BEST: International Journal of Humanities, Arts, Medicine and Sciences (BEST: IJHAMS)
ISSN (P): 2348-0521, ISSN (E): 2454-4728
Vol. 6, Issue 11, Nov 2018, 1-6

WATER DEFICIT ON SEEDLING GROWTH OF THREE VARIETIES OF KENAF (*Hibiscus cannabinus* L.)

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ABSTRACT

The effect of water deficit on the seedling growth of derived values of three certified improved varieties of kenaf (*Hibiscus cannabinus* L.) was investigated. The plants were grown in the Agricultural Garden at Imo State University, Owerri. The crop plants were subjected to three irrigation regimes representing well-watered control, moderate stress, and severe water stress. Each watering treatment was replicated three times in a split-plot design with irrigation treatments as the main plots and the varieties as the sub-plots. Water deficit profoundly reduced all aspects of vegetative growth including plant height, collar diameter, and leaf dry matter production as revealed by agromorphological parameters. The moderate stress attained an average height of 77.45cm and severe stress 68.58cm thus reduced height by 24% and 33% of the control that attained a mean height of 101.67cm respectively. Collar diameter growth of severely stressed plants was reduced by 33% of the control having a basal diameter of 7.06mm, moderate stress retarded growth by 26% and the plants reached a radial diameter growth of 7.80mm when compared with the control that recorded a basal diameter growth of 10.55mm. Holistic assessment of agromorphological parameters showed that water deficit significantly retarded growth resulting to 47.61% performance for the severely stressed plants, 66.67% for the moderately stressed plants and 100% for the control.

KEYWORDS: Seedling Growth, Agromorphological & Plants