EFFECT OF GENOTYPIC VARIATIONS ON MORPHO-PHYSIOLOGICAL TRAITS AND YIELD OF AROMATIC RICE CULTIVARS

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Executive Summary

Sher-e-Bangla Agricultural University (SAU), Dhaka during July to November (Aman season), 2017 to study the genotypic variations in morpho-physiological traits and yield in aromatic rice cultivars. The experiment consists of 15 aromatic rice genotypes, among them twelve are local cultivars *viz.* Badshabhog, Chiniatap-1 (awnless), Chiniatap- Aromatic rice is one of the most widely accepted rice due to its grain quality and pleasant aroma. But information on morpho-physiological behaviour of aromatic rice cultivars is limited in Bangladesh. So, an experiment was conducted at the 2 (awned), Kalijira, Kataribhog (awnless), Kataribhog (awned), Madhumalal, Shakhokhora, Zirabhog, and rest three BRRI released varieties *viz.* BRRI dhan37, BRRI dhan38 and BRRI dhan50 (Banglamoti). Maximum number of tillers hill^{-1}(13.0) was obtained from Chiniatab (awnless) closely followed by Chinigura (12.5) and BRRI dhan37 (11.8). The highest leaf area was found in Chiniatab (awnless) (2098.6 cm^2 hill^{-1}) and the lowest was recorded from Dulabhog (924.9 cm^2 hill^{-1}). BRRI dhan37 contained the highest amount of chlorophyll a+b(3.35 mg g^{-1} fresh weight) and Modumala held the lowest (1.24 mg g^{-1} fresh weight). The leaf chlorophyll a : b ratio was significantly higher in BRRI dhan50 (Banglamoti) (3.92) followed by BRRI dhan38 (3.02) and BRRI dhan37 (2.84). The shoot reserve translocation ranged from 11.57 to 3.35 % among the genotypes while it was the maximum in Badshabhog (11.57%). The highest ratio of yield sink to LA (at heading) and highest post-heading CGR were recorded from Badshabhog (10.39 mg cm^{-2} and 10.13 gm^{-2}d^{-1}), while the lowest from Shakhorkora (2.52 mg cm^{-2} and 3.48 gm^{-2}d^{-1}).BRRI dhan38 provided higher yield attributed by higher number fertile tillers and grains panicle^{-1}, whereas local variety Kataribhog (awnless) gave higher yield due to higher numbers fertile tillers hill^{-1} and higher 1000-grain weight and Badshabhog due to higher number fertile tillers, grains panicle^{-1} and higher 1000-grain weight.

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