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# THRESHER

# What is threshing?

**It is process of separation of grains from the earheads/ removing of kernel from pods etc.**

**It depends on many bio-physical characteristics of grains in earheads**

**Among the primary characteristics which determine the quality & quantity of mechanical force required for threshing are:**

**Type of panicle**

**Variety**

**Bond strength of panicle**

**Moisture content of grain**

**Uniformity of maturity of grain in the earhead.**

# Types of thresher

## According to power

Manual

Mechanical

## According to Type of crop

Single crop

Multi-crop

## According to functional components

Hold on type

Feed in type

Drummy type

Regular type

Axial flow type

## According to threshing cylinder

Syndicator type

Hammer mill or Beater type

Spike-tooth type



# Manual threshing

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**Capacity: approximately  
15 person days/ha**

**Threshing by impact**

**High shattering losses**

**Pre-drying might be  
needed**





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# Pedal thresher

**Capacity:40 kg/h (2 persons)**

## Principle

**Wire loop threshing drum**

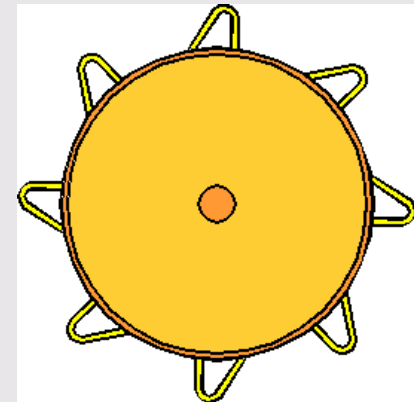
**Mainly combing the grains off the straw, some threshing by impact**

