

Variability characterization in nendran ecotypes of banana (*Musa spp.*) using genetic markers

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Banana (*Musa* spp.) is one of the most important fruit crops of India next to mango. Nendran (*Musa* AAB group) is the leading banana cultivar of Kerala, belonging to the plantain subgroup. Biodiversity in Nendran is complex. Nendran is represented by clones distinguishable by variation in plant stature, bunch, fruit morphology and degree of development of male phase. Characterisation of varieties is generally based on morphological and genomic traits which are subjected to environmental influences. So using a molecular marker that provides a powerful tool to reveal polymorphism at the DNA sequence level will be useful. RAPD (Random Amplified Polymorphic DNA and ISSR (Inter Simple Sequence Repeat) techniques are widely used for this purpose. Standardisation of DNA using 12 Nendran ecotypes from Banana Research Station Kannara, Kerala was carried out following a standardised CTAB method. Optimum PCR condition for both RAPD and ISSR were standardised with various quantities of DNA, dNTPs, MgCl₂, primers and Taq polymerase. Initially 62 RAPD and 42 ISSR primers were screened against genomic DNA of two banana cultivars (Big Ebanga and Njockkon) for their ability to amplify DNA fragments. Of all the primers, 15 RAPD and 15 ISSR primers produced robust amplification patterns and no band was detected in any negative control amplification. The PCR products obtained were separated on 1.4% and 2% agarose gel stained with ethidium bromide. The present study assesses the levels of genetic diversity in Nendran (AAB) ecotypes of banana and the genetic relationships between them.

Biography

Rakeshkumar S. Choudhary has completed his under graduation from Marathwada Agricultural University, Parbhani and currently he is doing MSc in Agri. Biotechnology at Kerala Agricultural University, Thrissur and pursuing his research work.