B 047

Evaluation of papaya (Carica papaya L.) germplasm using RAPD techinque

To assess the genetic diversity of papaya in Sri Lanka, 20individual samples collected from different regions of Sri Lanka including improved variety of "HORDI" and an imported variety from Thailand were subjected to RAPD analysis. Fifteen previously tested OPERON primers were used to screen the DNA samples. The amplification generated 987 fragments (75 fragments per primer) with 631 polymorphic bands. The distance matrix was constructed using Nei and Li genetic similarity coefficient and the genetic distances revealed very narrow genetic diversity in the papaya grown in Sri Lanka. The distances ranged from 0.11 to 0.37. The dendrogram indicated that samples studied clustered independent of the region from which these were collected. This indicated that the genetic diversity of papaya in Sri Lanka is very narrow, even between the foreign variety and the improved variety. These results suggest that despite variations in morphological descriptors such as pulp colour, flavour, petiole colour, fruit shape, there appears to be only a narrow genetic diversity. It may be because environment factors such as sunlight, rain and soil conditions play an important role in the determination of morphological factors.