## Advantages

**Maintains the straw**

## Disadvantage

**Needs winnowing after threshing**



Wire loop threshing drum





Pedal operated groundnut thresher

Capacity: 30 kg/h

Cost: Rs 3500/-

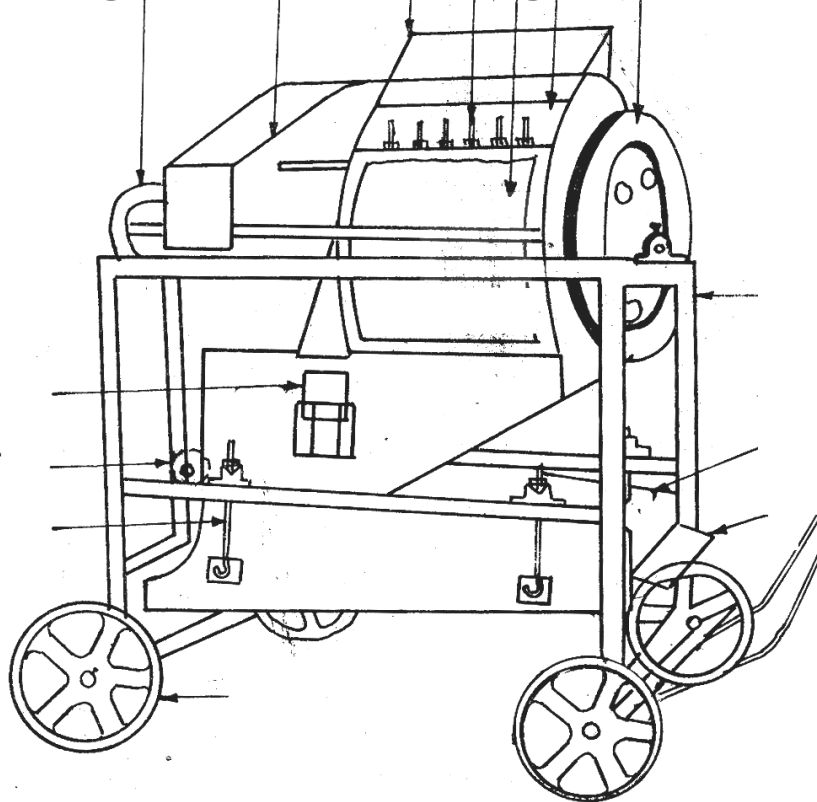


Power operated paddy-cum groundnut thresher

Capacity: 70 kg/h

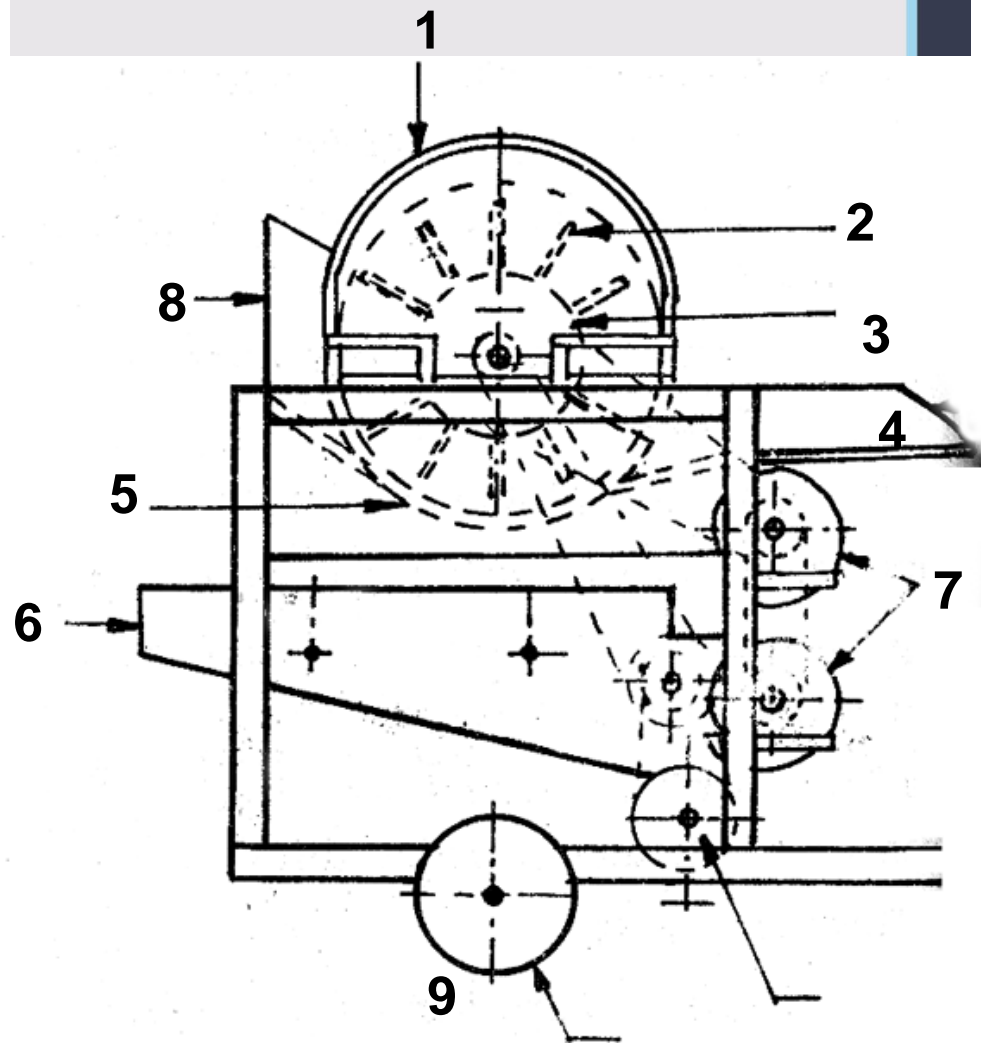
Cost: Rs 14,520/-

## Regular thresher (single crop)



1. Threshing Cylinder
- 2 Spikes
- 3 Fly wheel
- 4 Feeding chute
- 5 Concave
- 6 Bhusha outlet
- 7 Pulleys
- 8 Straw outlet
- 9 Transport wheel

