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RESEARCH ARTICLE

Estimation of genetic diversity in nutmeg (*Myristica fragrans* Houtt.) selections using RAPD markers

■ ANU G. KRISHNAN, RESHMA JOHN, ANU CYRIAC AND G.V. SIBLE

SUMMARY

Nutmeg (*Myristica fragrans* Houtt.) is an evergreen tree and popular spice. In the present study, Random Amplified Polymorphic DNA (RAPD) analysis was performed to assess the genetic diversity among the 19 superior accessions of nutmeg collected from different geographic locations and maintained in the germplasm collections of Regional Agricultural Research Station, Kumarakom, Kerala. This included one released variety IISR Viswasree. Out of 28 RAPD primers tested, 20 were amplified. Out of the 109 loci amplified, 82 were polymorphic with an average polymorphism rate of 72.74 per cent. The number of bands for each primer ranged from 2 to 8. The markers which produced maximum number of polymorphic bands were BB-18 and PO-5. PIC value of the markers ranging from 0.09 (OPA 11) to 0.48 (W-15) with an average of 0.31. The marker index (MI) varied between 0.09 and 2.08 with an average of 1.25. Jaccard's similarity co-efficient of the genotypes ranged between 0.34 – 0.93. Dendrogram constructed based on UPGMA analysis grouped the 19 selected genotypes into two major clusters. The knowledge on genetic diversity of nutmeg can be used for further breeding programmes for getting higher nut and mace yield.

Key Words : Nutmeg, Genetic diversity, RAPD, Dendrogram

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MEMBERS OF THE RESEARCH FORUM

Author to be contacted :
ANU G. KRISHNAN, Regional Agricultural Research Station (KAU), KOTTAYAM (KERALA) INDIA

Address of the Co-authors:
RESHMA JOHN, ANU CYRIAC AND G.V. SIBLE, Regional Agricultural Research Station (KAU), KOTTAYAM (KERALA) INDIA