

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

संख्या/No: Machine-576/1631
माह/Month: June, 2024

THIS REPORT IS VALID UP TO 31.05.2031



DIBYANKA, DA IPL-DR-4R SELF PROPELLED REAPER



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि एवं किसान कल्याण विभाग

Department of Agriculture and Farmers Welfare

दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Southern Region Farm Machinery Training and Testing Institute

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Machine- 576/1631	DIBYANKA, DA IPL-DR-4R SELF PROPELLED REAPER	COMMERCIAL (ICT)
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Manufacturer, (apa) : M/s. Yancheng Xinmingyue Machinery
Manufacturer Co, Ltd., Xinyang Road No.11,
Tinghu District, Yancheng City, Jiangsu Province,
China.

Applicant : M/S. Dibyanka Agro India Pvt Ltd.Tadada (post),
jamsuli, Balasore, Baleshwar, Odisha-756081

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	THIS TEST REPORT IS VALID UPTO 31.05.2031	

Type of test : Commercial (ICT)

Period of test : May 2024 to June 2024

Test Report No. : **Machine-576/1631**

Month / Year of release : June, 2024

- i) The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
- ii) The test sample was selected randomly through virtual mode by the Institute.
- iii) The results presented in this report do not, in any way, attribute to the durability of the machine.
- iv) This report should not be reproduced in part or full without prior permission of the Director, Southern Region Farm Machinery Training and Testing Institute, Garladinne, Anantapur (A.P.).
- V) This is a report on Commercial Test of Power Reaper named “**DIBYANKA, DA IPL-DR-4R SELF PROPELLED REAPER**”. **This report is valid up to 31.05.2031, Vide Ministry’s O.M. No. 13-22/2020-M&T (I&P) dated 12.12.2023**

SELECTED CONVERSIONS

S. No	Units	Conversion Factor
1	Force	
	1 kgf	9.80665 N 2.20462 lbf
2	Power	
	1 hp	1.01387 metric hp (Ps) 745.7 W
	1 Ps	735.5 W
3	Pressure	
	1 psi	6.895 kPa
	1 kgf/cm ²	98.067 kPa = 735.56 mm of Hg
	1 bar	100 kPa = 10 N/cm ²
	1 mm of Hg	1.3332 m-bar

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17. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

17.1 Engine Performance

17.1.1 Engine maximum and rated power were observed as 3.75 kW against the declared values of 4.0 kW.

17.1.2 Max. Torque was observed as 11.48 Nm against declaration value of 24 Nm

17.1.3 Specific fuel consumption of engine corresponding to maximum power was recorded as 442 g/kWh against the declaration value of 380 g/kWh.

17.1.4 Back up torque of engine was observed as 8.81 % only. This should be looked into for corrective action.

17.2 Max. Noise at operator's ear level was observed as 92 dB (A).

17.3 The amplitude of mechanical vibration on various assemblies of the Power Reaper was observed to the extent of 380 microns, which is on higher side. Therefore, necessary action to reduce the vibration should be taken in future.

17.4 The dimension of knife does not conform, in full, to IS: 6025-1982. This should be looked into for necessary corrective action.

17.5 Ease of operation:

i. Safety guard must be provided for drive pulley & belt.

ii. The exhaust must be provided with spark.

iii. Safety notice & hazard warning labels must be provided on machine.

17.6 Field performance Test:

17.6.1 Rate of work and fuel consumption:

- The speed of harvesting ranged between 2.85 to 2.97 kmph for paddy crops respectively.
- The area harvested by the machine was recorded as 0.228 to 0.246 ha/h.
- The average hourly fuel consumption varied from 0.95 to 1.10 l/h for paddy crop respectively.
- The fuel consumption per unit area harvested varied from 4.06 to 4.66 l/ha for paddy crop respectively.

17.6.2 Quality of Work:

- i) The post-harvest loss was observed as 0.03% for Paddy and respectively.
- ii) The stubble height was recorded as 41.62 to 56.20 mm for Paddy respectively.
- iii) Machine leaves the harvested crop in windrows.

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17.7 Marking /labeling:

The labeling plate does not reveal all the required information. It is therefore recommended that a suitable labeling plate covering all essential components, inter alia, the following must be provided:

- i) Manufacturing address
- ii) Country of origin
- iii) Make
- iv) Engine hp
- v) Specific fuel consumption (g/kWh)

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 labour for cutting of the crop on side and corners of the field to be harvested.

17.9 Wear of critical components:

The wear rate of cutter bar on mass basis was recorded as 0.04 % per hour.

17.10 Provision for safety:



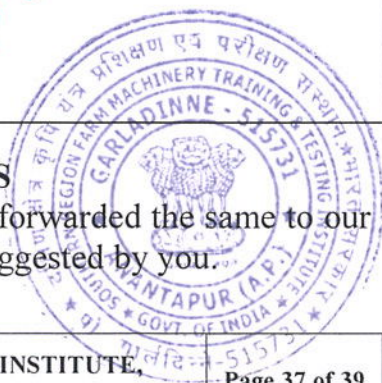
A safety pin at driven sprocket of conveyor chain is provided to take case of overloading of cutter bar.

17.11 Technical literature:

The operator manual cum parts catalogue of reaper and engine in single booklet was supplied with the reaper for reference during the test. The manuals are no adequate. The most of initial setting and discard limit of critical components may be added in manuals and leaflets etc. It is however, recommended that same may be revised and brought out in Hindi & other regional languages as per IS 8132: 1999 (Reaffirmed: 2019) for the sake of user & technical personnel

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1	2	3	4
21.	Provision of row marker / crop guide	Must be provided	Provided
22	Marking /labeling of machine	The labeling plate should be riveted on the body of machine having Name and Address of Manufactures & Applicant, Country of Origin, Make, Model, Year of Manufacturer, Serial Number, Engine Number, Engine HP, Rated Rpm & SFC	Manufacturing address, country of origin, Make, Engine HP, Rated rpm & SFC are not mentioned in labeling plate.
23	Literature	Operator manual, service manual and parts catalogue should be provided	Provided

TESTING AUTHORITY

Er. PRAMOD YADAV AGRICULTURAL ENGINEER	
Dr. B.M. NANDEDE DIRECTOR	 

19. APPLICANT' COMMENTS

We have noted your comments and recommendations and forwarded the same to our principle manufacturer, we will take corrective action as suggested by you.