

عنوان مقاله:

Evaluation of Genetic Diversity in Iranian Violet (*Viola* spp) Populations Using Morphological and RAPD Molecular Markers

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خلاصه مقاله:

Recognition of genetic reserves and desirable genes is the basis of breeding programs. So far, in Iran, due to the lack of recognition of genetic resources, a considerable breeding program has not been done on native plants. The study of the genetic diversity of violets as a native plant with ornamental and medicinal uses is the great importance in advancing the breeding goals of this plant. So, in the present study, nine populations of *Viola* spp. from different regions of Iran were used for evaluation of inter and intra-population genetic diversity with RAPD marker, and eight populations of them were used to evaluate morphological, vegetative, and reproductive characteristics. From 11 used primers, 145 bands which showed high resolution and their length was between 250 to 3000 base pairs, were counted and used for RAPD analysis. According to the cluster analysis using the JACCARD similarity coefficient and UPGMA method, significant differences were found among populations. Molecular analysis of variance showed 77 and 23% inter and intra population genetic diversity, respectively. Principal component analysis classified effective characteristics in 6 groups which justified 89.62% of total changes and in the cluster analysis of morphological traits, populations were classified into three groups in distance 10. The results of our molecular and morphological analysis showed considerable diversity among violet populations in Iran, which can be used in future breeding programs.

کلمات کلیدی:

DNA extraction, Classification, Cluster Analysis, Molecular variance, UPGMA

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