

GENETIC DIVERSITY BETWEEN STEM ROT RESISTANT AND SUSCEPTIBLE GROUNDNUT GENOTYPES USING PCR-RAPD

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ABSTRACT

*A study was undertaken to explore the genetic diversity present among different groups of groundnut. Genetic diversity was studied among six groundnut genotypes which varied in their levels of resistance to stem rot caused by *Sclerotium rolfsii* Sacc. PCR based Random Amplified Polymorphic DNA primers were utilized for the ascertaining the genetic diversity. Genotypes, GG-20 and GG-16 were genotypically distant from remaining four genotypes. Groundnut cultivars, TG-37A, ICGV-86590 were closely related to resistant genotypes, NRCGCS-19 and NRCGCS-319. An overall polymorphism of 91.2% was observed with forty primers where, twenty primers produced 100% polymorphism. The polymorphic bands showed as size ranging from 200 to 1000 bp and the Jaccard's similarity matrix and dendrogram indicated NRCGCS-19 and NRCGCS-319 were genetically close with 93% similarity. Hence, PCR-RAPDs may be utilized to cut down the time required for phenotyping of groundnut genotypes against *S. rolfsii*.*

KEYWORDS: *Arachis hypogaea*, Genetic Diversity, RAPD, *Sclerotium Rolfsii*

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