

## IMPACT OF THE SYSTEM OF RICE INTENSIFICATION (SRI) ON PHYSIOLOGICAL CHARACTERISTICS AND PRODUCTIVITY OF HYBRID RICE VARIETIES

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### Extended Summary

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An experiment was carried out at the Research Farm of Sher-e-Bangla Agricultural University, Dhaka, Bangladesh from December 2015 to study the impact of the system of rice intensification (SRI) on physiological characteristics and productivity of hybrid rice varieties. Two cultivation methods *viz.*, a) Traditional method (15cm × 25cm spacing + regular irrigation) and b) SRI method (20cm × 20cm spacing + alternate wetting and drying), and seven hybrid varieties *viz.*, BRRI hybrid Dhan 2, BRRI hybrid Dhan 3, Heera 3, Panna1, Tia, ACI 6, Tej and one inbred rice variety, BRRI Dhan 45 were used for this factorial experiment. The experiment was laid out in a randomized Complete Block Design (RCBD) and replicated thrice. The SRI cultivation method was more suitable than traditional cultivation method in respect of growth and yield of hybrid rice. Among eight rice varieties, BRRI hybrid Dhan3 exhibited the best performance in relation to its morpho-physiological characteristics and yield attributes. Consequently, the highest yield (9.77 t ha<sup>-1</sup>) was obtained from SRI × BRRI hybrid Dhan3 followed by SRI × Tia (9.19 t ha<sup>-1</sup>) and SRI × Heera 3 (8.46 t ha<sup>-1</sup>). Under SRI method, all the studied hybrids showed the higher yield. BRRI hybrid Dhan3 with SRI method produced highest total dry weight hill<sup>-1</sup> (80 g) at maturity, significantly higher number of panicles hill<sup>-1</sup> (19.67), highest filled spikelet's panicle<sup>-1</sup> (204), 1000-grain weight (28.77 g) and harvest index (45.06%) whereas under traditional method, higher grain yield (7.85 t ha<sup>-1</sup>) was recorded from the hybrid Dhan Tia. Among hybrid and inbred varieties, BRRI Dhan45 showed the lowest performance under traditional method in term of all studied parameters. So, SRI method was better for cultivation of the hybrid rice varieties compared to traditional method.

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