

**PARAMETRIC AND NON-PARAMETRIC STABILITY ANALYSES FOR GRAIN YIELD OF BREAD WHEAT (TRITICUM AESTIVUM L ) GENOTYPES IN KAHRAMANMARAŞ CONDITIONS OF TURKEY**

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**ABSTRACT**

Grain yield of 11 bread wheat genotypes, tested in a randomised complete block design with 3 replications over 6 years under Kahramanmaraş conditions was analysed by using seven parametric and 2 non-parametric stability criteria. The objectives were to assess genotype by environment interactions and to determine stable genotypes. The following nine stability statistics were calculated: Eberhart and Russell's (1966) regression coefficient ( $b_i$ ) and deviation from regression ( $S_{di}^2$ ), Pinthus's (1973) coefficients of determination ( $R_i^2$ ), Francis and Kannenberg's (1978) coefficient of variability ( $CV_i$ ) and genotypic variance ( $S_i^2$ ), Tai's (1971) environmental effects ( $\alpha_i$ ) and deviation from the linear response ( $\lambda_i$ ), Nassar and Huehn's (1987) ranks over environments ( $S_i^{(2)}$ ), mean of absolute rank differences ( $S_i^{(1)}$ ). Furthermore, three-dimensional plots of mean response versus each parametric stability statistic and two-dimensional plots of mean grain yield versus non-parametric stability statistics were shown to visually evaluate the yield potential and stability estimates of the genotypes. According to these stability parameters genotype 2 (URES/BOW"S") was the most stable genotype for grain yield.

**Key words:** genotype by environment interaction, bread wheat, *Triticum aestivum* L. grain yield, stability, three-dimensional plot, two-dimensional plot.