

RELATIONSHIP BETWEEN AGRO-METEOROLOGICAL INDICES AND YIELD OF RICE AT VARYING TRANSPLANTING DATES IN *BORO* SEASON

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Executive Summary

The experiment was conducted at the Research Farm of Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh, during December, 2022 to May, 2023 to evaluate the effect of variety and their transplanting dates on the growth, pheno-phases, yield attributes, yield and the agro-climatic indices of modern rice varieties. Three rice varieties; (BRRIIdhan89, BRRIIdhan96 and BRRIIdhan100) and three transplanting dates (05th January, 25th January, and 15th February) were used in this study. The experiment was laid in split-plot design with three replications. Variety and different transplanting dates exhibited significant variation in crop phenology, yield, yield attributes, and agro-climatic indices. Variety BRRIIdhan100 attained early booting, panicle initiation, heading and flowering followed by BRRIIdhan96 and BRRIIdhan89, respectively. The highest panicles m⁻² (243.5), grains panicle⁻¹ (203.64) and grain yield (9.75 t ha⁻¹) were obtained from BRRIIdhan89. Early transplanting (05th January) brought the phenological stages late as compared to mid (25th January) and late (15th February) transplanting. Accumulated growing degree days (AGDD), Helio-thermal units (HTU) and Heat use efficiency (HUE) were significantly higher in BRRIIdhan89 being 2069.5 and 4.75, respectively, whereas BRRIIdhan100 showed the highest Pheno-thermal index PTI (15.92), irrespective of transplanting dates. Early transplanting exhibited the highest AGDD (2252.77), PTI (16.36) and HUE (4.25). Early transplanting of BRRIIdhan89 gave the highest AGDD (2411.71) and HUE (5.23) while the highest PTI (16.53) was recorded in early transplanting of BRRIIdhan100.

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