

MOLECULAR MARKER POSSIBILITIES – GOING BEYOND GOSSYPIUM

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Abstract

Molecular based markers have been developed for a number of plant species. These markers have subsequently been used for a variety of purposes including diagnostic markers for resistance genes, creating “fingerprints” for identification, and assembling genomic maps. Most of the major crop species have well established maps that combine a number of molecular and physical markers that are freely available for use by the research community. Initially cotton lagged behind in developing an easily accessible map, however, recent coordinated efforts by cotton researchers have accelerated the process. Cotton scientists can now take advantage of the work already done in other crops to increase the speed and efficiency of these efforts. To date, Restriction Fragment Length Polymorphism (RFLP), Random Amplified Polymorphic DNA (RAPD) Amplified Fragment Length Polymorphism (AFLP) and Simple Sequence Repeat (SSR) markers have been used successfully on Cotton. Inter-Simple Sequence Repeat (ISSR) and Single Nucleotide Polymorphism (SNP) markers are still being tested. Preliminary results indicate that soybean (*Glycine max*) and *Arabidopsis thaliana* SSRs can be informative markers for cotton. Several other genera are currently being evaluated.