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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.



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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

Raspbar type

Wire loop type



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Manual threshing



**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

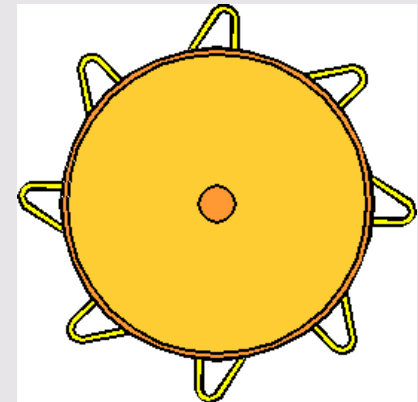
Mainly combing the grains off the straw, some threshing by impact

Advantages

Maintains the straw

Disadvantage

Needs winnowing after threshing



Wire loop threshing drum



Pedal operated groundnut thresher

Capacity: 30 kg/h

Cost: Rs 3500/-

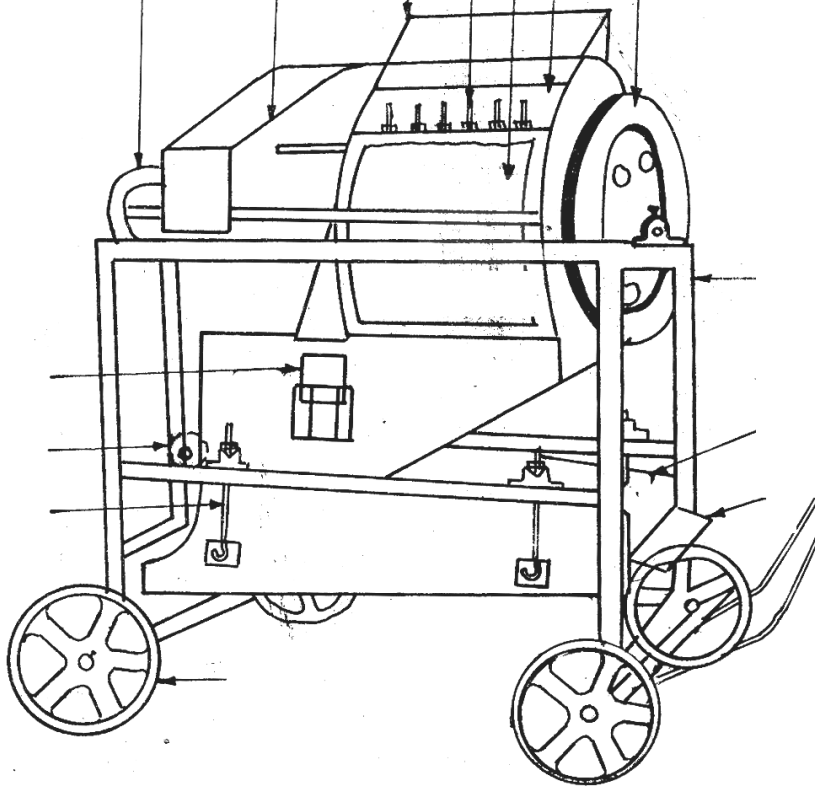


Power operated paddy-cum groundnut thresher

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

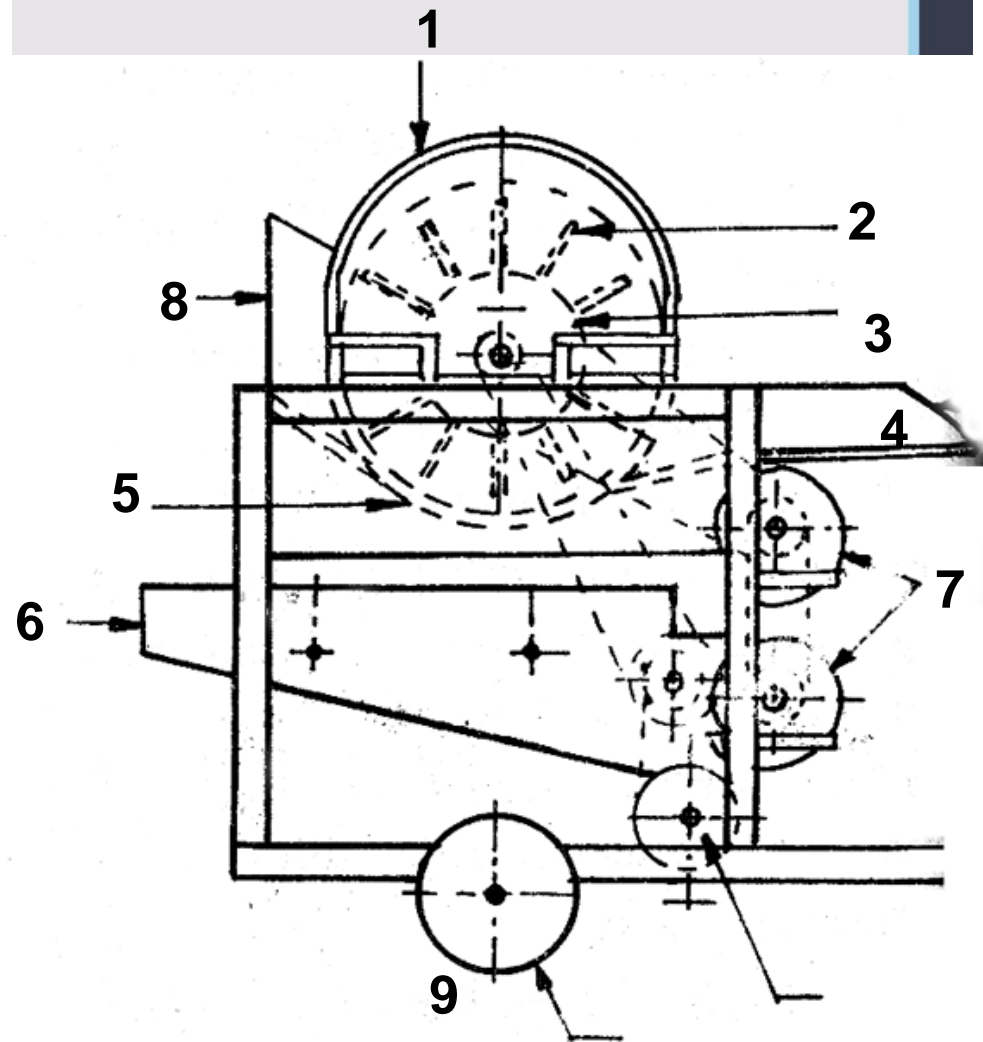
6 Bhusha outlet

7 Pulleys

8 Straw outlet

9 Transport wheel

Axial Flow thresher





