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HERITABILITY, CORRELATION AND GENOTYPE X YEAR INTERACTIONS Of GRAIN YIELD, TEST WEIGHT AND PROTEIN CONTENT IN DURUM WHEATS

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ABSTRACT

The purpose of this study was to investigate the comparative genotype x environment interactions and heritabilities of test weight and grain yield and to estimate the correlations among the yield and quality components in durum wheat. Twelve durum wheats (2737/DF17-72//Berillo, 97/mbvd-11, 97/mbvd-3, BÇU Santa, Bintepe, D5171/1, DÇT-17, DÇT-22, Es/96/mbvd-9, Kk/3/Lds//Kobak, Kunduru and Salihli-92) were grown in four planting seasons from 1996 to 2000 at Bornova location of İzmir according to a randomized complete block design.

A combined analysis of variance indicated that years and genotypes were significantly different for grain yield, protein content and test weight and genotype x year interaction was insignificant only for test weight. Broad-sense heritabilities of grain yield, protein content and test weight were 0.67, 0.64 and 0.29, respectively. Grain yield had a positive significant correlation (r=0.31**) with thousand kernel weight which had a significant correlation (r=0.27**) with test weight. Protein content had negative significant correlations (r=-0.30**) with grain yield and (r=-0.26**) with thousand kernel weight while it had a positive significant correlation (r=0.48**) with vitreousness.

Key words: Durum wheat, heritability, genotype x year interaction, grain yield, protein content and test weight.