

Abstract

Over long periods, the ability of a population to adapt to different environmental conditions depends on the level of genetic diversity. According to the diversity of plant breeding and has been shown that plants differ in many ways. Genetic diversity in saffron in the world is unknown whether or not the genetic diversity of this plant has always been one of the important questions researchers. Different methods for the assessment of genetic diversity within plant communities there. Today, to study genetic variation for a wide range of molecular markers used. PCR-based microsatellite markers is one of the markers in the genome identifies regions with high diversity. Saffron has only 40 SSR markers detected and reported that most of them are monomorphic. Several studies have been carried out by different molecular markers, but no significant variation in ecotypes have shown saffron. This study aimed to investigate the genetic diversity of native Khorasan saffron was done with SSR markers. Of the 10 markers, only 4 markers showed polymorphism. The average number of polymorphic alleles was 2.5. MSA11 place the highest heterozygosity (0.191) and MSA2 Shannon index (1.078) and PIC (0.65) to themselves. Cluster analysis and principal component analysis, the samples were divided into three groups. Ecotypes Ashkhaneh with Jovin and Torbat with Roshtkhar were most similar to. Of the 45 samples, 22 showed no ecotype diversity and cluster analysis were identical in clusters. The results indicating the absence of significant genetic variation was studied in ecotypes.

Keyword: Saffron, markers SSR, ecotypes, varieties.



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