

**Çifci, E.A. 2012. Estimate of heterosis, correlation and path analysis for grain yield per spike and some agronomic traits on durum wheat (*Triticum durum* Desf). The Journal of Animal and Plant Sciences. Vol: 22(3):747-752**

**Abstract**

This study was carried out between 2005-2007 cropping season at the experimental fields of Uludağ University Faculty of Agriculture, Agricultural Application and Research Center. In this study 3 advanced breeding lines and 2 durum wheat cultivar and their F1 crosses have been used as material. In the research, grain yield per spike and some agronomic traits on durum wheat (*Triticum durum* Desf) were researched for heterotic and heterobeltiotic effects, correlations and path analysis. It is concluded that the hybrids of 11-27 × Gediz for plant height, 12-21 × Gediz for spike length, spikelet number per spike, 9-65 × 12-21 for grain number per spike, Pınar-2001 × Gediz and 12-21 × Gediz for grain yield per spike and Pınar-2001 × 9-65 for 1000 grains weight had the highest heterosis and heterobeltiosis values. The correlations between traits revealed that important characters, influencing grain yield per spike were spike length, spikelet number per spike and grain number per spike. The results of path analysis also indicated that spike length, spikelet number/ spike and grain number per spike had the maximum direct effects on grain yield per spike.

**Key words:** Durum wheat, heterosis, heterobeltiosis, correlation, path analysis.