

عنوان مقاله:

Preliminary Evaluation of Genetic Diversity among Iranian Red Fleshed Apples Using Microsatellite Markers

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خلاصه مقاله:

Red fleshed apples have high levels of anthocyanins in their flesh. Iran enjoys a large variety of these apples due to its location in Central Asia. In the present study, ۲۰ genotypes including eight Iranian red fleshed and ۱۲ commercial Iranian and foreign apples were selected for the study of genetic diversity of red fleshed apples. We used a set of ۱۱ microsatellite markers (SSRs) to determine genetic diversity and the linkage between these SSRs and red fleshed color. Seven SSRs were amplified and revealed adequate performance. On the whole, ۵۶ alleles were detected ranging from ۳ to ۱۱, with an average of ۸ alleles per locus. Cluster analysis was performed by the UPGMA algorithm and Dice similarity coefficient through NTSYS-pc ver. ۲.۰۲ software. The obtained dendrogram classified the studied genotypes into seven categories. Heterozygosity and Shannon Index were estimated using POPGEN ۱.۳۲ software. The genetic diversity for the two populations (Iranian and foreign) were calculated using Gene Alex ver. ۶.۳ software. These findings can be helpful for conservation and selection of these genetic resources and future breeding programs.

کلمات کلیدی:

Dice similarity coefficient, Diversity, Malus, Red fleshed apple, SSR

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