

**Entry No. IRRC-0239**

Category	: International Rice Research Conference
Select Theme	: Sustainable and equitable farming systems
Endorsement email	:
Keyword 1	: Yield gaps
Keyword 2	: Farm diversification
Keyword 3	: Mechanization
Title of Entry	: COMPARATIVE PERFORMANCE OF GROWTH, YIELD AND PROFITABILITY OF MECHANICALLY TRANSPLANTED RICE IN SRI LANKA
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Select only one type of presentation : 15 minute oral presentation

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Abstract : Mechanical transplanting (MT) of rice has been introduced to Sri Lanka to reduce costs for labor and weed management, but poor adoption is observed due to lack of technical and benefit-cost information available. A study was conducted to compare growth, yield and profitability of MT with seedling broadcasting/parachute (PA), transplanting (CT) and wet-direct seeding (DS) during Yala 2017 and Maha 2017/18 seasons. Two trials were conducted under 4-4 ½ (using Bg 403, Bg 379-2) and 3 ½ (using Bg 357, At 362) months age rice varieties at Rice Research and Development Institute, Batalagoda, Sri Lanka in a split plot design with 3 replicates. Establishment methods and varieties were assigned to main plots and sub plots, respectively. Farmer field trials were also conducted in Kurunegala and Pollonnaruwa districts in a RCBD with 3 replicates using 3 varieties vtz. Bg 357, Bw 367 and Bg 374. MT had significantly higher ( $p<0.05$ ) plant height compared to DS and tiller & panicle densities compared to PA for all varieties tested. The ground cover percentage of MT at the end of vegetative period was lower (70 %) than DS (>90%) and PA (>80%) while heading & maturity were delayed about 11-14, 3-6 and 3-7 days compared to DS, PA and CT, respectively. Panicle weight and grains/panicle were high ( $p<0.05$ ) in MT and PA. MT produced 29 % higher yield compared to DS in Bg 403 and Bg 379-2 indicating its compatibility for 4-4 ½ months age rice varieties. The yields recorded in 3 ½ months age rice varieties were comparable with PA, CT and DS. MT also showed economic feasibility to practice in large scale.

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