## Axial Flow thresher





# Axial-flow thresher

**Capacity: 0.3-3t/h**

**Threshing through impact and friction**

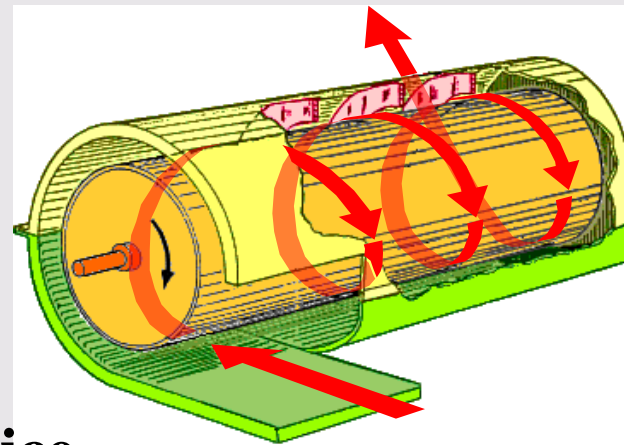
**Large range of sizes available**

**With or without cleaner**

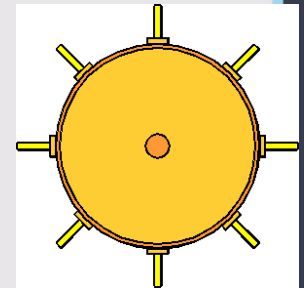
**Advantages**

**Can thresh wet crop**

**Produced in 9 different countries  
used by several 100,000 rice farmers across Asia**



**Axial flow principle**



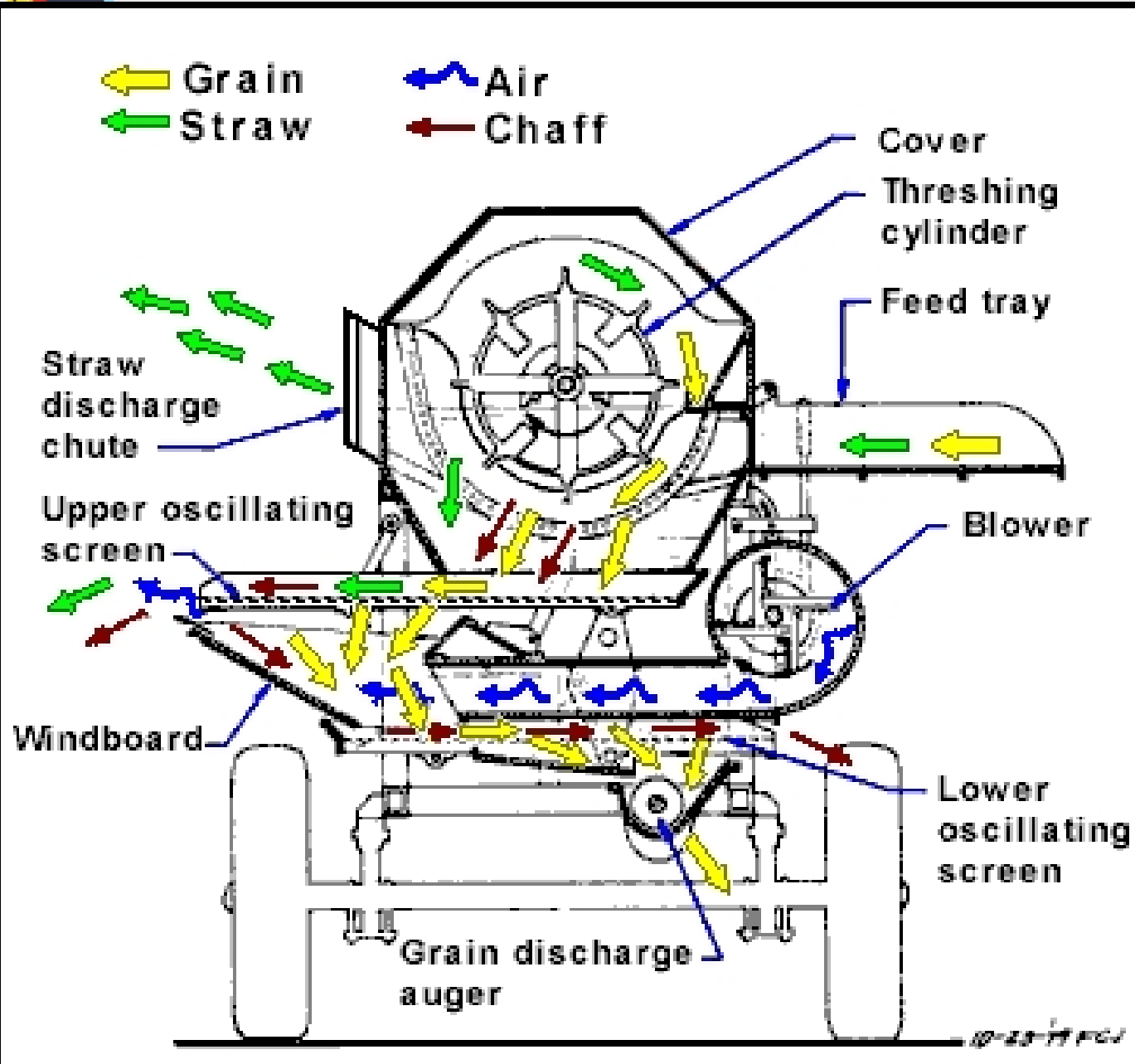
**Peg tooth  
threshing  
drum**



# Axial flow thresher



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## **Different parts of a thresher and their functions**

**A mechanical thresher consists of the following parts:**

**Feeding device (chute/tray/hopper/conveyor)**

**Threshing cylinder (spikes/rasp-bars/wire-loops/hammer mill type/ syndicator type)**

**Concave (woven-wire mesh/punched sheet/welded square bars)**

**Blower/aspirator**

**Sieve-shaker/straw-walker.**

**Power transmission unit**