

1330 Fiber quality traits following mutagenesis of TAM 94L-25

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Seeds of TAM 94L-25 (Smith, 1998) were treated with EMS in 2001 and the M₂ generation produced at Lubbock, Texas in 2002. More than 1200 M₃ plants were grown at College Station, Texas in 2004, harvested individually, and HVI fiber properties determined at the International Textile Research Center at Lubbock. The highest and lowest 1% of the M₃ plants for UHM length, fiber bundle strength, and elongation were selected and advanced to an M₄ progeny row nursery in 2005. Up to 10 individual plants were harvested from each of these progeny rows plus 128 plants of the parent genotype (M₀). The M₀ generation plants averaged 30.7 mm UHM (range = 28.4 to 33.3), 288 kN m kg⁻¹ strength (range = 249 to 299), and 3.4% elongation before break (range = 2.1 to 4.8). The 619 M_{3:4} selections had similar averages but greater ranges. UHM length averaged 30.7 mm with a range of 22.1 to 37.1 mm, strength averaged 299 kN m kg⁻¹ with a range of 200 to 420 kN m kg⁻¹ and elongation averaged 3.0% with a range of 1.0 to 6.2%.