1588 Using biotechnology to accelerate breeding of improved cotton varieties

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Over multiple generations of cultivar production and maintenance, individual plants within a cultivar can vary significantly from the phenotype of the original cultivar as a result of outcrossing or further segregation within the original release, with some plants in the advanced generations being more adapted to the environment(s) in which they are grown. It has been shown that selection within an existing cotton, *Gossypium hirsutum*, cultivar can produce progeny that are superior to the original cultivar. Using a combination of conventional, biochemical, and molecular methods, new elite lines were developed and tested in the Uzbek State Variety Trials. The most advanced line, Shodlik-9, is resistant to *Verticillium* wilt. Fiber analyses performed in Uzbekistan and the USA, showed that Shodlik-9 was superior to FM 832, SG 747, and Namangan 77 for fiber length, and that it was similar to FM 832 and Acala 1517 for strength, 2.5 % and 50% span length. Two other lines (L2 and L3) are being evaluated currently for *Verticillium* wilt resistance and agronomic traits.