

عنوان مقاله:

Investigation of Genetic Variation in *Carthamus tinctorius* L. Genotypes Using Agro-Morphological Traits

محل انتشار:

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خلاصه مقاله:

In order to study the genetic variation and relationships among traits, an experiment was carried out on 15 genotypes of *Carthamus tinctorius* L. under field conditions in randomized complete block design with 4 replications in Payam Noor University, Zavareh. Agro-morphological characters, including seed yield/plant, biological yield, number of capitula per plant, number of seed per capitula, 1000-grain weight, number of secondary branches, capitula weight, oil yield and harvest index were measured. Results of the analysis of variance showed significant differences among genotypes for all studied traits ($p \leq 0.01$). High values of phenotypic and genotypic coefficients of variation were obtained for most traits, indicating high variability in the traits under study. Seed yield/plant had significant high and positive correlations with capitula number per plant, seed number per capitula, biological yield and oil yield. Principal component analysis showed three factors that justified 94.33% of the total variation. Cluster analysis grouped the 15 genotypes within 4 clusters, each of which having 9, 2, 1 and 3 genotypes. The clustering pattern of the genotypes revealed that geographic diversity was not related to agronomic diversity. These results could be useful in choosing genotypes for intercrossing to develop improved cultivars.

کلمات کلیدی:

Principal components analysis, Cluster analysis, Genetic variation, Correlation coefficients and Safflower

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