



## Morphological characterization and DNA finger printing of pearl millet (*Pennisetum Glaucum* (L.) germplasms

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### Abstract

The genetic diversity of thirty-seven pearl millet germplasms was investigated based on morphological traits and fifteen simple sequence repeat (SSR) markers. Out of the 56 correlation coefficients among the ten traits, three correlation coefficients were significant at the phenotypic level; whereas five correlation coefficients were significant at the genotypic level. Molecular diversity analysis of all 37 pearl millets was performed using highly polymorphic SSR markers. Polymorphism information content (PIC) ranged from 0.31 (Xcump004) to 0.66 (Xcump009) with a mean value of 0.5624. Major allele frequency ranged from 0.3784 to 0.7297 with a mean value of 0.4899. Based on the electrophoresis banding pattern of SSR primers, pairwise genetic similarity among 37 genotypes was estimated, and a dendrogram was generated. Present morphological and molecular data could lead to the marker-based selection of genotypes for further crop improvement programmes of pearl millet.

**Keywords:** Genetic diversity, Heritability, Morphological traits, Pearl millet, SSR markers, Variability