

عنوان مقاله:

Evaluation of Genetic Diversity among South Tunisian Pomegranate (*Punica granatum* L.) Accessions Using Fruit Traits and RAPD Markers

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نویسندگان:

- .E. Mansour - *Institute of Arid Lands, Dry Land and Oasis Cropping Laboratory, F119 Tunisia*
- .A. Ben khaled - *Institute of Arid Lands, Dry Land and Oasis Cropping Laboratory, F119 Tunisia*
- .T. Triki - *Institute of Arid Lands, Dry Land and Oasis Cropping Laboratory, F119 Tunisia*
- .A. Abid - *Institute of Arid Lands, Dry Land and Oasis Cropping Laboratory, F119 Tunisia*
- .K. Bachar - *Institute of Arid Lands, Dry Land and Oasis Cropping Laboratory, F119 Tunisia*
- .A. Ferchichi - *Institute of Arid Lands, Dry Land and Oasis Cropping Laboratory, F119 Tunisia*

خلاصه مقاله:

Morphological and RAPD markers were used to investigate the genetic diversity among 21 accessions of pomegranate originating from South Eastern Tunisia. Thirteen morphological traits were studied and results showed significant differences for all morphological characters ($P < 0.001$). Clustering based on fruit traits, using Ward's method, divided the accessions into three main groups. In RAPD analysis, 6 out of 15 employed random primers showed good amplification and polymorphism on pomegranate samples with a total of 63 bands, of which 56 were polymorphic. The lowest percentage of polymorphism (50%) was observed with TIBMBA-03 while the highest (50%) was observed with primer TIBMBB-03. According to Jaccard coefficient, the lowest (0.29) and highest (0.94) similarities were detected between genotypes. UPGMA clustering based on data from polymorphic RAPD bands resulted in three clusters at a similarity of 0.46. The Stress value for the nonmetric multidimensional scaling plot was 0.071, showing an excellent representation of the data. The comparison between groupings based on the fruit traits and RAPD data did not produce a significant correlation ($r = -0.09$). Using a stepwise linear regression, significant regressions were found between 13 morphological traits and 63 molecular markers revealing association between RAPD molecular markers and some traits.

کلمات کلیدی:

morphology, Random primers, Fruit traits, RAPD markers, Regression association

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