THE HINDU

Efficient, labour-saving machine for harvesting and cleaning turmeric

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Among various cash crops, turmeric has a potential market value all through the year since it is mainly used as a value added product.

Erode is a turmeric cultivating hub in Tamil Nadu and almost all farmers in the region are growing this crop.

But the main issue with this crop is that like paddy, it is labour intensive. A huge labour force is required for weeding, earthing, fertilizer application, harvesting and polishing.

“If not harvested on time the crop gets affected by fungal infestation. And in many villages today sourcing manual labour remains a problem. For an acre, about 300 (110 male and 190 female) labourers are required. In engaging them, a farmer gets drained physically and economically,” says Dr. S. Saravanakumar, Agronomist, Myrada, Gobichettypalayam.

One year idea

While this is the current scenario in the region, a small turmeric farmer Mr. P. Ramaraju, has developed a machine to harvest the crop on time. He worked on the idea for a year to design an efficient harvester.

“In the past I suffered huge losses because I was not able to source labour on time. Determined to find a solution I thought of working on a machine which could harvest the rhizomes so that a large labour would not be required,” says Mr. Ramaraju.

Accordingly, he designed a power tiller that requires 13 HP power to run it. The machine consists of a shaft connected to small diggers, arm and shaker. While operating this machinery, the diggers pull out the turmeric clumps from the soil and loosen the earth with the help of the shaker.

Capacity
The field capacity of this harvester was tested in different soil conditions and it was found that seven hours are required for harvesting one acre of turmeric.

However, some preconditions are required such as the space between the rows must be 1.5 – 2 feet, the furrows must be lengthy and broad. It is best suited for fields installed with a drip irrigation system.

“Since turmeric is cultivated under a raised bed system, we thought some refinement is needed in order to deploy this machinery in different types of soil and methods of cultivation. Based on the farmer’s feedback, we modified the machine with some more ideas from the farmer. This intervention has proved the efficiency of the harvester to the farmers through demonstrations and is documented,” says Dr. Saravanakumar.

“It is a labour-saving equipment and requires only one male and 15-20 women labourers to collect the harvested rhizomes from an acre whereas in manual harvesting 40 pairs of labourers may be required costing Rs.14,000 – 16,000. By using this harvester one can save upto Rs 7,000 – 9,000 per acre,” says Mr. Ramaraju.

One litre of diesel
The machine consumes one litre of diesel an hour which a small farmer can easily afford. A special attachment also shakes the harvested rhizomes so that the soil on them drops to the field, leaving the rhizomes clear for collection.

The innovator has demonstrated the performance of his machine in Tamil Nadu, Karnataka and Andhra Pradesh and till date has been able to sell about 172 harvesters priced at Rs.30,000 each.

Servicing
Like all machines, this harvester also needs to be serviced regularly. Unlike tractors, machines like these developed by small innovators face servicing problems. But Mr. Ramaraju has been offering suggestions and also visiting the places to service he machine.

Farmers from Karnataka and Tamil Nadu have visited his farm to know about the field suitability of the machine. His innovation was recognised by the Indian Council of Agricultural Research, New Delhi and he was honoured as a ‘Best Farmer Innovator’ in 2010 during the national farm innovators meet.

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