PERFORMANCE OF DIFFERENT GENOTYPES OF BARLEY (*HORDEUM VULGARE L.*) UNDER CONTROL AND SALINE ENVIRONMENTS

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Two experiments were conducted to compare the performance of eight different genotypes of barley in two environments including normal (Birjand) and saline (Amirabad) regions in South Khorasan province of Iran in 2015-2016 growing season. Results of combined analysis of variance for combined data of both studied environments showed significant effect of location, genotype and their interaction on most of the studied traits. Mean comparison analysis using LSD test at 5% probability level showed that the highest and lowest means of majority of investigated characteristics of barley genotypes were related to Salt4 and MBS-90-10 genotypes, respectively. Number of days to maturity and plant height had the highest simple correlation with grain yield in investigated genotypes of barley but these correlations were not significant. In forward regression analysis for grain yield as independent variable, five traits including one-thousand seed weight, number of days to maturity, seed weight, canopy temperature, and plant height entered to regression model in five steps with R-square=0.99. The path coefficient analysis based on seed yield, as a dependent variable implicated that number of days to maturity had the highest positive direct effect on grain yield of investigated genotypes of barley. The highest positive indirect effect on grain yield was related to seed weight through number of days to maturity, therefore, these two traits were the most important phenological and morphological characteristics that affect grain yield of barley under two studied environments and can used as selection criteria in investigated genotypes of barley.

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