

Evaluation of growth and yield potentialities of local boro rice varieties in southwest region of Bangladesh

ABSTRACT

A field experiment was conducted to evaluate the growth and yield performance of local boro rice varieties. Twelve local boro rice varieties were included in this study namely Nayon moni, Tere bale, Bere ratna, Ashan boro, Kajol lata, Kojjore, Kali boro, Bapoy, Latai balam, Choite boro, GS one and Sylhety boro. Growth parameters viz. plant height and number of tillers hill-1 (at different days after transplanting); yield contributing characters such as effective tillers hill-1, panicle length, number of grains panicle-1, filled grains panicle-1, thousand grain weight, grain yield, straw yield, biological yield and harvest index were recorded. The result revealed that the plant height and number of tillers hill-1 at different days after transplanting varied significantly among the varieties. The plant height for all the varieties and number of tillers hill-1 for most of the varieties increased up to harvest. At harvest, the tallest plant (123.80 cm) was recorded in Bapoy and the shortest (81.13 cm) was found in GS one. The maximum number of tillers hill-1 (46.00) was observed in Sylhety boro and the minimum (19.80) in Bere ratna. All of the parameters of yield and yield contributing characters differed significantly at 1% level except grain yield, biological yield and harvest index. The maximum number of effective tillers hill-1 (43.87) was recorded in the variety Sylhety boro and the minimum (17.73) was found in Bere ratna. The highest (110.57) and the lowest (42.13) number of filled grains panicle-1 was observed in the variety Kojjore and Sylhety boro, respectively. Thousand grain weight was the highest (26.35g) in Kali boro and the lowest (17.83g) in GS one. Grain yield was not differed significantly among the varieties but numerically the highest grain yield (5.01 t ha⁻¹) was found in the variety Kojjore and the lowest in GS one (3.17 t ha⁻¹). Considering all parameters the varieties Kojjore (5.01 t ha⁻¹), Choite boro, Sylhety boro, Ashan boro, Bere ratna performed better for the southwest region of Bangladesh.