

## Genetic Diversity in Local Spanish Pear Cultivars Assessed by Molecular Characterization with SSRs

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A set of eight microsatellite loci (SSR) developed in apple and pear was used for the identification of 65 Spanish accessions of pear (*Pyrus communis*) located at CITA (Saragossa, Spain). An additionally group of 29 international reference varieties, also located at the CITA's pear germplasm collection, was added as reference. This study aimed to estimate the genetic diversity collection by grouping the varieties according to their genetic closeness as well as to identify the genetic structure and relationships among its accessions. All primers produced a successful amplification giving a total of 80 fragments in the genotypes studied, with an average of 10 alleles per SSR, ranging from 6 (EMPC11) to 14 (CH02B10). Allele size ranged from 85 bp at locus (CH05C06) to 293 bp at locus (CH01D09). The mean expected and observed heterozygosities over the eight single-locus SSRs averaged 0.84 and 0.81, respectively. The unweighted pair group method average tree drawn from this analysis classified the genotypes according to their geographical origin, confirming the particular evolution of different pear ecotypes. Structure analysis showed a strong subpopulation structure and, in overall, most of the Spanish cultivars analyzed in this study showed its genetic distinctness with respect to the reference ones. Therefore SSRs appear to be still excellent markers to provide genetic information and a viable approach for carrying out genetic diversity studies