



Kenya Agricultural Research Institute

P.o Box 57811, Nairobi,

Tel:: +254-20-4183301-20, Fax: +254-20-4183344,

Emailaddress: resource.centre@kari.org

Website:www.kari.org

Complied By:

W. Nasirembe, P. Ooro, P. L. Kipkemoi, M. Gethi,

W. Ruth, R. Wanyera, J. M. Mabel,

and P. D. Maina

For More Information contact:

Centre Director,

KARI Molo/Njoro

P. O. Box 100 Molo

KARI Njoro, P. O. Box Njoro

Phone: 0733812953

E-mail: wnjlwyny@yahoo.com

Editorial and Publication Coordination by:

J.O. Ouda

Technology Packaging and Transfer Division

KARI Information brochure series 2013/85

Kshs. 30

THE KARI WHEAT THRESHER (For improved grain quality)





Introduction

Commercial combine harvesters prefer going to large scale farms before accepting to harvest small scale farms. Due to the Unavailability of the combined harvesters when the wheat crop is dry, the farmers incur losses because of the delayed harvesting. The thresher is therefore essential in small scale farms. Losses due to late harvesting. Good for small scale wheat farmers

How does the KARI wheat Thresher work?

Sickled, dried wheat heads are fed into the thresher through the feeding aperture. A rotating drum manually operated by pedal, chain and pulley mechanism that rotates the drum. The impact from the peg tooth detaches the grain from the panicle and subsequent dislodging from the straw mat.

The wheat heads are discarded through an outlet at the back of the drum. The grains fall through a chicken wire mesh at the bottom as they are separated from the husks by a winnowing fan. The husks and chuff are blown away while clean grains are collected at the bottom of the machine.

The fan speed is a function of the peddling speed but through pulley ratio, that increases to 100 times in order to develop sufficient pressure to displace chuff from seed grains with a cleaning efficiency of 85%.



Special Features

- Can thresh approximately 110 kg wheat per hour
- Manually operated
- Pedaled at 60rpm
- Easily transportable on a small vehicle
- Easily assembled for use
- Can be operated by two people one to pedal and another to feed

Technical Data

- Power requirements: 0.2 hp
- Pedaling speed: 60 rpm
- Threshing drum speed: 500rpm
- Winnowing fan speed: 6000 rpm
- Average output: 110kg /hr.
- Cleaning efficiency: 85%
- Cracking: < 2%

Installation and Maintenance

- Place on flat ground or stabilize with wood planks.
- Insert the bicycle.
- Place stabilizer bars in their respective positions.
- Adjust the seat to your height.
- Check machine for loose screws and bolts before each operation.
- Check tension of belt.
- Using a grease gun, grease nipple on bearings on either side of the drum and fan once a month.
- Oil the chain frequently.
- Store under shed.

Advantages

- Affordable to small scale farmers.
- Caters for small scale wheat harvesting.
- Allows timely harvesting.
- Reduces field losses due to sprouting and shattering.
- Only basic skills required to operate.
- Can be operated at any site.
- Has low energy requirement as the drum provides the flywheel effect (inertia).
- Spare parts are locally available.
- Can be manufactured by local artisans.