Journal of Agricultural
Science and Research (JASR)
Vol. 3, Issue 1, Jun 2016, 23-40

TRANS STELLAR
•Journal Publications •Research Consultancy

IRRIGATION REQUIREMENTS FOR SOME BREAD WHEAT CULTIVARS IN RELATION TO PLANTING DATES

M. A. A. ABDRABBO[1], F. A. HASHEM[2] & A. F. ABOU-HADID[3]

[1,2] *Central Laboratory for Agricultural Climate, Dokki, Giza, Egypt*

[3]*Department of Horticulture, Faculty of Agriculture, Hadayek Shobra, Cairo, Egypt*

ABSTRACT

The growth and productivity of some bread wheatcultivars(Triticum vulgare L) is affected by sowing date and irrigation requirements. Field experiment is conducted at Dokki Protected Agriculture Site, Giza Egypt during the winter season in 2010/11- 2011/12. The treatments of the experiment composed of four wheat cultivars (Sakha 93, Sakha 94, Giza 168 and Gemiza 9) and three sowing dates 1st, mid of November and 1st of Decemberas well as four irrigation treatments (0.6, 0.8, 1.0 and 1.2 of water requirements (WR). Plant growth parameters i.e. plant height, leaf Area Index (LAI), plant fresh weight, plant dry weight, number of days to 50% heading and number of days to 50% maturity and grain yield were determined beside water use efficiency.

The obtained results showed that the 1.2 of water requirements gave the highest grain yield and vegetative growth while, the 0.6 of water requirements gave the highest water use efficiency; increasing irrigation water above 0.6 from water requirements led to decrease water use efficiency. Moreover, the highest yield was obtained by the second sowing date followed by the third sowing date. The lowest quantity of seasonal water consumption was recorded by the first sowing date while the second date gave the highest seasonal water consumption. Moreover, the results showed that Giza 168 cultivar occupied the first rank and gave the highest fresh and dry weight followed by Gemiza 9 cultivar. The lowest fresh and dry weights were produced by Sakha 93 cultivar. Finally, the highest value of protein contents in the wheat seeds was obtained by the lowest irrigation level combined with the second sowing date. While the highest carbohydrate contents were obtained by 120% WR for the both tested seasons.

KEYWORDS: Wheatcultivars, Grain Yield, Plant Height, Leaf Area Index (LAI), Water Use Efficiency

Received: Apr 06, 2016; **Accepted:** Apr 15, 2016; **Published:** Apr 23, 2016; **Paper Id.:** JASRJUN20164

Original Article