

TEXTILE PERFORMANCE OF TRANSGENIC COTTON FIBER

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Abstract: Cotton is the world's largest textile fiber crop and has been used for producing garments, paper products, cottonseed oil and other purposes for many years. It belongs to genus *Gossypium* of *Malvaceae* family and includes about 50 species. Out of these 50, only four species are commercially cultivated which produce spinnable fiber, two of these *Gossypium arboreum*, *Gossypium herbaceum* are diploid (AA) while *Gossypium hirsutum* and *Gossypium barbadense* are tetraploid (AADD). Cotton being white gold for textile industry faces a severe problem of low fiber quality. The most effective way to increase fiber quality and yield is to clarify the genetic factors conditioning fiber quality. A genotype which is developed by the techniques of genetic engineering is referred to as transgenic. The first transgenic plant (Bt cotton) was created by genetically altering the cotton genome to express a microbial protein from the bacterium *Bacillus thuringiensis* using Cry 1 Ab and Cry 1 Ac genes in 1987 in U.S.A. by Monsanto, Delta and Pine companies. Advantages of Bt cotton are improved fiber length, fiber strength, uniformity index, micronaire, maturity, and fiber elongation.

Keywords: Cotton, Fiber quality, Genes, Genetic modification, Transgenic

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