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GROUNDNUT DIGGER



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FACTS ABOUT GROUNDNUT

Row spacing: 20-30 cm

Kharif: 30cm, Rabi: 20-25 cm

Plant to plant: 10-15 cm

Depth of planting: 5 cm

Variety: Smruti, ICGS, AK- 12 -44

Seed rate: 125kg/ha

Manual digging: 70 man-day/ha

Total production: 154 man-day/ha

Avg. Yield/ha: 750 kg

Components of a groundnut digger

Blades

Triangular, straight blade, half sweeps, MB shape digger blade

Cut the taproot & Dig the groundnut above the root zone

Elevator shaker: It subjects the plants to vibration to remove the soil without loosening the pods

Windrower attachment:

Conventional digger shaker deposit the vines in random manner

Inverting type inverts the crop so that the pods are exposed to the sun for easy and faster drying.

Groundnut digger (bullock drawn)

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Specifications

Dimensions (l×w×h) (mm)	1750 × 300 × 5
Weight (kg)	10
Power source	A pair of bullock

Performance results

Width of cut (mm)	300
Operating speed (km/h)	2.74
Field capacity (ha/h)	0.16
Field efficiency (per cent)	61
Total pod losses (per cent)	5.7
Digging efficiency (per cent)	80-90
Draft (N)	500-600
Labour requirement (man-h/ha)	6.70





Specifications

Overall Dimensions

Length (mm) : 3600

Width (mm) : 850

Height (mm) : 850

Weight (kg) : 54

Cutting width (mm) : 300-450

Working depth (mm) : 200

Draft (N) : 600- 750

Operating speed (km/h) : 2.0-2.5

Field capacity (ha/h) : 0.05-0.12

Field efficiency (%) : 60

Labour requirement (man-h/ha) :
8-20

Uses





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Blade: 50 mm thick x 100 mm wide x 1800 mm

Rake Angle: 15°

The pickup conveying unit: length 1200mm is made of two 600 mm endless ship chains spaced 1800 mm apart.

The angle of the shaker conveyor is 45 degrees with horizontal

The digger is operated by a tractor of 35 hp or higher.



The PTO through a telescoping shaft supplies power to the gearbox of the machine.

It digs the groundnut vines below the pod zone and elevates them by an elevator-picker for dropping on the ground. The soil attached to the vines is shaken off in the process and a windrow is formed with the help of deflector fenders.



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Components: Digging blade: 1200 mm length, an elevator shaker, idlers, driving sprockets, two disc coulters, two gauge wheels, fenders and gearbox.

The front end of the picker elevator reel is adjusted in accordance with the depth of working of the blade. The angle of the shaker conveyor is 30 degrees with horizontal and has a length of 1270 mm. The digger is operated by a tractor of 35 hp or higher.

The PTO through a telescoping shaft supplies power to the gearbox of the machine.

It digs the groundnut vines below the pod zone and elevates them by an elevator-picker reel (conveyor) for dropping on the ground.

The soil attached to the vines is shaken off in the process and a windrow is formed with the help of deflector rods. The vines are dropped in such a manner that the pods get exposed to the sun for Speedy drying.



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Tractor mounted groundnut digger (APU-Hyderabad)

Specifications

Dimensions (l×w×h) (m)	:	1.8 × 1.04 × 0.82
Weight (kg)	:	143
Length of cutting blade (mm)	:	1160
Clearance angle of blade	:	30° with horizontal
Power source (hp)	:	35, tractor

Performance results

Crop	:	Groundnut
Soil type	:	Sandy loam
Soil moisture (per cent db)	:	15
Width of cut (mm)	:	1160
Depth of operation (mm)	:	150
Operating speed (km/h)	:	3.0
Field capacity (ha/h)	:	0.266
Field efficiency (per cent)	:	74.8
Total pod losses (per cent)	:	5
Labour requirement (man-h/ha)	:	4



Groundnut Digger cum Separator



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**35 HP tractor or more -
powered by PTO**

**Rotating vanes on a shaft dig
into the ground, scoop
and drop the soil-
groundnut mixture into a
vibrating storage unit with
a sieve base.**

**A sieve is provided with a
vibrating mechanism to
filter the groundnut from
the soil.**

**The process also prepares
the soil for next crop.**

**The unit consumes four liters
of diesel per hour**

**Capacity: one hectare area of
groundnut in one day.**

It weighs 300-400 kg

Costs Rs. 55,000.





Groundnut combine harvester



Concave made of 6 mm mild steel rod with inner diameter of 610 mm and sieve hole size of 80 x 30 mm was provided covering the half circumferential area of cylinder.

On the inner side of top surface of concave, three helical louvers were provided at a spacing of 250 mm to give axial flow movement to the crop materials

1000 mm straight shape digging blade

Picker conveyor assembly: a pair of reel chain, picker bar, picker pegs and power transmission pulleys.

Collecting chamber

Flight elevator

Thresher: cylinder 400 mm dia. and 1000 mm length was made of 3 mm mild steel sheet. Flat pegs with curved edge to eliminate clogging of feed material at high m.c

The length of the peg 70 mm arranged in ten rows, each row has 7 to 8 pegs.

Position of all pegs in a row raised or lowered for the adjustment of concave clearance.