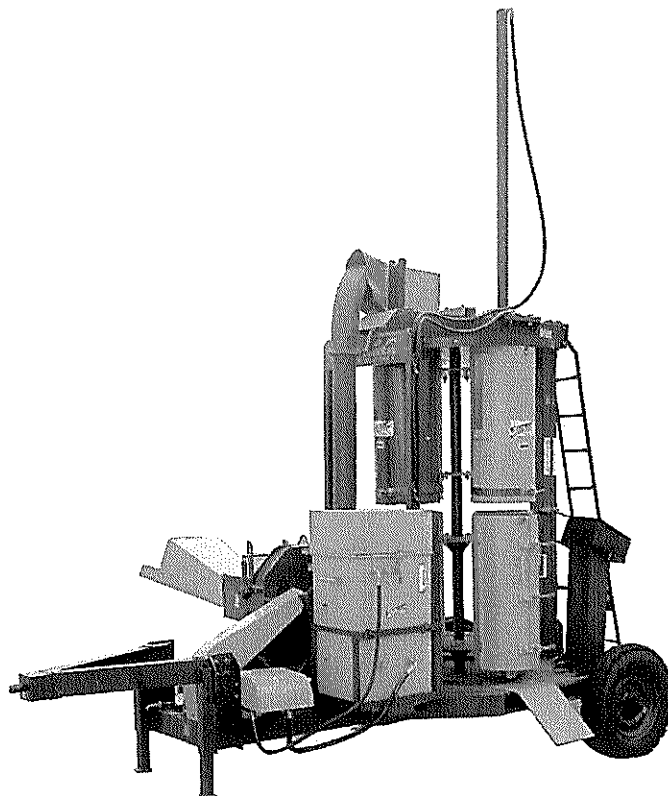


व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: Machine: 43/2948/2022
माह/Month: December, 2022

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



**VIDHATA, SILOPACK 8D, TRACTOR OPERATED
SILAGE PACKING MACHINE**



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

Northern Region Farm Machinery Training and Testing Institute

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9.2	A plate having a "Danger Signal" shall be rigidly fixed near the blades of the silage packing machine	Provided	Conforms
9.3	Each silage packing machine shall be provided with an operator's manual in which all safety aspects are also to be highlighted along with the precautions to be taken for safe operation of silage packing machine	Provided	Conforms
10	WORKMANSHIP AND FINISH:		
10.1	All the components of the silage packing machine shall be free from cracks.	Satisfactory	Conforms
10.2	The cast iron components shall not be porous. Welding, if done, shall also not be porous.	Satisfactory	Conforms
10.3	All exposed metallic surfaces shall be free from rust and may be painted if required	Satisfactory	Conforms
10.4	Sharp corners and protruding fasteners shall be avoided	Satisfactory	Conforms
11	MARKING:		
11.1	Each silage packing machine shall be marked with the following particulars:		
	(a) Manufacturers name or recognized trade mark	Marked	Conforms
	(b) Code and batch number	Marked	Conforms
	(c) Model number	Marked	Conforms
	(d) Power rating, kW	Marked	Conforms
	(e) Rated input capacity	Marked	Conforms
	(f) Recommended rpm of deflector or cylinder	Marked	Conforms
11.2	BIS Certification marking:	Marked	Conforms

8. RUNNING-IN

The silage packing machine was run-in for 0.50 hours before starting the test as recommended by the applicant

9. FIELD PERFORMANCE TEST

9.1 Test at no load: -

The silage packing machine was operated at no load for 0.50 hours.

9.1.1 Power consumption: -

The no load power consumption of silage packing machine was recorded as 2.04 kW.



9.1.2 Visual observations:

During the no load test, the observations against the following points were made:

Sr. No.	Parameters	Observations
(a)	Presence of any marked oscillation during operation	None
(b)	Presence of knocking or rattling sound	None
(c)	Frequent slippage of belts	None
(d)	Smooth running of shaft/Shfts in their respective bearings	Smooth
(e)	Any marked unusual wear or slackness in any component	None
(f)	Any marked rise in bearing temperature	No
(g)	Other observations	None

9.2 Test at load:**9.2.1 Short run test:**

Five trials of short run test were carried out for cutting sorghum, variety CSH5 fodder. The details of green fodder crop parameters are given in Annexure-I and summarized in Table-1. The detailed observations made during the test are given in Annexure-II and summarized in Table-2.

