

PHENOTYPIC EVALUATION OF 63 MUTATED LINES OF TAM 94 L-25

Nino Brown
C. Wayne Smith
Steve Hague
Texas A&M University
College Station, TX
Dick L. Auld
Texas Tech University
Lubbock, TX
Justin C. Duncan
Cotton Improvement Lab
College Station, TX

Abstract

Seed of TAM 94 L-25 (Smith, 2003) were treated with EMS in 2001 and the M_2 generation produced at Lubbock, Texas in 2002 by Dick Auld. More than 1200 M_3 plants were grown at College Station, Texas in 2004, harvested individually, and HVI fiber properties determined at the Fiber and Biopolymer Research Institute at Lubbock. These individual plants gave rise to the 63 lines being evaluated in this study. The M_0 generation averaged 1.21 in. UHM (range = 1.12 - 1.31), 29.4 g/tex strength (range = 25.4 – 33.6), and 3.4% elongation (range = 2.1 – 4.8). The mutants ranged from 0.87 to 1.46 in for UHM, strength ranged from 20.4 to 42.9 g/tex, and elongation ranged from 1.0 to 6.2%. Agronomic performance trials were conducted on these 63 lines along with the M_0 check and two commercial variety checks. These tests were conducted in 2008 and 2009 in College Station and Weslaco, Texas. Within-boll yield components were examined for 13 mutant lines and the three checks.