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Types of threshing methods

Tangential OR cross flow threshing

Used in conventional combines

For high capacity, additional cylinders use

Rotary threshing/Axial threshing

Suitable for corn, rice, soybean

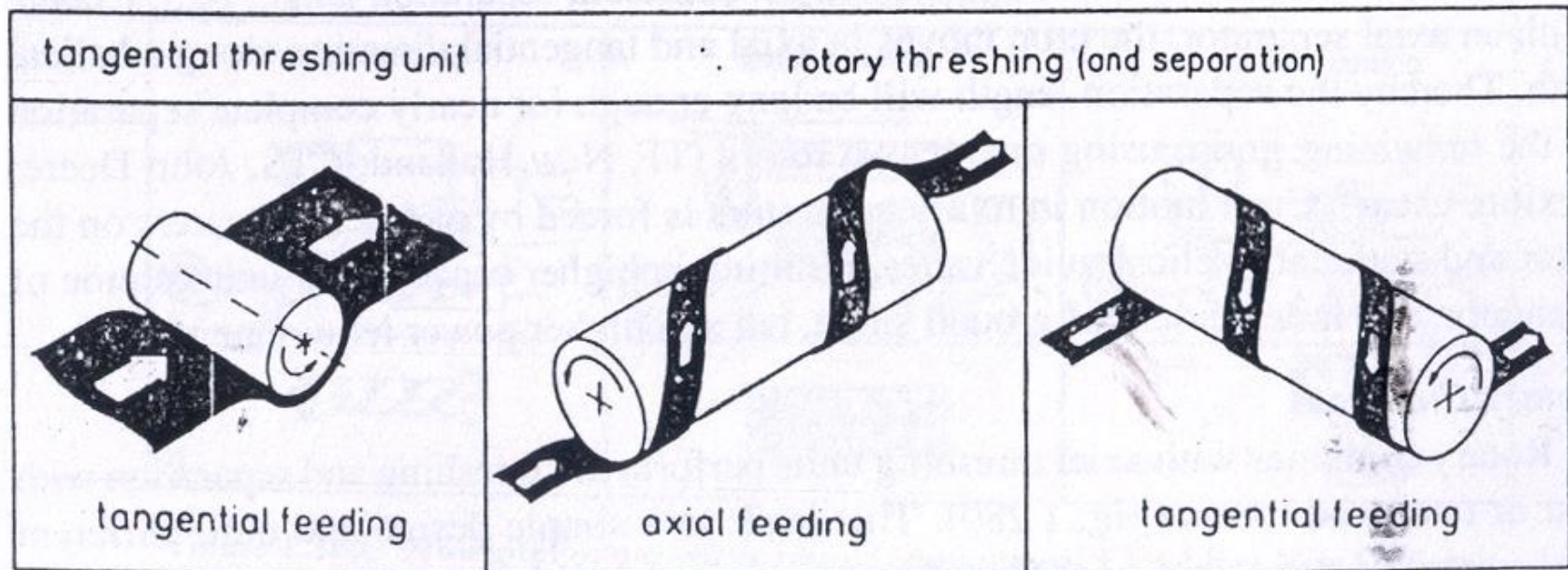


Figure 1.273. Feeding of threshing cylinders.



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Threshing drum size

Diameter :480 – 600 mm

Average power requirement decreases with increase of drum diameter

0.25 – 0.6 hp decrease per 7.5 cm increase in dia.

