

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2025/004

माह/Month: January, 2025

THIS TEST REPORT VALID UP TO

:

31ST DECEMBER, 2031



**SONALIKA AGRO INDUSTRIES CORPORATION
TRACTOR OPERATED WHEAT/MULTICROP THRESHER
(MAHASHAKTISHALI; SL - 4200)**



सत्यमेव जयते
Government Of India



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान
CSIR - Central Mechanical Engineering Research Institute
महात्मा गांधी एवेन्यू, दुर्गापुर
Mahatma Gandhi Avenue, Durgapur
पश्चिम बंगाल - 713209
West Bengal - 713209
Website: <https://cmeri.res.in>

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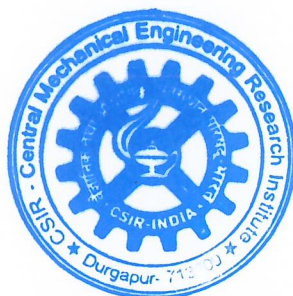
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CSIR/CMERI/FMTTC/2025/004

**TRACTOR OPERATED WHEAT/ MULTICROP
THRESHER MAHASHAKTISHALI (SL-4200)
(COMMERCIAL TEST)**

Name of Machine : Wheat/ Multicrop Thresher
Side Hopper type
Type : Tractor P.T.O. Operated
Make : SONALIKA
Model : SL- 4200
Name and address of Manufacturer : M/s Sonalika Agro Industries Corporation
Jalandhar Road, Hoshiarpur
Punjab- 146001
Name and address of Applicant : M/s Sonalika Agro Industries Corporation
Jalandhar Road, Hoshiarpur
Punjab- 146001
Test Conducted at : Farm Machinery Training and Testing Centre,
CSIR – Central Mechanical Engineering Research
Institute, M.G. Avenue, Durgapur- 713209, West
Bengal, INDIA, & CMERI- Centre of Excellence
for Farm Machinery, Near GNE College, Gill
Road, Ludhiana - 141006, Punjab, INDIA



THIS TEST REPORT VALID UP TO: 31st DECEMBER 2031

[vide DAC&FW OM No. 13-22/2020- M&T (I&P) dated 12.12.2023]

Report No.: CSIR/CMERI/FMTTC/2025/004

Month: January

Year: 2025

**CSIR - Central Mechanical Engineering Research Institute,
Durgapur - 713209
(W.B.), INDIA**

Report prepared by

Report verified by

Jadh

Subrata kr Mandal

**Farm Machinery Training and Testing Centre
CSIR-Central Mechanical Engineering Research Institute, Durgapur - 713209
THIS REPORT IS VALID UPTO: 31ST DECEMBER 2031**

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3. TEST PROCEDURE

There is no Indian standard/test code available for testing of tractor trailer as such. The guidelines, however, have been taken from the following:

IS: 6284:2004	:	Test code for power thresher for cereals
IS: 11234:1985 (Reaffirmed 2001)	:	Test code for power thresher for groundnut
IS: 9020:2002 (Reaffirmed 2012)	:	Power threshers-Safety requirements
IS 4333 (Part 1) 1996	:	Method of Analysis for food grains
IS 7897: 1975	:	Test code for chaff cutter
IS 4931:1995	:	Agricultural tractors - Rear mounted power take off Types 1, 2 and 3
IS 7052 : 1973	:	Test Code for Power Maize Shellers

4. SPECIFICATION**4.1 General:**

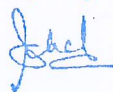
Name and Address of Applicant	:	M/s Sonalika Agro Industries Corporation, Industrial Estate, Jalandhar Road, Hoshiarpur (Punjab)
Name of Implement	:	Multi-crop Thresher
Type	:	Tractor PTO operated
Make	:	SONALIKA
Model	:	SL - 4200
Serial No.	:	20699
Year of manufacture	:	2024
Size of thresher (mm)	:	686 × 1067
Recommended Power (hp /apa)	:	35 HP and above tractor
Suitable Crops	:	Wheat, Maize, Soyabean, Mustard etc

