

**A CENTURY OF COTTON BREEDING**  
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**Abstract**

Nine current and obsolete cotton (*Gossypium hirsutum* L.) cultivars were evaluated to determine changes in lint yield and fiber properties attributable to plant breeding during the 20<sup>th</sup> century. All nine cultivars would have been adapted for production in College Station, TX at their respective dates of release. The study was conducted in College Station, TX, in 2003. Yield was determined from four replications in a randomized complete block design grown under normal production practices, including furrow irrigation, and harvested with a spindle picker modified for plot harvest. Fifty mature, open bolls were hand harvested from each plot prior to harvest for determination of yield components and fiber properties. Morphological traits were determined by direct measurement of plants grown in an identical four replications except that plants were spaced 30 cm within the drill. Fiber properties were determined by high-volume instrumentation. The average annual rate of yield increase from 1900 through 2002 was 8.22 lb/ac/year. Micronaire values were erratic from 1900 to 1940, but have stabilized near 4.9 since 1960, probably due to the introduction of micronaire into the USDA classification system in 1965. No apparent effort has been made to maximize fiber length until the near past as evident in the cultivar released in 2002. Fiber bundle strength has increased in U.S. cotton since 1970 with the advent of rotor spinning, but HVI bundle strength of Deltatype Webber released in 1922 was the same Stoneville 506 released in 1982 and only 7.0% lower, although significantly lower, than the cultivar DP491 released in 2002.