

Evaluation of Cotton Varieties Improves Variety Selection in Texas

ECONOMIC IMPACTS OF EXTENSION EDUCATION

TEXAS COTTON YIELD AND QUALITY CHALLENGES

- The mid-1990s marked the beginning of an era with the development of the first genetically modified cotton variety. As seed companies made biological advancements in cottonseed at a rapid pace, variety selection became more difficult. Along with these advancements came a significant increase in the cost of seed.
- The first important decision a grower makes is the selection of a cotton variety, with particular transgenic traits.

AGRILIFE EXTENSION'S RESPONSE

- This new era of rapidly changing seed technology called for an expanded and more intensive cotton variety testing effort. With funding support from Plains Cotton Growers and the Texas State Support Committee of Cotton Inc., the Texas A&M AgriLife Extension Service and Texas A&M AgriLife Research began conducting intensive replicated cotton variety trials in producer-cooperator fields in 2000.
- Since 2012, AgriLife Extension has conducted 770 cotton variety trials, providing an unbiased evaluation of varieties for growers to use in making their selections.
- The partnership with industry—including funding, local producer-cooperators, and seed and technology companies—provides credibility to the large-plot trials. The testing results allow producers to compare production, quality, and economic characteristics of selected varieties.
- Each year, there are typically over 100 varieties of cotton available for producers to choose from. In addition, it is not uncommon to have 20-30 new varieties introduced into the market in Texas in any given year. With the increasing number of varieties that are available, along with the ever

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increasing number of various bio-technology traits, these results are invaluable to growers as they make variety selection decisions.

- Since 2018, more than 344,000 educational contacts have participated in 452 cotton variety educational meetings conducted by AgriLife Extension.
- Approximately 10,000 test-plot trial reports have been distributed to producers, cotton gins, and consultants via educational meetings, and 20,180 cotton variety publications were viewed online.

ECONOMIC IMPACTS

- Improved seed technology and variety testing efforts have led to significant improvements in both cotton lint quality and yield potential. However, droughts since 2006 have affected yields, obscuring the full value of the improved seed technology.
- From 2000 to 2023, the value of improved technology and increased adoption by growers was estimated at \$587 million.
- The yield potential associated with varietal improvements, testing, and education would support approximately 7,000 jobs annually at cotton gins in the region and 1,300 jobs in ginning support industries.

