

ADAPTABILITY ASSESSMENT OF TRADITIONAL AROMATIC RICE CULTIVARS IN *BORO* SEASON BASED ON GROWTH VARIABLES, AROMA QUALITY AND YIELD

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Executive summary

Poor yield and seasonal barrier are the main problems of aromatic rice cultivation in Bangladesh. It loses aroma and is subjected to flowering problem when cultivated in Boro season. To assess the adaptability of traditional aromatic rice cultivars in Boro season, an experiment was conducted in November 2018 to May, 2019 with twelve traditional aromatic rice cultivars *viz.*, Kalizira, Chiniatab (awned), Chiniatab (awnless), Kataribhog (awned), Kataribhog (awnless), Madhumala, Zirabhog, Shakhorkora, Badshabhog, Dulabhog, Chinigura and BRRRI dhan50. Different morpho-physiological traits and yield were significant differed among test cultivars. Plant height at 20, 40, 60 and 80 DAT (days after transplanting) and at harvest, the tallest plant (45.80 cm, 84.82, 128.64, 147.00 and 150.75 cm) was recorded from Shakhorkora and that was minimum (35.26, 72.19, 100.94, 104.54 and 107.19 cm) in BRRRI dhan50, respectively. At 20, 40, 60 and 80 DAT, the maximum number of tillers hill⁻¹ (5.07, 9.93, 13.87 and 14.53) was found in BRRRI dhan50 and the minimum number (4.07, 7.07, 10.13 and 11.00) in Shakhorkora. The highest shoot reserve translocation (15.23%) was found from BRRRI dhan50, whereas the lowest (11.03%) from Shakhorkora. The maximum number of effective tillers hill⁻¹ (10.80) was found from BRRRI dhan50, while the minimum number (8.33) from Shakhorkora. The longest panicle (25.97 cm) was found in BRRRI dhan50, whereas the shortest (20.30 cm) from Shakhorkora. The maximum number of filled grains panicle⁻¹ (181.60) was found in BRRRI dhan50 and the minimum number (155.33) in Madhumala. The highest spikelet (9.77%) was recorded from BRRRI dhan50, whereas the lowest (7.97%) from Shakhorkora. The highest weight of 1000 grains (15.92 g) were observed from BRRRI dhan50 and the lowest weight (10.31 g) from Chiniatab (awned). The highest grain yield (4.73 t ha⁻¹) was recorded from BRRRI dhan50, whereas the lowest (1.86 t ha⁻¹) from Shakhorkora. The highest straw yield (6.52 t ha⁻¹) was achieved from BRRRI dhan50 and the lowest (4.32 t ha⁻¹) from Shakhorkora. BRRRI dhan50 produced the highest number of tillers, the highest number of filled grains, the longest panicle and highest weight of 1000 grains, and consequently provided the highest grain yield. Among the local cultivars, Badshabhog, Kataribhog (awned) and Kataribhog (awnless) retained slight aroma, and Zirabhog exhibited moderate aroma. Dulabhog and Chinigura were suitable for cultivation in Boro season.

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