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Methodology

An improved strategy based on RAPD markers efficiently identified 95 peach cultivars

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ABSTRACT. DNA markers have useful applications in cultivar identification. A novel analysis approach called cultivar identification diagram (CID) was developed using DNA markers in the separation of plant individuals. This new strategy is less time- and cost-consuming, has reliable results, and was constructed for fingerprinting. Ten 11-mer primers were used to amplify the genotypes; all 95 peach genotypes (from the National Peach Germplasm Repository, in Nanjing, China) were distinguished by a combination of 54 primers. The utilization of the CID among these 95 peach cultivars was also verified by the identification of three randomly chosen groups of cultivars. This identification showed some advantages including the use of fewer primers and easy separation of all cultivars by the corresponding primers marked in the right position on the CID. This peach CID could provide the information to separate any peach cultivars of these 95, which may be of help to the peach industry in China and for the utilization of DNA markers to identify other plant species.

Key words: Peach; RAPD; Cultivar identification; Molecular markers

