

2019 Arkansas Cotton Quick Facts

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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

PHY 430 W3FE	ST 5122 GLT	DP 1823 NR B2XF
NG 3729 B2XF	ST 5471 GLTP	DG 3214 B2XF

Proven Varieties

DG 3385 B2XF	DP 1725 B2XF	DP 1518 B2XF
PHY 312 WRF	NG 3522 B2XF	DP 1646 B2XF
PHY 444 WRF	ST 4949 GLB2	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 – 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.

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

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.

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	K
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 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.

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.
- Termination – 350 - 650 Heat Units beyond cutout (NAWF=5)

Plant Growth Regulators

- **Very-Early & Early Maturing Varieties** - No earlier than 10th nodes 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
 - 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 for specific MP guides and other crop management information

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