

Genetic Diversity of Finger Millet (*Eleusine coracana* (L.) Gaertn.) Landraces Based on EST-SSR

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Finger millet is more nutritious than other and millets and widely cultivate in tropical regions of the world. Furthermore, it is more tolerant against biotic and abiotic stresses such as pest, drought and salt. For this reason, finger millet is one of the putative crops to introduce and cultivate on reclaimed land and prepare the global climate exchange in Korea. In present study, genetic diversity and structure of different populations of finger millet from Africa and South Asia was examined at molecular level using newly developed EST-Simple Sequence Repeat (EST-SSR) markers. In total, 46 primers produced 292 alleles in a size range of 100–500 bp and mean Polymorphism Information Content (PIC) and Marker Index (MI) were 0.372 and 1.04, respectively. 46 primers showed polymorphism and 21 primers were identified as having a PIC value above 0.5. Principal coordinates analysis and the dendrogram constructed out of combined data of both markers showed grouping of finger millet accessions to their respective area of collection. The 156 accessions were more classified into four groups, such as three groups of Africa collection and one group of Asia. Results of present study can be useful in identifying diverse accessions and management of this plant resource. Moreover, the novel SSR markers developed can be utilized for various genetic analyses in this species in future.

Keywords: Finger millet. Genetic diversity, EST-SSR, Population structure

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