Axial-flow thresher

Capacity: 0.3-3t/h

Threshing through impact and friction

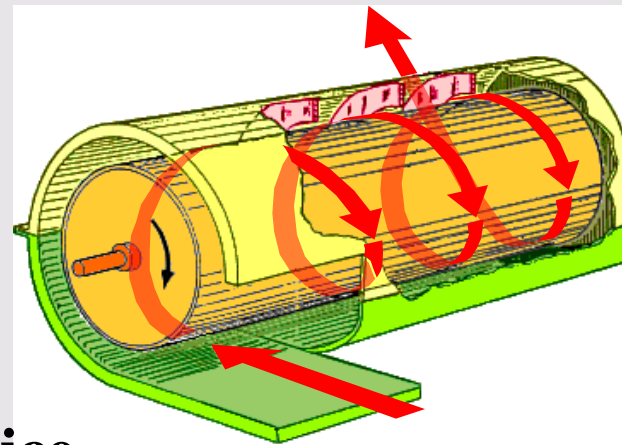
Large range of sizes available

With or without cleaner

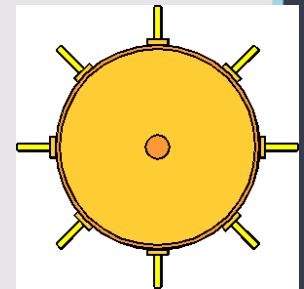
Advantages

Can thresh wet crop

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



Axial flow principle

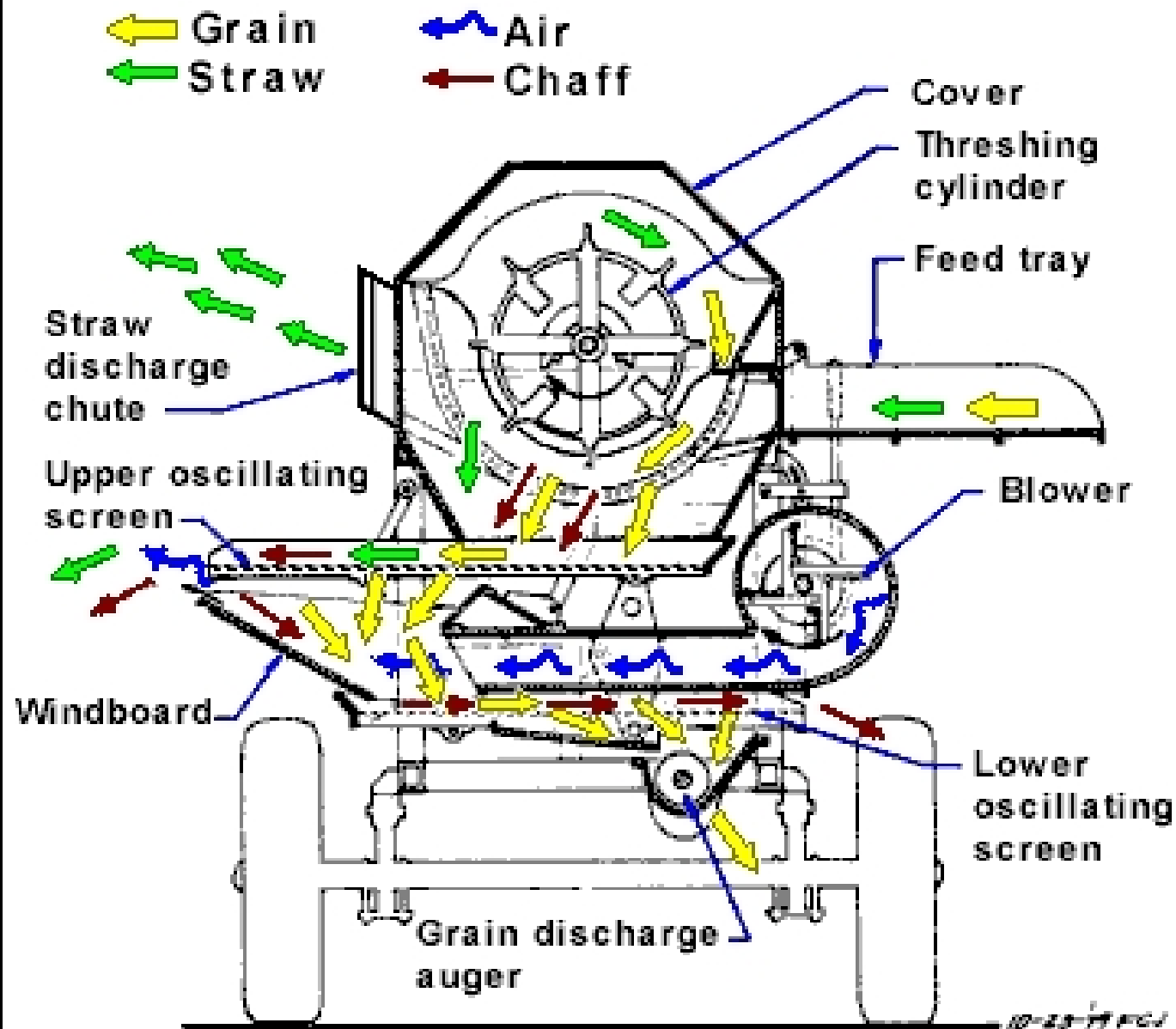


**Peg tooth
threshing
drum**

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