

D-29 Use of RAPD analysis for genetic variability of *Nipa fruticans* in Sri Lanka

S Hettiarachi, L P Jayatissa, K K G U Hemamali

Dept of Botany, University of Ruhuna, Matara

Nipa fruticans is the only mangrove palm which is being exploited in certain countries for collecting pholem sap. In addition, it could be used as a source of firewood, thatching materials, medicine, vegetable ivory and a raw material for mats, baskets, bags etc. In Sri Lanka however, these potentials have not been recognized, partly due to low distribution and density of the palm. The propagation of the plant in economically profitable scale is therefore essential. Prior to this, a genetic diversity study is essential to select genotypes with good qualities. This information is also important in conserving the genetic diversity. Since RAPD analysis of total DNA reveals the genetic diversity at the DNA level, this technique was used in this attempt to evaluate the genetic diversity of *Nipa fruticans* populations in Sri Lanka.

DNA was extracted from leaves using CTAB extraction buffer, by crushing pieces of leaves in a mortar and gently blending in a blender and partially purified by chloroform-isoamyl alcohol extraction. Primers purchased from Operon Technologies inc. were used. The PCR protocol was optimized to obtain reproducible results. Primers were screened using 5 populations and those showing variations were selected for further analysis. The banding patterns obtained by this procedure were compared and individual genotypes identified. The genetic diversity found was then compared with the morphological features which can contribute to the economic use of the plants.

These results clearly show that RAPD analysis is a promising technique to reveal genetic diversity of *Nipa fruticans* and a considerable genetic diversity is prevalent among *Nipa fruticans* populations. This suggests the necessity of an islandwide survey of genetic diversity of *Nipa fruticans* together with environmental factors which may contribute to the morphological diversity.
