



Molecular characterization of wheat germplasm using microsatellite markers

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ABSTRACT. We investigated the genetic diversity of 63 wheat genotypes, composed of 48 accessions and 15 varieties, using 56 polymorphic simple sequence repeat primers. One hundred and eighty-six loci were found, with a mean of 131.26 alleles per locus. Cluster analysis based on microsatellite allelic diversity discriminated the accessions and varieties into different clusters; genetic diversity was the highest between variety Kohistan-97 and accession number 011512, giving a genetic similarity value of 0.4198. Accession numbers 011484 and 011356 gave a genetic similarity value of 0.9589, indicating that these accessions were 95.89% similar. We found that microsatellite markers could characterize and discriminate all of the genotypes; more primers could be used for saturation of different regions in further studies.

Key words: *Triticum aestivum*; Microsatellite; Molecular markers; Genome; Genetic distance; Population genetics