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EFFECTS OF DIFFERENT TILLAGE PRACTICES ON THE TRAIT ASSOCIATIONS IN BARLEY

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ABSTRACT

The experiments were conducted at the irrigated field of Cukurova district during 2003 and 2005 growing seasons with 3 barley cultivars (Kaya, Tokak 157/37 and Cumhuriyet-50). The study aimed to determine relationships between grain yield and some yield components in different tillage systems (conventional-till, cultivator-till, and disc-harrow-till) in barley. Results of correlation analysis showed that grain yield was positively and significantly correlated with plant height, ear length, weight of per spike, grain volume weight, number of grain per spike, 1000 grain weight and grain yield per spike. Direct and indirect effects of these yield components on grain yield were determined with Path coefficient analysis. Among the yield components, grain yield per spike had the highest positive direct effect followed by plant length on grain yield. Plant height and grain volume weight followed to grain yield per spike. On the other hand, the direct effects on the grain yield spike length, weight of per spike, grain number per spike and 1000 grain weight varied according to tillage systems. It could be concluded that grain yield increase may be possible if grain yield per spike, plant length and grain volume weight were used as a selection criteria in barley.

Key words: Barley, path analysis, correlation, tillage