



Success Story

on

Design and testing of carrot digger

at

Department of Farm Machinery and Power Engineering
College of Agricultural Engineering & Technology,
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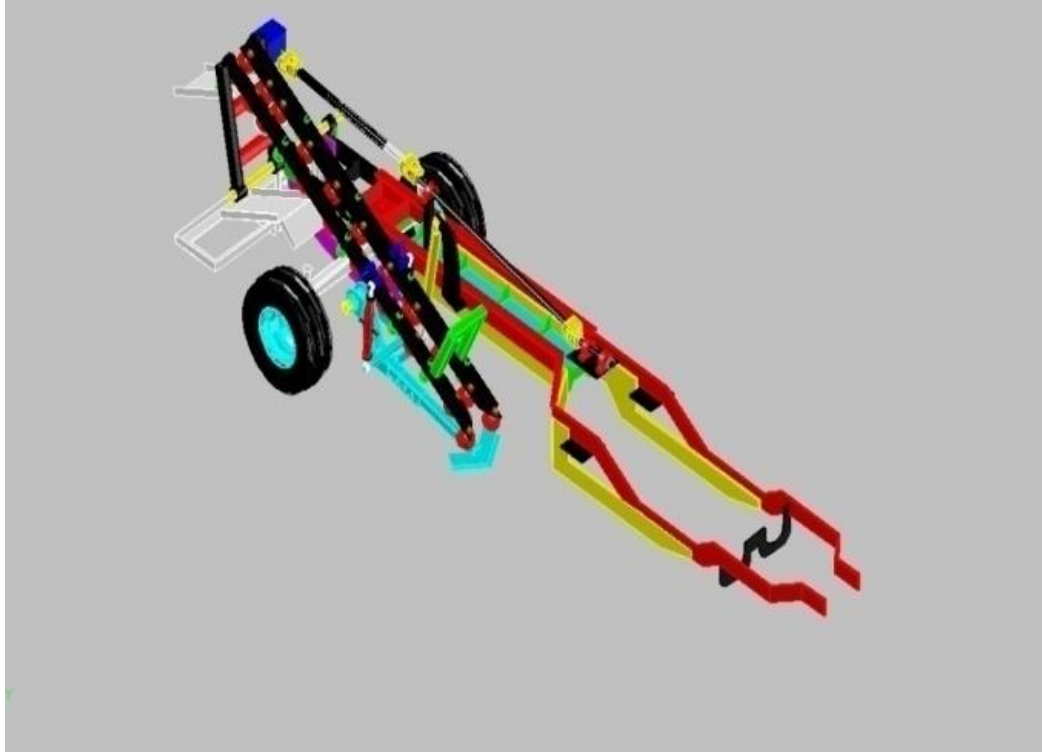
Principal Investigator: Dr. Vijaya Rani, Associate Professor

Under the funding of
Rashtriya Krishi Vikas Yojna (RKVY)
Funding Amount: Rs.5 lakhs
Project Duration:2014-15

Success Story

on

1.	Title	Development and testing of carrot digger
2.	Category	Agricultural Mechanization
3.	Challenge:	<p>Harvesting is one of the most critical operations for carrot production. Carrot crop is grown below the surface of the ground, therefore it requires specially designed machines to dig and separate them from the soil. One of the main bottlenecks in increasing the area under root crops like carrot has been higher labour requirement for planting and harvesting. The crop is cultivated on small scale and is totally labour dependent. The large scale diversification which is only possible through mechanized carrot digger. Most of the root crops are harvested/dug manually or with some local tools. To reduce the cost of cultivation of carrot crop there was need to develop a carrot digging machine that can harvest the crop.</p>
4.	Initiative:	<p>Carrot Digger was designed developed and then tested</p>
5.	Key result/ insight/ interesting fact:	<p>Full fledged state of the art “Engine Test Lab” was established. The engine test lab houses two nos. of eddy current dynamometers capable of testing internal combustion engines of upto 20 kW and 80 kW. The engine test lab is equipped with automatic data acquisition system, shut-down actuators, fuel flow meters etc. for conducting performance tests of internal combustion engines as per the BIS standards. Ergonomics lab with sophisticated instrumentation to conduct ergonomic studies on different agricultural machinery was also established.</p>



3-D model of developed carrot digger



Developed carrot digger



Ttractor operated single row carrot digger in operation

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| 6. | <p>Impact:
The machine will reduce the drudgery involved in digging carrot and will reduce the labour requirement</p> |
| 7. | <p>Lessons Learned:
The machine will operate properly if the carrots are sown in single row on bed</p> |
| 8. | <p>Supporting Quotes and Images:

Sowing of carrot crop by bed planter in row increases yield and the carrot digger can then be operated with success</p> |
| 9. | <p>Additional information:
1. Project partners/donors: Nil</p> <p>Contact person for this story:</p> <p>Dr. Vijaya Rani
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