

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

संख्या/No: Machine-413/1245
माह/Month: January, 2021
Validity: 31.12.2025



SRAJA R-120 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

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Tele.: 08551-286441

Machine-413/1245	SRAJA R-120 POWER REAPER	COMMERCIAL (ICT)
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Manufacturer : M/s. Yancheng Xinmingyue Machinery Manufacture Co. Ltd., No.11, Xinyang Road, Tinghu District, Yancheng City, Jiangsu Province, China.

Applicant : M/s. Raja Enterprises, Dr. Saron Wali Gali, Mandi, Ahmedgarh, Dist. Sanrgur, Punjab- 148 021, India.

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16. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

- 16.1** Engine max. and rated power were observed as 4.7 kW against the declared values of 4.4 kW.
- 16.2** Back up torque of engine was observed as 3.80 % against the declared value of 10%. This should be looked into for corrective action.
- 16.3** Specific fuel consumption of engine corresponding to maximum and rated power was recorded as 413 g/kWh against the declared value of 290 g/kWh. This should be looked into for corrective action
- 16.4** Max. torque was observed as 12.84 Nm against the declared value of 15.0 Nm in natural ambient condition.
- 16.5** Max. Noise at operator's ear level was observed as 99 dB (A) which is on higher side. Therefore suitable corrective action may be taken.
- 16.6** The amplitude of mechanical vibration on various assemblies of the Power Reaper was observed to the extent of 580 micron, which is on drastically higher side. Therefore, corrective action to dampen the vibration should be taken
- 16.7** **Knife:** The dimension of Knife does not conform, in full, to IS: 6025-1982.
- 16.8** The parameters mentioned on labeling plate should be provided as per IS requirement.
- 16.9** **Field Performance Test:**
- 16.9.1** **Rate of work:**
- i) The average area covered and time required for harvesting one hectare was recorded as 0.205 to 0.216 ha/h and 4.63 to 4.88 hours respectively.
 - ii) The average hourly fuel consumption varies from 1.35 to 1.50 l/h & the fuel requires for harvesting one hectare area was recorded as 6.47 to 7.04 l/ha.
 - iii) The average mass of straw with grain harvested was recorded as 24,789 to 28,536 kg/ha.
 - iv) The average mass of grains recovered was recorded as 4,462 to 5,464 kg/ha.
- 16.9.2** **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 62.5 to 66.5 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.
- 16.10** Two skilled operators are required for operating the machine continuously.

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16.11 Wear of critical components:

- i) The wear rate of cutter bar on mass basis was recorded as 0.05 % per hour.
- ii) Hardness of movable & stationary blades at its hardened and remainder zone is not conforming to IS 6025:1982 (reaffirmed 1999). Therefore, this should be looked into for corrective action. .
- iii) Chemical composition of movable and stationary blades are not meeting the requirement of IS 6025:1982 (reaffirmed 1999). Therefore, this should be looked in to for corrective action.




16.12 Provision for safety:

A safety pin at driven sprocket of conveyor chain is not provided to take of overloading of cutter bar.

16.13 Technical literature:

The operator's manual and parts catalogue of reaper in English in separate booklets were supplied 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:

B.N. DIXIT AGRICULTURAL ENGINEER	
P.C. MESHRAM SENIOR AGRICULTURAL ENGINEER	
Dr. P.P. RAO DIRECTOR	

17. APPLICANT COMMENTS

Para No.	Our reference	Applicant's comments
17.1	16.2 & 16.3	We will inform your suggestion to our principal engine manufacturer
17.2	16.5	we will search for the possibilities to reduce the noise level of the machine
17.3	16.6	We will search for the possibilities to reduce the mechanical vibration of the machine