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Qualitative Morphological Marker Based Genetic Diversity of Some Selected Finger Millet (*Eleusine Coracana*) Germplasm Accessions of Sri Lanka**Wakista P.W.^{1*}, Dasanayaka P.N.¹, Perera C.², Illeperuma R.³**¹*University of Sri Jayewardenepura, Sri Lanka*²*University of Peradeniya, Sri Lanka*³*Genetech, Sri Lanka***parami@sci.sjp.ac.lk***Abstract**

Germplasm characterisation is the key to unravel the diversity in genetic resources which can be used in genetic improvement of crops and fine-tuning conservation programs. Although molecular marker technology is widely used at present for germplasm characterisation, morphological marker approach is still considered to be mandatory. Finger millet is a cereal staple cultivated in arid and semi-arid regions in the world. The ability to withstand diverse agro-ecological conditions and high nutritional value makes it a food security crop and recently it's gaining popularity as a diabetic relief food. This study was conducted to assess the genetic diversity among 26 finger millet germplasm accessions categorised under two accession names "Bala Kurakkan" and "Kiri Kurakkan" representing 07 districts of Sri Lanka. Accessions were obtained from the Plant Genetic Resource Center, Gannoruwa, Sri Lanka and assessed using 14 qualitative morphological markers following the descriptors for finger millet delineated by International Board for Plant Genetic Resources (IBPGR, June 1985). Data were analysed using the software SAS. Cluster analysis was performed using Ward minimum variance clustering method with the dissimilarity measure of Gower and Legendre. The 26 accessions studied were grouped in to six clusters where cluster 01 comprised solely of four accessions with the accession name "Bala Kurakkan" but from three different districts. Clusters 02 and 04 contained five accessions each and cluster 03 contained three accessions. The lowest (two) and the highest (seven) accessions per cluster were marked by clusters 05 and 06 respectively. Clustering of the accessions in to the six clusters was observed to be independent of the district of origin or the accession name given by the conservation program. This indicates the importance of characterization of the germplasm and inter crossing between the selected accessions from different clusters may generate a wide range of variability. The findings can be incorporated in conservation programs to avoid duplications and identifying core accessions.

Keywords: Finger millet, Germplasm characterisation, Qualitative markers

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