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Horticultural Science

Genetic diversity of Czech apple cultivars inferred from microsatellite markers analysis

Patzak J., Paprštejn F., Hencychová A., Sedlák J.:

Hort. Sci. (Prague), 39 (2012): 149-157

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Genetic diversity and genetic relationships of Czech apple cultivars were evaluated. Trees of 33 Czech apple cultivars and 97 reference foreign cultivars were analysed using the set of 10 SSR (simple sequence repeat) primer pairs. The total of 89 polymorphic alleles were amplified, while the number of alleles per locus ranged from 4 to 14. The

SSR dendrogram, based on the Jaccard's similarity coefficient, divided apple cultivars into three major groups: Cox's Orange Pippin, McIntosh and Golden Delicious ancestries. The clustering highly depended on pedigree and origin of apple cultivars. Spontaneous mutated cultivars were identical with their progenitors. We proved that microsatellite markers were useful for evaluation of genetic resources, collection management and cultivar identification.

Keywords:

Malus × domestica Borkh.; current apple cultivars; genetic resources; SSR molecular markers

[[fulltext](#)]

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