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Inheritance of Grain Yield per Plant, Flag Leaf Width, and Length in an 8 x 8
Diallel Cross Population of Bread Wheat (*T. aestivum* L.)

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Abstract: The inheritance of grain yield per plant, flag leaf width, and flag leaf length was studied applying Jinks-Hayman diallel analysis in an 8 x 8 wheat cross population involving the bread wheat (*T. aestivum* L.) genotypes Cumhuriyet, Kaşifbey, Ziyabey, Marmara, Basribey, Malabadi, Yüreğir, and Seri-82. The crosses were made by hand, without reciprocals, in field conditions from March to May 2001, and the field experiment was conducted during the October 2002 to June 2003 growing season. The analysis of data showed that the additive variance component (D) was significant for flag leaf width ($P < 0.01$). The dominance variance component (H_1) was significant for flag leaf width and grain yield per plant. The dominance level variance component (h^2) and corrected dominance variance component (H_2) were significant for all 3 traits studied ($P < 0.01$). The W_r/V_r graphs indicated overdominance for grain yield per plant and flag leaf width, while partial dominance was inferred for flag leaf length. Flag leaf length was significantly and positively correlated with flag leaf width ($r = 0.803$). Yüreğir x Malabadi crosses should be considered for maximizing photosynthetic area of the leaf.

Key Words: *T. aestivum* L., gene action, heritability, flag leaf, diallel analyses

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