

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: Comb- 284/2927/2022
माह/Month: October, 2022

THIS TEST REPORT VALID UP TO : 31st October, 2029



**KSA-GREENGOLD 220 W,
SELF PROPELLED COMBINE HARVESTER**



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

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

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14. FIELD TEST

- 14.1 Combine harvester was operated in field for 29.00 and 29.91 (Excluding run-in) hours for wheat and paddy harvesting, respectively. During the test, available varieties of crop were harvested to assess the field performance of combine with regard to quality of work, rate of work, fuel consumption, safety and soundness of construction etc. The crop and atmospheric conditions during field test are given in **Appendix - II & IV** respectively. The crop parameters recorded during the test for all crops are as given below:-

Crop Parameters

Sr. No.	Parameters		Observations	
			Wheat	Paddy
1.	Plant height, cm	:	98 to 105	97 to 120
2.	Number of tillers/m ²	:	296 to 312	390 to 460
3.	Length of ear head, cm	:	7 to 10	20 to 25
4.	Straw/grain ratio	:	0.80 to 1.10	1.60 to 1.70
5.	Moisture, %			
		- Grain :	9.50 to 9.80	13.00 to 18.50
		- Straw :	6.50 to 10.00	64.90 to 66.20

The results of field performance test of wheat and paddy crops harvesting are summarised in Table – 5 and presented in detail in **Appendix – III to V**.

Table- 5 : SUMMARY OF LOSSES & EFFICIENCIES OBSERVED DURING FIELD PERFORMANCE TEST.

Crop variety	Collectable losses (%) (Max.)	Non-collectable losses (%) (Max.)	Total processing losses (%) (Max.)	Threshing efficiency (%) (Min.)	Cleaning efficiency (%) (Min.)	Grain breakage in main grain tank (Max.) (%)	Forward speed (kmph)	Area covered (ha/h)	Fuel consumption		Grain output (kg/h)	Crop throughput (t/h)
									(l/h)	(l/ha)		
1	2	3	4	5	6	7	8	9	10	11	12	13
WHEAT												
HD-3086	1.30	0.40	1.40	99.30	98.10	0.83	1.65 to 1.69	0.259 to 0.262	5.03 to 5.07	19.37 to 19.42	1107 to 1188	2.28 to 2.34
HI-1633	1.50	0.40	1.50	99.40	98.20	0.90	1.67	0.253	4.90 to 5.09	19.36 to 20.11	1031 to 1164	1.83 to 2.34
PADDY												
Basmati-370	1.60	0.20	1.60	98.80	97.60	0.70	1.50 to 1.56	0.255 to 0.263	6.13 to 6.99	23.48 to 26.56	2484 to 2823	6.49 to 7.63

15. DEFECTS, ADJUSTMENTS, BREAKDOWNS AND REPAIRS

No noticeable defect observed during test.



iii)	Knife back should meet the requirement of IS:10378-1982	Non evaluative	The knife back shall be manufactured from Carbon Steel having minimum carbon content of 0.35 %	--	C=0.30	Does not conform
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18.2 Acceptance Criteria in case of Breakdown/Defects as per clause 4.2 of IS:15806-2018

Sr. No.	Category of breakdowns	Category (Evaluative/ Non evaluative)	Requirements as per OM	As observed	Whether meets the requirements (Yes/No)
1.	Critical	Evaluative	No critical breakdown	None	Yes
2.	Major	Evaluative	Not more than two and neither of them should be repetitive in nature	None	Yes
3.	Minor	Evaluative	Not more than five and frequency of each should not be more than two	None	Yes
4.	Total breakdown	Evaluative	In no case total no of (major + minor) breakdowns exceed five	None	Yes

19. COMMENTS AND RECOMMENDATIONS

19.1 Mechanical vibration

The amplitude of mechanical vibration of components marked as (*) in chapter 12 of this report are observed on higher side. This calls for providing suitable remedial measures to dampen the vibration in order to improve the operational comfort and service life of various components & sub-assemblies

19.2 Field performance test

No noticeable defect was observed during field test

19.3 Ease of operation and safety provision

No noticeable difficulties was observed during operation of combine harvester

19.4 Hardness and chemical composition

Hardness & chemical composition of knife blade, knife guard and knife back is not within the limits as per IS: 6025-1982. It should be looked into for corrective action at regular production level

19.5 Individual brake pedals for LHS & RHS brake is not provided. It may be provided.


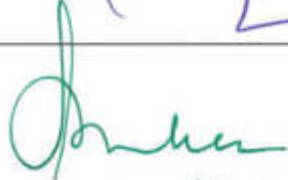
19.6 Literature supplied with the machine

The following literature was submitted by applicant during testing

- i) Operator and service manual of combine harvester
- ii) Parts catalogue of combine harvester
- iii) Service manual of engine

However, the manual needs to be updated as per IS: 8132-1999.

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 13.10.2022

Test report is compiled by Sh. Deny Hasnu, Senior Technician

20. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicants comments
20.1	19.1	During regular production level of harvester combine we will provide suitable remedial measure to dampen vibration so that vibration at all points will be within IS limits.
20.2	19.4	We will change the hardness and chemical composition of knife blade, knife guard and knife back to conform the IS:6025-1982.
20.3	19.5	We will provide individual pedals for LHS and RHS brakes.
20.4	19.6	We will update manual as per IS:8132-1999

