

Turmeric Harvester

Innovator	Address	Contact Details
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Problem addressed:

Mr Ramaraju is in the profession of farming since his childhood. He was suffering with problem of labour scarcity for harvesting turmeric rhizomes. Delay in harvesting results loss in yield and also the quality of rhizomes is affected adversely. He started modifying the machines developed in earlier years and in 2009 he came up with second prototype which was having efficiency over 75%. He continued improvements and in 2011 he developed final prototype which has efficiency over 95% and going along innovator addressed the harvesting turmeric Rhizomes thing effectively.

Product:

This is a power tiller operated turmeric harvester. It is mounted in the rear of power tiller and takes drive from its PTO through belt and pulley. It has a blade with three bar points for easy penetration into the soil, connected with eight slats of mild steel which gets oscillating motion from the power tiller through eccentrics. The harvester attachment gets drive through the gear box of the power tiller which supplies power to rotavator when it is mounted to power tiller. After the gear box, power is transmitted to an intermediate shaft of 3" diameter which supplies power to a shaft provided at top of the harvester attachment through belt and pulley (4"). The shaft powers eccentrics provided on both the sides of slats. These eccentrics convert rotary power into oscillations. With two speed settings of power tillers, 70-100 oscillations per minute are produced.



Technical Specifications

- The harvester attachment of power tiller (10-12 hp) consists of a blade with three bar points for easy penetration into the soil.
- Eight slats of mild steel are hinged at the rear ends of blade
- The cutting width of blade is 10 "while that of rear end of slats is 22" (end to end) forming a converged section.
- Depending on soil type one can reduce/increase oscillations of harvesting slats by changing driving pulley (4-7").
- Weight of attachment : 50 kg
- The attachment consists of a depth control wheel for controlling the depth of operation.

Key Competitive Advantage:	<ul style="list-style-type: none"> • Oscillating motion of the blade separates the turmeric rhizomes from soil without any damage. • It has afield capacity of about 0.2 acre per hour while consuming 1.5 liter of fuel (diesel). • The cost of harvesting per acre almost comes to half if the present machine is used for harvesting and laborers are engaged for collection.
Time to deliver:	15-20 days
Price	Current Price of attachment Rs. 35,000 (Ex-factory price + packaging). The price does not include transportation costs, taxes, etc.
Achievements:	NIF has felicitated innovator with a consolation award in Seventh Biennial Award Function of National Innovation Foundation. Innovator has sold more than 200 units of this machine in last two years.
IPR Status:	Indian Patent filed(824/CHE/2013)
BD website link:	http://nif.org.in/innovation/turmeric_harvester/580
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