

# Evaluation of 60-Inch Row Spacing in Louisiana Cotton

**Matt Foster**

**Assistant Professor- Corn, Cotton, & Grain Sorghum  
Extension Specialist**

**Northeast Research Station**

**St. Joseph, LA**



# Why 60-Inch?

- **38-inch rows are the most common row configuration in Louisiana**
- **Recent grower interest in 60-inch rows**
- **Potential benefits:**
  - **Lower input costs**
  - **Increased drought tolerance**
  - **Lower occurrence of boll rot**
  - **Improved harvest efficiency**
  - **Standardization of equipment with grain crop rotation**





# Ongoing Research

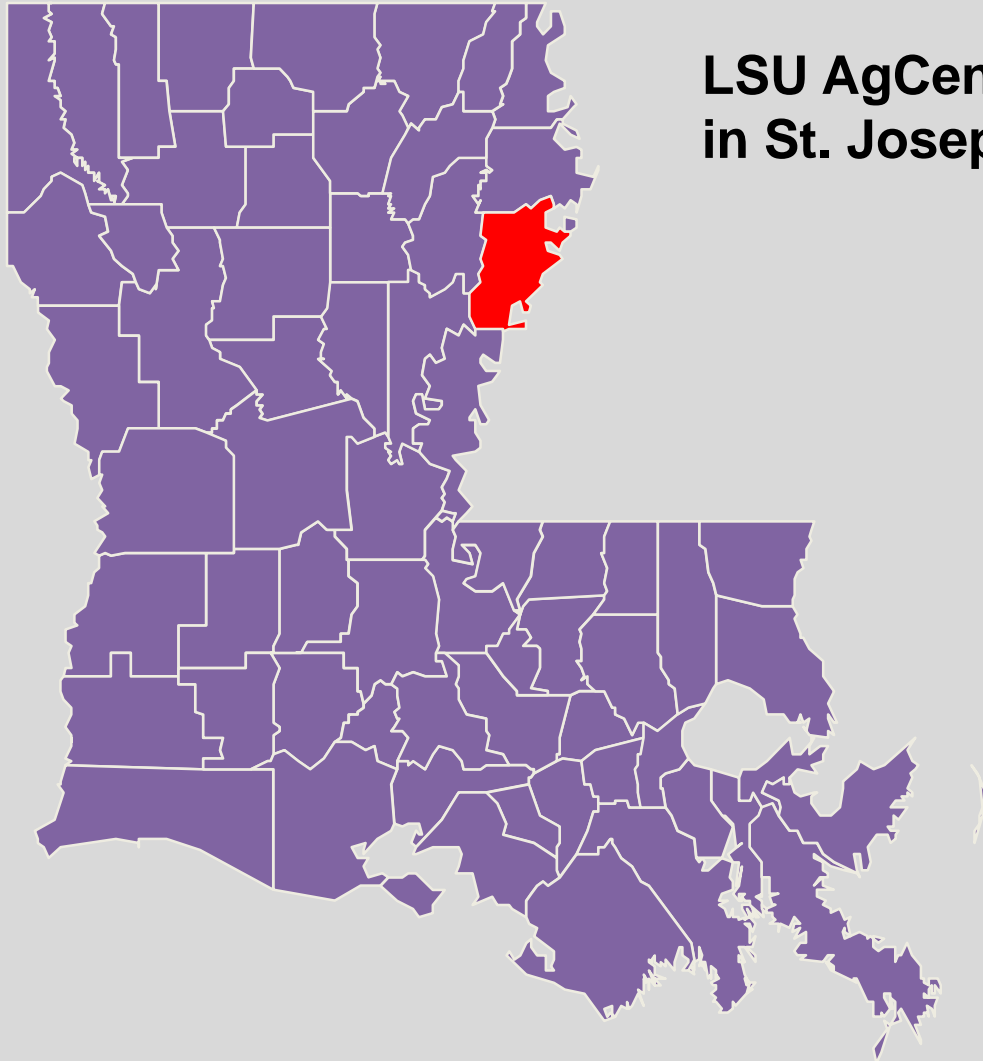
- **Initial studies in Alabama comparing standard 36-inch rows with 60- and 72-inch row spacings found that there was not enough growth to compensate for the wider rows, especially on Coastal Plains soils. In south Alabama, cotton planted on 48-inch rows demonstrated comparable yields to 36-inch rows (Brown 2022).**
- **In Georgia, Lawton et al. (2022) reported that the standard 36-inch row spacing yielded the highest compared to 48-, 60-, and 72-inch spacings.**
- **Research in North Carolina indicated that 72-inch rows had lower yield and were not effective in maximizing returns as compared to standard 36-inch rows (Collins et al. 2022).**



