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Development of machine for turmeric harvesting

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Up-rooting of turmeric rhizomes from the soil is very crucial operation. Traditionally it requires more labour and time. The cost of harvesting of turmeric by traditional operation is very high. The soil working harvester was developed to up-root the turmeric rhizomes. The total work load of soil and the mass of turmeric was determined and found to be 0.5984 N/cm². The draft requirement for the speed (2 km/h) selected was worked out to be 4583 N at which the power (PTO) estimated to work the machine properly was 7.16 hp. The effective field capacity of tuber crop harvester was found to be 0.129 ha/h. The average depth of operation during the operation was found to be 20.2 cm. The digging efficiency of the machine was found to be 98.82 % and percentage of damage rhizome was found to be 1.32 %. The field efficiency of the machine was found to be 80.57%. The cost of operation was workout and found to be 1913/ha, with 33.21% saving over traditional method of harvesting.

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