2021-02-08

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Springer Nature Switzerland AG.

https://doi.org/10.1007/s10333-020-00836-1

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Abstract

The system of rice intensification (SRI), advocates new ways of rice cultivation which challenges farmers' knowledge and skills to the extent that they are required to learn, experiment and integrate new principles to suit their specific needs and agro-ecological conditions. This study was conducted to evaluate farmers' appropriation to SRI; first, a survey was conducted to explore farmers' adjustments of SRI. Second, yield and water productivity of the integrated system were assessed by setting up an experiment in the farmers' plots. Whereby four treatments representing farmers' adaptations of SRI practises were assessed: continuous flooding (F1) with two 21 days old seedlings at 15 × 15 cm spacing. The other three were under intermittent irrigation with two 21 days seedlings at 20 × 20 cm (F2), one 21 days seedling at 20 × 20 (F3) and one 15 days seedling at 25 × 25 cm spacing. Yields obtained were 4.8, 8.5, 8.2 and 9.2 tons/ha for F1, F2, F3 and F4, respectively. Water productivity (WP) of 0.15, 0.39, 0.35 and 0.51 kg/m3 was obtained for F1, F2, F3 and F4, respectively. Water saving under SRI practise was 34.3%, 28.9% and 45.1% for F2, F3 and F4, respectively. Two seedlings 21 days old at 20 × 20 cm with intermittent irrigation are recommended for this area as it ensures a sufficient number of plants, relatively higher yields and a reduced considerable amount of irrigation water. The findings show that the integration of SRI into the local rice farming system has the potential to improve yields and water productivity of irrigation schemes.

Keywords

System of rice intensification; Water productivity; Appropriation; Intermittent irrigation