

عنوان مقاله:

Genetic Diversity Assessment Between Different Populations of *Moringa peregrina* (Forssk.) Fiori and *Moringa oleifera* Lam. in Iran using RAPD, ISSR and R-ISSR Markers

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خلاصه مقاله:

The present study was conducted to investigate genetic diversity between and within of six populations with different individual numbers of cultivated and non-cultivated provenances of *Moringa peregrina* (Forssk.) Fiori and *Moringa oleifera* Lam. using RAPD, ISSR and various combinations of RAPD and ISSR primers in one multiplex PCR (R-ISSR). 10 primers that produced clear and reproducible fragments after screening of 30 primers were selected for further analysis. A set of 10 primers generated 96 bands ranging in size from 150 to 1600 bp, corresponding to an average of 16 bands per primer and out of which 100 % were polymorphic among 26 individuals. The PIC values ranged from 0.16 to 0.31 and MI values ranged from 2.16 to 4.65 per primer. The primer R-ISSR (H8Y6+A1Y) had the highest PIC (0.31) and MI (4.65) values. A maximum and minimum genetic similarity values were observed between populations (I and V) in *M. oleifera* (0.98) and populations (III and IV) in *M. peregrina* (0.52) respectively. The G_{st} value was 0.7, indicating that 61% of the genetic diversity resided within the populations. Clustering analysis using average algorithm based on Nei's unbiased genetic distance, classified the *Moringa* Adans. populations into five major groups. The PCOA data confirmed the results of clustering. The results of this study revealed that R-ISSR markers could be efficiently used for genetic differentiation of the *Moringa* individuals. The primers used in this article are useful to detection of a high level of polymorphism and it can be used to guide future breeding studies and management of *Moringa* genus.

کلمات کلیدی:

Moringa, Genetic diversity, RAPD, ISSR and R-ISSR

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