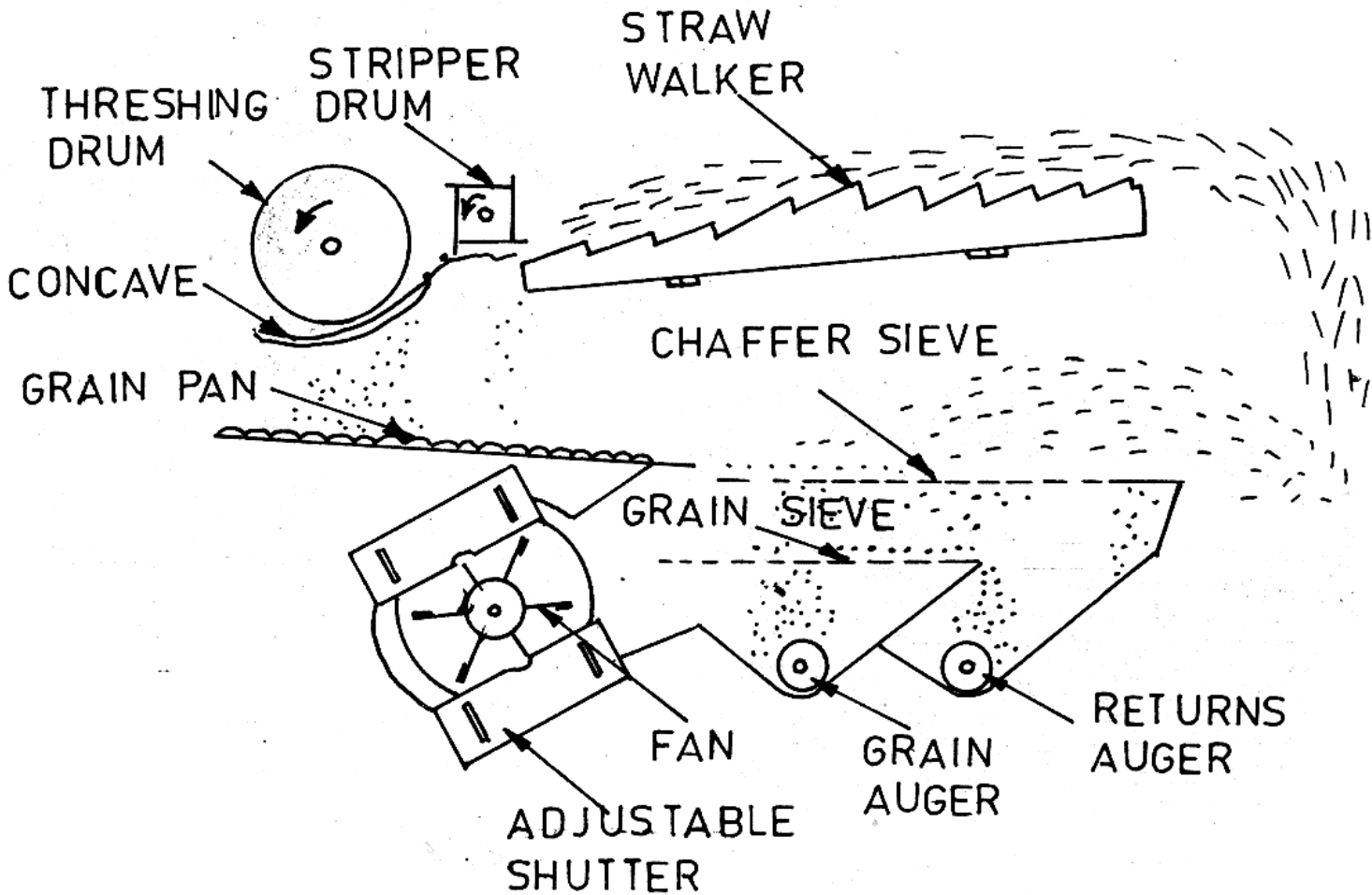
Higher drum dia, more concave length → Better grain separation

Small dia, more is the power requirement.

CLEANING AND SEPARATING UNIT



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3-4 blades blower

Speed: 30 m/s

Sieve perforation area: **60-100 mm²/kg** of feed rate

More speed more cleaning efficiency, w



Winnowing



Principle: lighter materials are blown away by air

Removes chaff, straw and empty grains

Hand or mechanical winnowing

Does not work for materials heavier than grain (dirt, stones)





Winnowing



Power operated winnower

Capacity:3-4 q/h



Hand operated winnower

Capacity:3-4 q/h, Cost: Rs 2200/-



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Cleaning

**Combination of fan
and oscillating
sieves**

**Air delivered by fan
removes lighter
materials**

**Top sieves with
large holes
remove larger
straw particles**

**Bottom sieves with
smaller holes
remove small
seeds (e.g. weed
seeds)**



Dirty



Clean





Pedal operated thresher
Capacity: 50 kg/h
Cost: Rs 3400/-

Power operated thresher
Capacity: 1.8 q/h
Cost: Rs 14,520/-







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/-