# Objectives

- **Conduct a replicated variety trial utilizing both 60 and 38-inch row spacings**
- **Conduct a replicated PGR by N rate trial utilizing 60-inch row spacing**

# Trial Location



**LSU AgCenter Northeast Research Station  
in St. Joseph, LA**

# Materials and Methods

- **Varieties:**
  - Armor 9371 B3XF
  - DG 3644 B3XF
  - DP 2115 B3XF
  - PHY 411 W3FE
  - ST 4595 B3XF
- **Planting date: 6/6/22**
- **Harvest date: 11/11/22**
- **Seeding rate:**
  - 38” spacing: 41,200/A (3 seed/foot of row)
  - 60” spacing: 26,100/A (3 seed/foot of row)
- **Soil type: Sharkey clay (irrigated)**

# Materials and Methods

- All pest management, fertility, plant growth, and irrigation inputs were applied per local recommendations on all treatments.
  - Total N: 90 lbs/A
  - Total PGR: 48 oz/A (4 applications)

## Experimental Design:

- RCB with factorial arrangement of treatments and four replications

## Plot Size:

- 2 rows x 35 feet (38-inch spacing)
- 3 rows x 35 feet (60-inch spacing)



# Lint Yield (lbs/A)

Brand	Variety	38"	60"	Average
Stoneville	ST 4595 B3XF	1,080	1,085	1,083 a
PhytoGen	PHY 411 W3FE	946	1,009	977 ab
Deltapine	DP 2115 B3XF	936	939	937 b
Armor	9371 B3XF	924	941	933 b
Dyna-Gro	DG 3644 B3XF	758	763	761 c
Average		929	947	
		NS		

Means followed by same letter do not significantly differ (P=.05, Tukey's HSD).





# Results

- **For lint yield, a significant row spacing by variety interaction wasn't observed.**
- **Row spacing as a main effect wasn't significant, however a significant variety main effect was observed.**
- **Averaged across row spacings, ST 4595 B3XF resulted in a lint yield of 1,083 lbs/A which was equivalent to PHY 411 W3FE and greater than all other varieties. PHY 411 W3FE, DP 2115 B3XF, and Armor 9371 B3XF all resulted in equivalent lint yields ranging from 933 to 977 lbs/A. DG 3644 B3XF resulted in a lint yield of 761 lbs/A which was lower than all other varieties.**



# Results

- **No differences in boll rot were observed between row spacings.**
- **Delayed maturity was observed in the 60-inch spacing as it was around one week behind the 38-inch spacing.**
- **Seed cost:**
  - **38”:** \$117.50/A
  - **60”:** \$74.39/A
  - **Savings of \$43.12/A**



# Potential Drawbacks

- **More prone to lodging, especially with a hurricane**
- **Delayed maturity**
- **Weed escapes**
- **Defoliation issues (due to lateness)**



# 7-29-22



Photo by Hank Jones

8-6-22



Photo by Hank Jones

**8-6-22**

- **FFB: 7-9**
- **Vegetative Branches: 2-5**
- **Total Fruiting Nodes: 10-14**
- **NAWF: 1-3**
- **Total Pix: 104 oz/acre (4 shots)**

Source: Hank Jones





# Future Research

- **Evaluate variety performance and production practices in the 60-inch row system**
  - Seeding rates (20,000/A, 25,000/A, 30,000/A)
- **Conduct plant mapping in both row spacings**
- **Evaluate overall economic benefits as compared to the standard 38-inch row system.**





# Acknowledgments

 **Cotton Incorporated**



# Lagniappe

- **Were all inputs on a per acre basis the same? Were they the same on a per row foot basis?**
  - ❑ For example, seeding rate was lower per acre but constant on a row foot.
- **Fertility:**
  - ❑ If kept constant, did we basically double the fertilizer per plant on 60” rows?
- **How were the PGR applications timed?**
  - ❑ The 60” could have been penalized by too much and the 38” penalized by not enough.
- **Insect management:**
  - ❑ How was scouting done and what row configuration triggered a spray?
- **Defoliation and harvest timing:**
  - ❑ Since the 60” was later maturing, was the 38” penalized for staying in the field longer?
- **What are we saving per acre doing this? Seed cost? Are the true gains not in the cotton crop but in the grain crop rotation?**



# Questions

**Matt Foster**  
**[mfoster@agcenter.lsu.edu](mailto:mfoster@agcenter.lsu.edu)**  
**Cell: 601-334-0354**

