

Modification and Evaluation of 8 Row Self Propelled Paddy Transplanter (Yanji) to Suit SRI Cultivation

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ABSTRACT

In India Rice (*Oryza Sativa*) occupies 150 million ha area, producing 573 million tonnes with an average productivity of 3.83 t ha⁻¹. Yanji transplanter used to avoid very cumbersome transplanting process for saving time, labour requirement and to maintain uniformity of planting through tray seedling or the mat nursery but will also help in getting desired plant population. In Yanji transplanter, the spacing was 23.8 × 12 cm, the row to row spacing was constant at 23.8 cm and plant to plant spacing was 10 to 20 cm. The modification to the gear box was initiated to accomplish System of Rice Intensification (SRI) planting spacing of 25X25 cm so as to reap the benefits of SRI. The gear box of Yanji transplanter had been modified in existing transplanter, from small gear teeth (16, 24) to (16, 41) and also big gear teeth was (27, 36) to (17, 41). The field capacities of modified over existing transplanter was 0.1575 ha h⁻¹ and 0.1218 ha h⁻¹ and field efficiencies were 74.28 per cent and 85.5 per cent at the average operating speed of the modified and existing transplanters were 0.810 km h⁻¹ and 0.643 kmh⁻¹ respectively. Yield of rice using modified Yanji transplanter 7.1 t ha⁻¹ is higher than compared to existing transplanter 6.4 t ha⁻¹.

Key words :Rice yield, SMSRI, Yanji transplanter.