

व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)  
COMMERCIAL TEST REPORT  
(INITIAL)

संख्या/No: Machine-418/1250  
माह/Month: February, 2021  
Validity: 31.01.2026



**VARDHMAN – 2FD POWER REAPER**



भारत सरकार  
Government of India  
कृषि एवं किसान कल्याण मंत्रालय  
Ministry of Agriculture and Farmers Welfare  
कृषि, सहकारिता एवं किसान कल्याण विभाग  
Department of Agriculture, Cooperation and Farmers Welfare  
दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान  
Southern Region Farm Machinery Training and Testing Institute  
ट्रेक्टर नगर, गार्लदिन्ने-515 731, जिला: अनंतपुर (आं. प्र.)  
Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)  
[An ISO 9001:2015 CERTIFIED INSTITUTE]

Website: <http://srfmtti.dacnet.nic.in/>

E-mail: [fmti-sr@nic.in](mailto:fmti-sr@nic.in)

Tele.: 08551-286441

<b>Machine-418/1250</b>	<b>VARDHMAN – 2FD POWER REAPER</b>	<b>COMMERCIAL (ICT)</b>
-------------------------	------------------------------------	-----------------------------

Manufacturer : M/s. Orange Farm Equipments,  
13, Abhinandan States, Girnar  
Compound, Near Sabri Hotel, Katwada,  
Odhav, Ahmedabad -382 423, Gujarat,  
**India.**

Applicant : The Manufacturer

**VARDHMAN – 2FD POWER REAPER**

Report No. : **Machine-418/1250**

Month: **February**

Year: **2021**



**Government of India**  
**Ministry of Agriculture and Farmers Welfare**  
**Department of Agriculture, Cooperation and Farmers Welfare**  
**Southern Region Farm Machinery Training and Testing Institute**  
**Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)**  
**[An ISO 9001:2015 CERTIFIED INSTITUTE]**

Website: <http://srfmtti.dacnet.nic.in/>  
Telephone No.: 08551-286441

E-mail: [fmti-sr@nic.in](mailto:fmti-sr@nic.in)

Machine-418/1250	VARDHMAN – 2FD POWER REAPER	COMMERCIAL (ICT)
------------------	-----------------------------	---------------------

## 17.7 Field performance test:

### 17.7.1 Rate of work:

- i) The average area covered and time required for harvesting one hectare was recorded as 0.193 to 0.210 ha/h and 4.76 to 5.18 hours respectively.
- ii) The average hourly fuel consumption varies from 0.62 to 0.74 l/h & the fuel requires for harvesting one hectare area was recorded as 3.14 to 3.83 l/ha.
- iii) The average mass of straw with grain harvested was recorded as 28286 to 29791 kg/ha.
- iv) The average mass of grains recovered was recorded as 5231 to 5969 kg/ha.

### 17.7.2 Quality of work:

- i) The average post harvest loss was recorded as 0.03 to 0.04%.
- ii) The average stubble height was recorded as 55.5 to 62.0 mm.
- iii) The crop harvested by the machine is left in windrows, which minimizes the time required for the collection and transportation of the crop.

**17.8** One skilled operator can operate the machine continuously for about two hours only. Hence, two skilled operators are required to operate the machine continuously and two unskilled labours for cutting of the crop on sides and corners of the field to be harvested.

### 17.9 Wear of critical components:

- i) The wear rate of cutter bar on mass basis was recorded as 0.08 % per hour.
- ii) Hardness of cutting blade do not conform to the requirement as per IS 6025:1982 (Reaffirmed 1999). Therefore, this should be taken care for necessary action.
- iii) The chemical composition of cutting blade is not conforming to the requirement of relevant code. Therefore, this should be taken care for corrective action.

### 17.10 i Provision for safety:

A safety pin on the conveyor chain is not provided to take care of overloading of cutter bar. It needs to be provided at suitable place.

### ii Defects, Breakdown and repairs

The Engine crankshaft was cracked at one end, which was replaced with new one. This defect may please look into for corrective measures of high quality.




The engine mounting bracket and diesel filter mounting bracket were cracked during testing; this may improve for quality and design.

Machine-418/1250	VARDHMAN – 2FD POWER REAPER	COMMERCIAL (ICT)
------------------	-----------------------------	---------------------

### 17.11 Technical literature:

The operation manual cum parts catalogue of reaper and engine in single booklet was submitted with the reaper for reference during the test. It is however, recommended that same may be revised and brought out in Hindi & other regional languages as per IS 8132 :1999 (Reaffirmed 2004) for the sake of user & technical personnel.

#### TESTING AUTHORITY:

D.C. MOULI AGRICULTURAL ENGINEER	
P.C. MESHAM SENIOR AGRICULTURAL ENGINEER	
Dr. P.P. RAO DIRECTOR	

### 18. APPLICANTS COMMENTS

Para No.	Our Reference	Applicant's Comments
18.1	17.1.2	We are noted and inform to engine manufacturer to take corrective action into the matter for back up torque.
18.2	17.2 & 17.3	We will make suitable arrangement to reduce noise level and mechanical vibration for meeting the desirable standard.
18.3	17.5	The printed literature as you suggested will be printed during production level for friendly use of users.
18.4	General: We will incorporate the comments and message conveyed to engine manufacturer unit and R & D unit.	