

RAPD and SCAR Markers for Leaf Curl Virus Resistance in Cotton (*G. hirsutum*)

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Abstract: Random Amplified Polymorphic DNA (RAPD) analysis was carried in germplasm lines CNH 123 (Resistant to Cotton Leaf Curl Virus, RCLCuV), CNH 1012 (RCLCuV), CNH 1020 (Susceptible to Cotton Leaf Curl Virus, SCLCuV) and CNH 120 (SCLCuV) to establish polymorphism among the cotton leaf curl virus (CLCuV) resistant and susceptible genotypes. These lines were characterized using 80 decamer primers by amplification in a polymerase chain reaction. The primer OPC 02

amplified a unique polymorphic fragment in the leaf curl virus resistant lines CNH 123 and CNH 1012 designated as OPC 02 (1700 bp). Ten resistant and susceptible F₂ DNA were pooled for bulk segregant analysis and amplified with the same primer OPC 02, which also produced the 1700 bp fragment and confirmed it repeatedly. This fragment has been converted into SCAR marker and the primer pair designed was 5'-GTGAGGCGTCAGAGGGAT-3' (forward) and 5'-GTTGCCGTGCACTAGGCT-3' (reverse). The F₂ segregating RAPD loci were mapped using Mapmaker programme into ten groups.

Key Words: cotton; leaf curl virus; RAPD; SCAR

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