

PROJECT TITLE: AGRONOMIC AND ECONOMIC IMPACT OF TIMING FOR PLANTING AND DEFOLIATION OF COTTON ON COTTON YIELD, QUALITY, AND PROFITABILITY

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SUMMARY

This experiment has been conducted for the past two growing seasons (2007 and 2008). Extreme cool weather at the beginning of the 2008 growing season pushed all the planting dates back approximately 1 month. This weather combined with cool weather in early fall of 2008 did not allow for cotton harvest of the 3rd planting date. At this time, a complete data analysis that includes fiber quality is only available for the 2007 growing season. This analysis will focus on lint, length, micronaire, strength, and uniformity.

An interaction was observed between planting dates and defoliation percentages for cotton lint yields and uniformity. This interaction can be attributed to 33% lower lint yields measured from the 2nd planting date compared to planting date 1 and 3. The lower lint yields for planting date 2 resulted from dry conditions at planting, which suppressed cotton emergence and subsequent growth. Although uniformity values were not below discount thresholds, the 3rd planting date produced higher uniformity values. Uniformity values for defoliation percentages within each planting date were not consistent.

Length, micronaire, and strength were only affected by planting date in 2007, but planting date affected the fiber properties differently. The 1st planting date produced the longest fibers followed by the 3rd and 2nd planting dates. This indicates that cotton from the 1st planting date was not stressed as much as cotton in the other planting dates. On the other hand, micronaire values for the 1st planting date were in the discount range for low micronaire. This would indicate more immature bolls at cotton harvest. This is supported by the low gin turnout for this planting date. Micronaire values for the 2nd planting date were in the premium range, but due to low yields, this seems more due to chance. The highest micronaire values were for the 3rd planting date, which were just below the discount range for high micronaire. Fiber strength values were equivalent for the 1st and 2nd planting dates, but approximately 10% greater for the 3rd planting date.

One year of data collection for fiber properties that are influenced by the environment limit the scope of these results. However, combining these results across multiple years should allow trends to become more apparent and enable different management strategies to be tested across various climatic and market conditions.

