

Assessment of genetic diversity of brinjal (*Solanum melongena* L.) germplasm by RAPD markers

ABSTRACT

Assessment of genetic diversity in a crop species is prerequisite to its improvement. The use of germplasm with distinct DNA profiles helps to generate genetically diversified breeding populations. The present study was carried out to investigate the genetic diversity in brinjal or eggplant (*Solanum melongena* L.) using random amplified polymorphic DNA (RAPD). Fifteen brinjal germplasm and three decamer primers were used for random polymorphic DNA assay. A total of 17 fragments were obtained, out of which 12 (70.59%) were polymorphic. Each primer generated 4 to 8 amplified fragments with an average of 5.67 fragments per primer. The highest genetic distance (0.8873) and the lowest genetic identity (0.4118) were observed in Laffa (Elongated) versus Jessore L and Dharola combinations. The lowest genetic distance (0.1525) was observed in several cultivars. The unweighted pair-group method of arithmetic means (UPGMA) dendrogram was constructed from genetic distance and all brinjal cultivars were grouped into five clusters. The genetic diversity of brinjal cultivars reported in this study will be useful when planning future crosses amongst these cultivars.