

RESPONSE SOME GENOTYPES OF WHEAT TO WATER QUANTITIES

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ABSTRACT

Field experiment was conducted during 2010-2011 growing season to test the effects of three quantities of irrigated water 340 as control, 270 and 210 mm of water on yield and yield components and water use efficiency of four genotypes of bread wheat viz (603, 643, 649c and 708) besides two check cultivars Hashimia and Maidian in two regions (Rasheed and lateefiea). Split plot design was used with three replications for each treatment. Regions assigned as the main plots while genotypes and cultivars were considered as sub plots. Results revealed that mean grain yield significantly reduced with application of water shortage. Lateefiea region recorded the highest mean grain yield by 2858.7 kg/h in comparison with Rasheed region which gave 2842.7 kg/h respectively. Genotype 649c gave the highest mean grain yield by (2489.0 and 2491.3) for both regions respectively. And butter water use efficiency by (1.185 and 1.186 kg grain/m³ water) under the third water stress treatment (210mm). The two check cultivars Hashimia and Maidian showed the lowest mean grain yield and water use efficiency under the all water treatments particularly the second and third water stress treatments. This present study revealed that the possibility of planting these selective genotypes under the limited water resources regions.

Key words: Wheat, Irrigation, Water Use Efficiency, Water Qantity.