

## **GENETIC SOURCES OF FIBER STRENGTH FROM 1980-2000**

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### **Abstract**

Fiber quality has been a major objective of plant breeding programs during the last two decades. The greatest improvement has been in the area of fiber strength. Fiber strength increased from 1980 until 1995 then started a slow, but steady, decline. The objective of this study was to determine the genetic source of fiber strength improvement and decline. Data were gleaned from the USDA-AMS on area planted to commercial cotton cultivars, from the USDA-ARS on fiber data, and from pedigree publications. From this we determined the most popular cultivars, their pedigrees, and their fiber strength. The Acalas contributed one half of the genes for fiber strength. Improved fiber strength in 25% of the cases was the result of transgressive segregation. Another 12.5% was furnished by the USDA-ARS Pee Dee Program. Backcrossing to genotypes with lower fiber strength than the average of 1995 was responsible for the general decline in fiber strength in the 2000 crop which was primarily composed of transgenic cultivars.