal</td>
<td>16 to 25</td>
</tr>
<tr>
<td>Poor</td>
<td>11 to 15</td>
</tr>
<tr>
<td>Very poor</td>
<td>10 or less</td>
</tr>
</tbody>
</table>

Fertility

Nitrogen (N)
Apply in split applications, first after plant establishment and again during early squaring to maximize efficiency.
- 32% UAN (1 gal = 3.5 lbs. N)
- Urea (46-0-0)
- DAP (18-46-0)
- Ammonium Sulfate (21-0-0-24)
- Recommended Rates = 80 - 110 lbs. of N/A
- Total Available N needed = 140 - 160 lbs.

Phosphorus (P) Recommendations (lbs. P/Acre)

<table>
<thead>
<tr>
<th>Yield Goal</th>
<th>Soil Test P (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.25 bales/A</td>
<td>&lt;16</td>
</tr>
<tr>
<td></td>
<td>90</td>
</tr>
</tbody>
</table>

Potassium (K) Recommendations (lbs. K/Acre)

<table>
<thead>
<tr>
<th>Yield Goal</th>
<th>Soil Test K (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.25 bales/A</td>
<td>&lt;61</td>
</tr>
<tr>
<td></td>
<td>140</td>
</tr>
</tbody>
</table>

Nutrients in Seed + Lint (lbs./A) Removed at Harvest

<table>
<thead>
<tr>
<th>Yield Goal</th>
<th>N</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.25 bales/A</td>
<td>72</td>
<td>32</td>
<td>43</td>
</tr>
<tr>
<td>Percent of plant requirements</td>
<td>50%</td>
<td>67%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Sulfur (S)
- Apply 20 lbs. of S/Acre if a sulfur deficiency has occurred on this soil before
- 100 lbs of Ammonium Sulfate equals 24 lbs. of actual S

Boron (B)
Boron deficiency can result in bloom malformation and increased shed of small fruit. However, boron deficiency has not been a problem in Arkansas.

Plant Growth and Development

Under optimum conditions, plants should add a new node every 3 days. The interval between fruit on a branch is 6 days.
- Emergence – 5 - 7 days after planting
- Squaring - 35 days after planting
- First bloom - 60 days after planting
- Cutout – 80 days after planting
- First Open Boll - 110 days after planting
- Harvest – 150 days after planting

Seed Treatments

- Systemic insecticides applied on seed or in-furrow are recommended on every acre
- In-furrow or seed applied fungicides are recommended if cotton is planted early under cool/wet soil conditions
- Nematicide seed treatments are only recommended if root knot or reniform nematode populations are present

Weed Management

- Start clean with use of contact and residual herbicides at burndown.
- Remove any weeds present at planting with tillage or a non-selective herbicide
- Overlap Residual Herbicides – Pre-plant, Pre-emergence, Post-emergence and at Layby. Consider adding another residual at 14 day intervals
- Alternate chemistries to prevent further resistance.
- Continue to use residuals in all technology systems.
**Weed Management (continued)**
Glyphosate-resistant Palmer pigweed are present in all cotton producing counties. Farm-wide pigweed management utilizing non-selective and residual herbicides to reduce seedbanks on ditches, turnrows and field borders is recommended.

**Herbicide Products**
Refer to the MP44 Recommended Chemicals for Weed and Brush Control for the latest herbicide recommendations.

