On Farm Trial-3

Discipline : Home Science
Title :Assessment of Working Efficiency of Single Row Vegetable Transplanter
Problem: Drudgery faced by farm women in vegetable transplanting through traditional method
Year of Start: 2025
Source of technology: $TO_{1:}$ CIAE, Bhopal ; $TO_{2:}$ MPUAT, Udaipur, Rajasthan



CIAE, Bhopal



MPUAT, Udaipur

Treatment	Technology
FP	Use of Khurpi for vegetable transplanting
TO_1	CIAE Hand Held Vegetable Transplanter – Model – I (Single Row)
TO_2	Sapling transplanter (Single Row)
Result	**FP:** Traditional transplanting required prolonged bending postures. This results in a high **Drudgery Index (approx. 65–75%)** and acute Musculoskeletal Problems (MSPs), particularly severe low back pain and knee stress. **Technology Options (TO_1 & TO_2):** Both the CIAE Hand-Held Transplanter and the MPUAT Sapling Transplanter allowed operators to stand upright. Drudgery Reduction **TO_1** and **TO_2** completely eliminate the constant bending posture, shifting the farm women to an upright standing position. **TO_2 (MPUAT Model)** was preferred for its lightweight handle design.

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S. No.	Performance Indicators	FP: - Use of Khurpi for vegetable transplanting	TO1: -CIAE Hand Held Vegetable Transplanter – Model – I (Single Row)	TO2: - Sapling transplanter (Single Row)
1.	Working Capacity (ha/day)	0.04	0.10	0.12
2.	Labour Requirement (man-days/ha)	25	10	8
3.	Working Posture	Constant bending Squatting	Upright Standing	Upright Standing
4.	Mean Drudgery Index (%)	72.5	45.1	42.3
5.	MSPs (Neck/Lower back/Knee/ shoulder)	Severe	Mild to moderate	Mild
6.	Heart Rate (beats/ min)	124	110	106
7.	Overall Acceptability	2.1	4.3	4.6



