

Preliminary study on identification of morphological and genetic differences found in micro-propagated Ambul Banana variety in Sri Lanka

A.M.R.M. Abeykoon¹, K.K.G.U. Hemamali¹, Y. Ketipearachchi and E.S.C. Edirisinghe²

¹ Department of Botany, Faculty of Science, University of Ruhuna, Matara, Sri Lanka

² Plant Genetic Resource Center, Gannoruwa, Peradeniya, Sri Lanka

Ambul banana is an important fruit crop and popular commercial cultivar in the wet zone and the intermediate zone in Sri Lanka. The only improved variety available today is “Nadhe” which is also a local selection of ‘Mysore’ banana. It has AAB genome and now it mainly propagated through the micro-propagation. Important drawback of this micro-propagated banana is the production of off types in field plantations. Therefore, the current study was focused on identification of these abnormal features and detection of causes for these deformities in micro-propagated Ambul banana. Morphological characters were compared with reference to conventionally propagated healthy plants. Genomic DNA extracted from leaf tissues of randomly selected eight abnormal plants and one conventionally propagated healthy plant was amplified by Polymerase Chain Reaction (PCR) using OPB 07, OPA 16, OPA 18, RAPD primers (Random Amplified Polymorphic DNA). A micro-propagated Ambul banana plant showed several morphological differences and primer OPB-07 produced polymorphic bands in deformed banana plants. These results indicate that, there are morphological and genetic differences among micro-propagated plants and conventionally propagated healthy plant.

Key words: *Ambul banana, RAPD, Micro-propagation, Polymorphic, Off types*