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INCREASING SYSTEM PRODUCTIVITY IN LEVEL BARIND TRACT**

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IMPROVEMENT OF WHEAT- JUTE-T. AMAN RICE CROPPING PATTERN FOR INCREASING SYSTEM PRODUCTIVITY IN LEVEL BARIND TRACT

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ABSTRACT

Increasing system productivity in a planned way is an important base for attaining food security. Improvement of the existing pattern through changing with high yield potential modern crop varieties can enhance the system productivity of that cropping system. Keeping this view in mind, a field trial was conducted at the farmers' field in Level Barind Tract of Joypurhat districts of the two consecutive years 2014-15 and 2015-16 to improve Wheat-Jute-T.aman cropping pattern by including modern high yielding varieties. There were two treatments i.e, T1: Existing cropping pattern: Wheat (BARI Gom-24)-Jute (Local/Indian)-T.aman (GutiSwarna) and T2: Improved cropping pattern: Wheat (BARI Gom-26)-Jute (O-9897)-T.aman (BRRI dhan49). The introduced improved cropping pattern produced the higher system productivity based on rice equivalent yield, REY (17.78 t ha⁻¹), than the existing cropping pattern (15.25 t ha⁻¹), which is higher than the existing pattern. Production efficiency was increased by 17.84% in the improved pattern. The marginal return and marginal cost were calculated as Tk 51865 ha⁻¹ yr⁻¹ Tk 18079 ha⁻¹ yr⁻¹ which together contributed to the marginal benefit-cost ratio (MBCR) of 2.87 in the improved cropping pattern over the existing cropping pattern. The replacement of the local varieties by high-yielding ones played a significant role in increasing the system productivity as well as farm profitability.



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