GROWTH AND YIELD PERFORMANCE OF SELECTED WHEAT GENOTYPES AT VARIABLE IRRIGATION MANAGEMENT

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Executive Summary

Irrigation plays an imperative role for optimum growth and development of wheat. Irrigation water should be applied in different critical growth stages of wheat for successful grain production. The experiment was conducted in the Research Field of Sher-e-Bangla Agricultural University (SAU), Dhaka-1207 during the period of 17 November, 2016 to 29 March, 2017 to evaluate the growth and yield performance of selected wheat genotypes at variable irrigation management conditions. Three varieties of wheat (BARI Gom-26, BARI Gom-28, BARI Gom-30) and four irrigations (I_0 = No Irrigation throughout the growing season, I_1 = One irrigation (Irrigate at CRI stage), I_2= Two irrigation (CRI and grain filling), I_3= Three irrigation (CRI, booting and grain filling stages) were used under the present study. The experiment was laid out in a split plot design with three replications having irrigation application in the main plots, varieties in the sub plots. All parameters of wheat showed statistically significant variation due to variation of irrigation. Plant height increased with increased irrigation frequency, the highest plant height was recorded in I_3 treatment while the lowest in Io treatment at harvest. The highest grain yield (3.74 t/ha) was obtained from three irrigation (CRI, booting and grain filling stages) treatment while the lowest in Io (no irrigation) treatment. But variety did not show any significant variation on grain yield which ranged from 3.21 to 3.54 t/ha. Effect of number of irrigations on grain yield was significant and highest yield was obtained from I_3 (3.74 t/ha). Interaction effect of improved wheat variety and irrigation showed significant differences on grain yield. BARI Gom-30 gave the highest yield (3.99 t/ha) with three irrigation (irrigate at CRI, booting and grain filling stages) while BARI Gom-26 gave the lowest yield (2.93 t/ha) under no irrigation condition.

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