

# 2022 Arkansas Cotton Quick Facts

Bill Robertson – Cotton Extension Agronomist  
 Tom Barber – Extension Weed Scientist  
 Ben Thrash – Extension Entomologist



## Cotton Variety Selection

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

### Varieties That Show Potential

ST 4993 B3XF	DG 3535 B3XF	PHY 411 W3FE
ST 4550 GLTP	ST 4990 B3XF	DP 2020 B3XF

### Proven Varieties

NG 4936 B3XF	DP 2115 B3XF	NG 3195 B3XF
ST 5091 B3XF	DP 2012 B3XF	DP 2127 B3XF
DG 3456 B3XF	DP 2038 B3XF	UA 222

## Cotton Planting Dates

### Percent of Total Yield Potential by Planting Date

Week Planted	Percent Yield Potential	
	North I-40	South I-40
Apr 16-22	NA	100
Apr 23-30	100	100
May 1-9	100	99
May 10-16	95	99
May 17-21	85	90
May 22-31	70	80
June 1-7	65	70

## Seeding Rates

- General Recommendation – 28 K plants/A
- Sandy Loams 33 K seed/A (2.4 seed/ft)
- Silt Loams 33 K seed/A (2.4 seed/ft)
- Clay Loams 41 K seed/A (3.0 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.

## Planting 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.

Outlook for Planting	Five Day DD60s
Very Good	50 or greater
Good	26 to 49
Marginal	16 to 25
Poor	11 to 15
Very poor	10 or less

## Fertility - Practice the 4Rs

### Nitrogen (N)

Apply in split applications, first near squaring and again, just prior to flowering 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.

### Phosphorous (P) Recommendations (lbs. P/Acre)

Yield Goal	Soil Test P (ppm)			
	<16	16-25	26-35	>36
2.25 bales/A	90	70	50	0

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

Yield Goal	Soil Test K (ppm)				
	<61	61-90	91-130	131-175	>175
2.25 bales/A	140	95	60	40	0

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

Yield Goal	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
2.25 bales/A	72	32	43
Percent of plant requirements	50%	67%	25%

### Sulfur (S)

- Apply 20 lbs. of S/Acre if a sulfur deficiency has occurred on this soil in the past
- 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 is not generally 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 the same 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.

AG 1276

### Heat Unit (HU) Based Termination Guidelines

Heat Units Beyond Cutout (NAWF=5)	Target Pest
250	Tarnished Plant Bugs
350	Bollworms, Budworms,
450	Stink Bugs
500	Defoliators (Spider Mites, Armyworms)

### 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.
- Evaluate termination at 350 to 400 heat units beyond cutout (NAWF=5). Termination – 350 - 650 Heat Units beyond cutout.

### Plant Growth Regulators

- **Very-Early & Early Maturing Varieties** - No earlier than 10th nodes and apply 8 - 10 oz. or at bloom use 16 oz. (higher rates needed if terminals are extending). Use as needed the rest of the season
- **Mid to Full Season Varieties** - At 10<sup>th</sup> node apply 16 oz., 7 to 10 days later apply 16 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
  - 850 HU beyond cutout reached
- 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

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs and services without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.