Tractor Operated Paddy Transplanter



By : Mr. Shyambir Singh and Mr. Ved Prakash, Palwal, Haryana

Innovation Description

Profile
Innovators Mr. Shyambir Singh and Mr. Ved Prakash are originally hailing from Uttar Pradesh, They are farmers with knowledge of fabrication and machinery. 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.

Purpose
Mr. Shyambir Singh and Mr. Ved Prakash both 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.

Technical Details
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 the wash-root method of transplanting. The transplanting arm rotates in the 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.

Performance
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.

Benefits
It is a very versatile and useful paddy transplanter and it is easy to use.

Suggested reading(s):

Dixit, A., Khurana, R., Singh, J., & Singh, G. (2007). Comparative performance of different paddy transplanters developed in India-A Review. *Agricultural Reviews, 28*(4), 262-269.

Murumkar, R. P., Dongarwar, U. R., Phad, D. S., Borkar, B. Y., & Pisalkar, P. S. (2014). Performance testing of four row self propelled paddy transplanter. *International Journal of Science, Environment, and Technology, 3*(6), 2015-2019.

Singh, S., & Vatsa, D. K. (2006). Performance evaluation of pau manual paddy transplanter in hills of Himachal Pradesh. *Agricultural engineering today, 30*(3and4), 19-25.

YouTube, (2019). Tractor mounted paddy transplanter. Retrieved on February 15, 2021, from https://www.youtube.com/watch?v=H9UdiSBYmU4

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