عنوان مقاله:

Evaluation of Genotype × Environment Interaction of Grapevine Genotypes (Vitis vinifera L.) By Non Parametric Method

محل انتشار:

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خلاصه مقاله:

To evaluate genotype × environment interaction (GEI) of grapevine, ۲۰ genotypes of grapevines with Russian origin were evaluated at one location in Urmia and four locations in Takestan (two locations under full irrigation and two locations under drought stress). This research was performed in a randomized complete block design with three replications and three vines in each plot, in ۲۰۱۲-۲۰۱۳ season. Data on fruit yield (kg/vine) of the grapevine genotypes grown at different test locations were recorded and subjected to stability analysis by nonparametric methods. Result of the combined ANOVA revealed that variances due to genotypes, environments, and genotype-environment interactions were highly significant. Significant genotypic variance indicated genetic diversity among genotypes yield. The highest Si(۱) and Si(۲) mean absolute rank was observed for genotypes Ramfi TCXA, Apozoski Ramfi, X۴۵ and Anapiski Ramfli, indicating the high instability of these genotypes. Among the individual Z values, it was found that genotypes Ramfi TCXA, Uzbakestan Moscat, Bli Ramfi, Apozoski Ramfi and Anapiski Ramfli were significantly stable relative to the others, of which the Zi(۱) and Zi(۲) values were greater than the table χ۲(۰.۰۵, ۱)(۳.۸۴). The genotypes Skieve and Gezgiski Ramfi ranked the first and second, respectively, according to Si(۳), while, according to Si(۶), genotypes Skieve and Uzbakestan Moscat ranked the first and second, respectively. Genotypes Uzbakestan Moscat, Bli Ramfi and Kishmish Ramfi Azos, respectively, had the highest stability and lowest changes in different environments and were recommendable as stable genotypes in different areas. But, it should be noted that yield of these genotypes was moderate. Genotype Muscat had a high yield and moderate stability. As a result, these genotypes (Uzbakestan Moscat, Bli Ramfi, Skieve, Muscat and Kishmish Ramfi Azos) indicated greater resistance to environmental fluctuation and, therefore, increasing specificity of adaptability to low yielding environments.

کلمات کلیدی:

Genotype × Environment, Grapevine, Non-parametric Methods, Stability analysis