

1653 Genetic Mapping of QTL's for Fiber Traits in Diploid Cotton (*G. arboreum* x *G. herbaceum*) Using Microsatellite markers

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The A genome species, *Gossypium herbaceum* and *G. arboreum* are the only diploid cultivated cottons and represent a valuable gene pool for the improvement of cultivated tetraploid cultivars. These two diploids differ genetically by a single reciprocal translocation and represent probable A genome contributors for the cultivated tetraploids. Several genetic maps from intrahirsutum and interspecific crosses are available but limited research has been done on Asiatic cottons which offer a model system for studying fiber traits. The present investigation exploits a *G. arboreum* x *G. herbaceum* F₂ population and seeks to identify markers associated with fiber traits. Publicly available genomic and EST SSR markers were screened and chosen based upon their specificity to the A genome. Out of 164 markers used, 81 were polymorphic between the parents (49%). In addition, EST libraries specific to the A genome were also tapped for possible repeat sequences. The newly developed EST SSR markers (specific to the A genome) showed a high degree of polymorphism. Many of them are promising in finding unique associations with fiber traits.