SUMMARY OF CROP PARAMETER

Table- 1

Sr. No.	Parameters	Observations
1	Name of fodder	Sorghum (Wet)
2	Variety of fodder crop	CSH5
3	Avg. length of stalk, cm	192 to 201
4	Avg. dia. of stalk, mm	10.95 to 15.50
5	Avg. moisture content, %	83.0 to 85.2

SUMMARY OF PERFORMANCE RESULTS

Table- 2

Sr. No.	Parameters	Observations
		Sorghum CSH5
1	Feed rate, kg/h	2535 to 2646
2	Quantity of cut, kg/h	2535 to 2646
3	Quality of cut, mm	0.78 to 0.86
4	Quantity of fodder in each drum, Kg	61 to 65
5	Time for filling one drum, Sec.	50 to 56
6	Avg. length of fodder pieces, mm	4.88 to 4.90
7	Power consumed, kW	7.45 to 7.51
8	Quantity of cut per unit energy consumed, kg/kWh	338 to 352
9	Corrected quantity of cut, kg/h	1535 to 1763
10	Corrected quantity of cut, kg/kWh	206 to 235
11	Performance Index	263 to 293
12	Blowing efficiency, %	99 to 100
13	Fuel consumption	
		l/h 2.30 to 2.50
		l/t 0.87 to 0.99



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9.2.1.1	Quantity of cut:
	a) The feed rate was observed as 2535 to 2646 kg/h in sorghum CSH5.
	b) The quantity of cut fodder received was measured as 2535 to 2646 kg/h in sorghum, variety CSH5.
	c) The corrected quantity of cut was recorded as 1535 to 1763 kg/h in sorghum, variety CSH5.
	d) The quality of cut per unit energy consumed was recorded as 338 to 352 kg/kWh in sorghum, variety CSH5.
	e) The corrected quantity of cut per unit energy consumed was recorded as 206 to 235 kg/kWh in sorghum, variety CSH5.
	f) The fuel consumption was recorded as 2.30 to 2.50 l/h in sorghum, variety CSH5.
	g) The fuel consumption was recorded as 0.87 to 0.99 l/t in sorghum, variety CSH5.
9.2.1.2	Quality of cut:
	The quality of cut was determined from the standard deviation of measured length of cut of plastic pieces. The quality of cut ranged from 0.78 to 0.86 mm in sorghum, variety CSH5.
9.2.1.3	Power requirement:
	The power consumed by the silage packing machine was calculated after deducting the no-load power consumption of silage packing machine from the power consumption on load and it was measured as 7.48 to 7.51 kW in sorghum, variety CSH5.
9.2.1.4	Performance index:
	The overall performance of the silage packing machine was determined by its performance Index and it was calculated as 263 to 293 in sorghum, variety CSH5.
9.2.2	Long run test:
	The silage packing machine was operated for a total duration of 25.0 hours for cutting sorghum, variety CSH5. No breakdown in the cutter head, feeding mechanism, transmission systems and body of the silage packing machine was noticed. No repair was done during the entire course of test.
9.2.3	Labour requirement:
	Four labourers are required for continuous operation of the silage packing machine. Two labourers are required for feeding and supplying the fodder crop and one for handling the control panel and one for handling the silage bag.



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9.	Covering of chute or conveyor, mm	450 Min.	600	Conforms
10.	Height of feeding unit, mm	750 to 1100	1030	Conforms
11.	Cautionary notice	Must be provided	Provided	Conforms
12.	Marking/labeling of machine	The labeling plate should be riveted on the body of machinery having name and address of manufacture. Country of origin. Make. Model, Year of manufacture, Serial number, Type, Required size of prime mover (kW)	Provided	Conforms
13.	Literature	Operator manual Service manual and Parts catalogue should be provided	Provided	Conforms

13. SUMMARY OF OBSERVATION, COMMENTS & RECOMMENDATIONS

- 13.1** The specifications of blades do not conform in full to the requirements of IS: 1511-1979. This **MUST** be looked into for corrective action.
- 13.2** This machine does not meet in full the requirement of IS: 11459-1985, IS: 1511-1979 and IS: 15542-2005. This may be looked into for corrective action.
- 13.3** The dimensions of PIC of implement does not conform, to the requirements of IS: 4931-1995 and therefore, it may be looked into for corrective action.
- 13.4** The dimensions of PIC yoke bore of implement does not conform, to the requirements of IS: 4931-1995 and therefore, it may be looked into for corrective action.



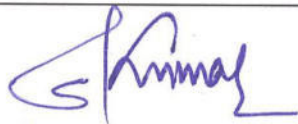

13.9) Technical literature:

The following literature is provided during the testing.

- i) Operation manual
- ii) Service manual
- iii) Parts catalogue

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

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 01.12.2022

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

14. APPLICANT'S COMMENTS

No specific comments received from applicant.

