

## Investigation of Genetic Variation for Agronomic Traits among the Recombinant Inbred Lines of Wheat from the Norstar × Zagross Cross under Water Stress Condition

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**Abstract :** Determination of genetic variation is useful for plant breeding and hence production of more efficient plant species under different conditions, like drought stress. In this study, a sample of 28 recombinant inbred lines (RILs) of wheat developed from the cross of Norstar and Zagross varieties, together with their parents, were evaluated for two years (2010-2012) under normal and water stress conditions using split plot design with three replications. Main plots included two irrigation treatments of 70 and 140 mm evaporation from Class A pan and sub-plots consisted of 30 genotypes. The effect of genotypes and interaction of genotypes with years and water regimes were significant for all characters. Significant genotypic effect implies the existence of genetic variation among the lines under study. Heritability estimates were high for 1000 grain weight (0.87). Biomass and grain yield showed the lowest heritability values (0.42 and 0.50, respectively). Highest genotypic and phenotypic coefficients of variation (GCV and PCV) belonged to harvest index. Moderate genetic advance for most of the traits suggested the feasibility of selection among the RILs under investigation. Some RILs were higher yielding than either parent at both environments.

**Keywords :** wheat, genetic gain, heritability, recombinant inbred lines

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