

Yagdi K, Sozen E (2009) Heritability, variance components and correlations of yield and quality traits in durum wheat (*Triticum durum* desf.). Pakistan Journal of Botany 41(2):753-759.

Abstract

This study was carried out during the years 2001 and 2004 to determine the inheritance of important agronomical and quality traits and also the correlations between these traits in durum wheat. The research, studies concluded that genotypical variance is important with regard to spike length, number of spikelet per spike and test weight and that the useful selections could be made with respect to these traits. Environmental variance was found important for seed number per spike, seed weight per spike and thousand kernel weight, while the variance component of genotype x environment was found important for seed yield, gluten content and protein content. Environmental and genotype x environment variances were determined to be important for SDS-sedimentation. The estimated values of broad-sense heritability were found between 0.72% and 30.43%. Sedimentation had the lowest heritability value, whereas spike length had the highest. Heritability values determined were 6.35%, 9.38%, 6.13%, 5.26%, 9.45% and 3.12% for plant height, number of spikelet per spike, seed number per spike, seed weight per spike, thousand kernel weight and seed yield, respectively. The test weight had the highest heritability value (17.69%) among the quality traits, followed by gluten content and protein content with 10.12% and 5.38%, respectively. Significant positive correlation was determined between the seed yield, plant height and spike length. The negative and significant correlations determined between gluten content and seed number per spike, seed weight per spike and plant density, as well as between the sedimentation and number of spikelet per spike and seed number per spike and between protein content and seed number per spike indicated that generally the important agronomical characteristics were inversely correlated with the quality traits.