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- 9.5.2 The labour requirement for threshing of Wheat & Maize crop assessed at 8-12 numbers. However, labour requirement can be reduced if feeding conveyor is provided.
- 9.6 Long Run test of thresher was carried out for 25.0 hours in crop. During long run test no major breakdowns and abnormal sound in the machine were noticed.
- 9.7 All pulleys & belt drives used on the thresher are well protected by providing the suitable guards.
- 9.8 The thresher is tractor PTO operated, tractor are available with different PTO speeds and the PTO speed varies according to make, model and its throttle settings Therefore it is strongly recommended that a rotational speed counter should be provided on thresher for indication of threshing cylinder speed along with a chart of crop wise recommended revolutions per minute of the threshing drum with its directions of rotation and settings of various systems.
- 9.9 The thresher should be provided with reflectors of suitable size and moving emblem at rear side.

Report prepared by



Report verified by

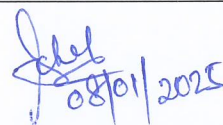
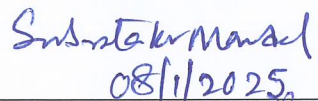
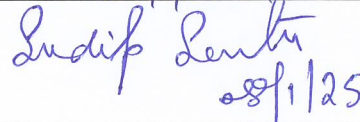


10. Technical literature

The Manufacturer did not submit the literature/operator's manual, parts catalogue with the machine. The same should be brought out in English and other regional languages. The operator manual must contain the information as per IS 8132-1936 including the information on following points:-

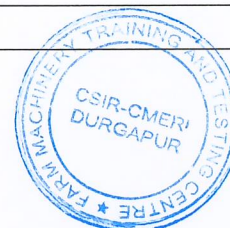
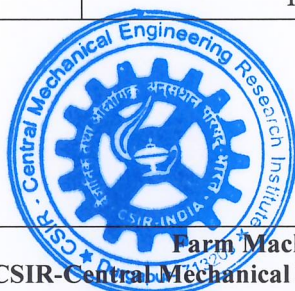
- The optimum range of recommended cylinder speeds for each crop.
- Illustration of safety norms to be followed by operators during work.
- Installation and operation of the machine.
- Preventive and periodic maintenance of machines.
- List of recommended lubricants and its schedule.
- List of standard fitments and accessories with the machine.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	 08/01/2025
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	 08/1/2025
Report Approved for release by	Head, Business Development Group, CSIR-CMERI, Durgapur	 08/1/25

11. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
11	9.8 – 9.9	We will look into it and Corrective action will be taken
	10	We will look into it.



PERFORMANCE DATA ANALYSIS (MAIZE)

Test No.	Feeding Rate (kg/h)	Output from Main outlet (kg/h)	Capacity (kg/h)		Losses in Main grain outlet %				Total machine losses %	Efficiency %				
			Input	Output	Broke	Unthres	Total	Blow		unthres	Sieve	Cleanin	Threshin	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A. Short Run Test														
1	2100	1200	640	419	0.650	0.840	1.225	630	2.500	0.830	0.510	2.454	96.10	99.10
2	2200	1250	630	410	-	-	1.048	640	4.200	0.810	0.515	2.437	96.30	98.20
B. At 50% of maximum input capacity														
3	2200	1250	630	410	-	-	1.048	640	4.200	0.810	0.515	2.437	95.30	98.20
C. Varying Speed Test														
i) At 15% more than specified speed														
4	2300	1400	650	418	0.630	0.810	1.026	620	2.100	0.815	0.605	2.428	98.20	95.05
ii) At 15% less than specified speed														
5	2400	1450	640	415	0.645	0.820	1.028	640	3.950	0.825	0.518	2.425	96.20	98.10