

# RESPONSE OF SOME BREAD WHEAT CULTIVARS *Triticum aestivum* L. TO WATER STRESS UNDER FIELD CONDITIONS

2- Skipping irrigation at different growth stages and its effect on the yield and yield components of bread wheat

By

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## ABSTRACT

To study the effect of skipping irrigation on grain yield, yield components of five bread wheat cultivars *Triticum aestivum* L..A field experiment was carried out at the experimental farm College of Agriculture Abu Graib ( latitude 32.2 N, longitude 44.2 E and altitude 34.1m ) during 2001-2002 and 2002-2003 winter season . The design of the experiment was split- plot with three replicates. The soil was a silt loam classified as Torri fluvent . Irrigation treatments were as follow: full irrigation treatment,(control) a depletion of 50% of available water, skipping irrigation at tillering, jointing, booting, flowering ,milk stage ,and dough stage ( which were irrigated when 85% of the available water was depleted ) were assigned the main- plots, while cultivars (Ipa99,Abu Graib3, Iraq, Ashure,Adnania 1)were assigned in the sub- plots. Results showed that skipping irrigation at tillering, flowering and dough stages were the most affected stages and grain yield was reduced by about (17.16%,17.8%and 19.6%) respectively compared with full irrigation treatment (control). However the grain yield was unaffected when irrigation was applied at jointing, booting, and milk stage and therefore a 360 m<sup>3</sup> amount of water/ha at each pervious stage, was saved. A significant deference's in grain yield among cultivars where revealed . "Ashore cultivar" produced the highest grain yield (6.893) ton/ha in the first season whereas Abu Graib 3 cultivar gave the highest grain yield (4.82) ton/ha in the second season. "Iraq" and " Ipa99" cultivars showed the highest values of drought susceptibility index at booting , milk and dough stages, Adnania 1 and Abu Graib3 cultivars, however, gave the lowest values at most growth stages especially at grain filling period which appeared to be the most drought resistant cultivars.

**Key words:** Bread wheat, Water stress, Irrigation, yield, yield components.