**Insect Management**
**Pests and Thresholds**
- **Monitor fruit retention** - Maintain 80% retention going into bloom
- **Thrips** – 2 - 5 thrips per plant and damage present (min. 5 plants checked per area)
- **Tarnished Plant Bugs (TPB)** - 3 TPB per 5 row feet or 2TPB per 5 row feet (problem field) or 8 – 12 TPB per 100 sweeps from early square through cutout (NAWF=5). After cutout treat for 6 TPB per 5 row feet.
- **Bollworm (BW) and Tobacco Budworm (TBW)**
  - **Non-Bt Cotton** - 1 BW or 1 TBW (<0.25 inch) per 2 row feet
  - **Bt (dual-gene) Cotton** – 25% eggs or 5% damaged fruit or 2-3 large (>0.25 inch) larva per 14 row feet.
  - **Bt (three-gene) Cotton** - 5% damaged fruit or 2-3 large (>0.25 inch) per larva 14 row feet.
- **Armyworm** – 10 - 20 FAW present/100 plants
- **Aphids** - 50% of plants infested with actively growing colonies and no predators present
- **Spider Mites** - 50% of plants infested with actively growing colonies
- **Stink Bugs** - 1 stink bug per 6 row feet or 20% boll damage

**Insecticide Products**
Refer to the MP144 Insecticide Recommendations for Arkansas for the latest insecticide recommendations.

<table>
<thead>
<tr>
<th>Heat Units Beyond Cutout (NAWF=5)</th>
<th>Target Pest</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>Tarnished Plant Bugs</td>
</tr>
<tr>
<td>350</td>
<td>Bollworms, Budworms,</td>
</tr>
<tr>
<td>450</td>
<td>Stink Bugs</td>
</tr>
<tr>
<td>500</td>
<td>Defoliators (Spider Mites, Armyworms)</td>
</tr>
</tbody>
</table>

**Disease and Nematode Management**
- **Seedling Diseases** - If planting into cool/wet soil early in season use a systemic fungicide seed treatment or in-furrow spray
- **Foliar Diseases** - Maintain optimum Potassium levels to fight foliar diseases. Fungicide use is only recommended on early/severe infestation
- **Bacterial Blight** - Plant disease free seed or resistant varieties
- **Nematodes - Root Knot and Reniform**
  - Sample every 3 years and consider rotation to resistant crops to reduce numbers
  - **Light to Moderate Pressure** – Seed treatment or in-furrow nematicide
  - **Heavy Pressure** - Soil fumigant and/or seed treatment

**Fungicide and Nematicide Products**
Refer to MP 154 Arkansas Plant Disease Control products Guide for the latest disease and nematode recommendations.

**Irrigation Management**
- **Start on time** (7 - 10 days before bloom)
- **Target a 2” deficit on sandy soil and a 3” deficit on heavier soils for subsequent irrigations using the Irrigation Scheduler and adjust accordingly.**
- **The Delta Plastics Pipe Planner program is recommended on furrow irrigated fields. Contact your local County Extension Office for details or assistance with this program.**
- **Termination** – 350 - 650 Heat Units beyond cutout (NAWF=5)

**Plant Growth Regulators**
- **Very-Early & Early Maturing Varieties** - No earlier than 10th node and apply 6 - 8 oz. or at bloom use 10 - 16 oz. (higher rates needed if terminals are extending). Use as needed the rest of the season
- **Mid to Full Season Varieties** - At 10th node apply 6 - 8 oz., 10 to 14 days later apply 8 - 10 oz., then use 16 - 20 oz. after bloom (higher rates needed if terminals are extending) as needed

**Harvest Aid Timing**
Time applications based on heat units beyond cutout (NAWF=5), boll slicing, and percent open bolls.
- In most cases cotton in Arkansas can be defoliated without yield penalty when
  - 50 to 60% of the bolls are open
  - 850HU beyond cutout
- Cut uppermost harvestable boll – seed coat will be dark and no jelly present
- Refer to the MP503 Mid-South Defoliation Guide

**Harvest Aid Application**
- Coverage is key
- No air induction tips
- Use a minimum 5 gallons of water/acre for air applications
- Use at least 13 to 15 gallons of water/acre for ground applications
- For best results, two applications are recommended on actively growing plants

**Harvest Aid Product Selection**
Refer to the MP 503 Mid-South Cotton Defoliation Guide for the latest defoliation recommendations.

Visit [www.arkansascrops.com](http://www.arkansascrops.com) for specific MP guides and other crop management information.

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