

عنوان مقاله:

Heterotic Grouping of Iranian Maize Inbred Lines Based on Yield - Specific Combining Ability in Diallel Crosses and GGE Biplot

محل انتشار:

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خلاصه مقاله:

This research was aimed to classify Iranian maize inbred lines in heterotic groups and to identify their heterotic patterns. Fourteen maize inbred lines were crossed in a diallel scheme without reciprocals. Parents and their 91 F1 hybrids were evaluated in a randomized complete block design with three replications for two years (2007, 2008) in Karaj, Iran. Analysis of variance was performed following method 2 of Griffing's model 1. GGE biplot model was employed to extract the interaction among lines and testers. The estimates of specific combining ability (SCA) were bigger than the analogous estimates for the general combining ability (GCA), indicating the major influence of dominant genes on the expression of grain yield. Hybrids with higher grain yield represented successful combination of parental lines for the expression of heterosis. The best heterotic patterns were "Lancaster Sure Crop (LSC) × Lines", and "Reid Yellow Dent (RYD) × Lines, both extracted from CIMMYT originated materials" and "LSC × Lines extracted from Late Synthetic". The results in heterotic patterns obtained by biplot mostly are in accordance with those of using Griffing's method.

کلمات کلیدی:

Zea mays L., Combining ability, Griffing's model, Heterotic group, Heterotic pattern, GGE biplot

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