



National Award – First

Tractor Operated Paddy Transplanter

Shyambir Singh and Ved Prakash
Palwal, Haryana
Scout: Sameer Kumar



Originally hailing from Uttar Pradesh, Shyambir Singh (45) and Ved Prakash (48) were farmers with knowledge of fabrication and machineries. Ved Prakash tried his hands at farming, jewellery making, before settling for socks manufacturing. Shyambir pursued education/ training till ITI first year only.

Both friends had always been keen to mechanize the laborious tasks involved in farming to reduce drudgery. They noticed that the transplantation of paddy was becoming expensive day by day due to increased labour wages and unavailability of labour during peak season. To address this, they designed and developed an engine operated paddy transplanter (2011) and later modified it to be operated by tractor PTO power.

The paddy transplanter is operated by a tractor of 40 hp or more and is mounted on a three-point linkage. It has up to 9 transplanting units for transplanting paddy with a provision of changing row to row spacing, with adjustable width and depth of plantation. It has a simple mechanism for picking, indexing and transplanting seedlings using wash-root method of transplanting. The transplanting arm rotates in semi-circular path, on reaching its upper position, the guide roller removes 1-2 seedlings from the tray (depending on the size of seedlings); knock out mechanism pushes seedlings in the soil at a depth of 5 to 8 cm. During field trials the hill to hill spacing, missing hills, transplanting efficiency, field capacity and fuel consumption were observed to be 19-20 cm, 5-9%, 93%, 0.42 ha/h and 2.5 l/h respectively. The paddy transplanter costs Rs 150,000 with an operational cost of Rs 300/ha.

