Performance evaluation of power tiller drawn groundnut digger

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ABSTRACT
The objective of this research was to develop a power tiller drawn groundnut digger which will dig out the groundnut plants along with pods from the soil with minimum pod losses and minimum damage to the pods. Harvesting of groundnut as such is very tedious, time consuming and labour intensive task done manually by pulling out the plants by hands. Bullock drawn and tractor drawn machines are available. Power tiller a promising supplementary source is therefore selected as power source. A prototype consisting of Headpiece, clevis for depth adjustment, hitching assembly for hitching the digger to power tiller, 120° angular blades and extension bar as a separate attachment for the blade is developed and tested under actual field conditions. The test results indicated that average draft required for the machine varies from 105 to 126 kg. The actual field capacity varies from 0.50 ha to 0.60 ha per day. The machine gives 11 to 14 cm depth of operation. The percentage of undug pods varies from 1.81 to 3.15 per cent. The digging efficiency was in the range of 85 to 89 per cent. The cost of machine is Rs. 1000 and it involves a cost of operation is Rs. 289.25 per hectare.

Key words : Power tiller drawn groundnut digger, Mechanical groundnut digger, Evaluation.