

Available genetic variability in the Spanish National Peach Collection

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The ultimate objective of any germplasm collection is its utilization in breeding programmes. The Spanish National Peach Collection is located at the CITA of Aragón (Zaragoza, Spain) and consists of more than 400 peach accessions, primarily of current commercial and traditional cultivars, but also of Spanish landraces. Their fruit type distribution is: 35% clingstone peaches (mostly Spanish accessions), 25% freestone peaches (mostly foreign), 36% nectarines (mostly foreign) and 4% flat peaches (mostly Spanish). The collection had already been morphologically and agronomically characterized, now its whole genetic variability is being assessed. In this work we present the variability of 16 SSRs in 157 cultivars of this collection. These SSRs were selected because of their polymorphism in this species and their localization among the *Prunus* saturated map, two SSRs per linkage group, thus representing a wide coverage of the peach genome. All primers produced a successful amplification, varying the number of alleles obtained from 5 (UDP98-022, UDP96-008 and CPPCT006) to 17 (BPPCT015) with an average of 8.06, giving a total of 129 fragments and 266 different genotypes. Allele size ranged from 110 bp at locus UDP98-412 to 299 bp at locus CPPCT022. Heterozygosity ranged from 0.11 (UDP98-409) to 0.77 (CPPCT022) (mean 0.42); the discrimination power (*PD*) ranged from 0.27 (UDP98-409) to 0.92 (UDP98-022) (mean 0.60). Cultivar heterozygosity varied greatly, with four cultivars ('Campiel', 'Maluenda', 'Pragranec' and 'Pavía Amarilla de Tolosa') being homozygous at all loci and two cultivars ('Paraguayo Almunia' and 'Paraguayo Rojo de Agosto') being heterozygous for 15 of the 16 loci. UPGMA analysis was performed from the genetic distance matrix, allowing the arrangement of all genotypes according to their genetic closeness, establishing genealogical relationships (flat peaches, "Jerónimo", "Maruja" and "Calabacero" types, ...) as well as the identification of most of cultivars.

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