

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT
THIS TEST REPORT VALID UP TO

संख्या/No. CSIR/CMERI/FMTTC/2024/001
माह/Month: March, 2024
28th FEBRUARY, 2031



**AGRICULTURE MANUAL SEEDER
(MODEL: S-12)**



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>

E-mail: fmttc.cmeri@gmail.com

Telephone: 9434592007 / 7001361295

Fax: +91-343-2546745

CSIR/CMERI/FMTTC/2024/001

**MODISH TRACTOR AURKISAN PVT. LTD.
BALWAAN AGRICULTURE MANUAL SEEDER
(MODEL NO. – S- 12)
(INITIAL COMMERCIAL TEST)**

Name of Machine : Balwaan Agriculture Manual Seeder
Type : Agriculture Manual Seeder
Make : Balwaan Krishi
Model : S-12
Name and address of Manufacturer : MODISH TRACTOR AURKISAN PVT. LTD.
17-C Sharma Colony Extension -22,
Godam Industrial Area,
Jaipur, Rajasthan - 302006
Name and address of Applicant : MODISH TRACTOR AURKISAN PVT. LTD.
C-17, Purohit Ji Ka Bas, Road No-1
Msme Office, 22 Godam Industrial Area,
Jaipur - 302006
Test Conducted at : Farm Machinery Training and Testing Centre
CSIR- Central Mechanical Engineering Research
Institute, M G Avenue, Durgapur, Pin – 713209,
West Bengal.

THIS TEST REPORT IS VALID UP TO : 28th FEBRUARY, 2031
[vide DAC&FW OM No. 13-22/2020- M&T (I&P) dated 12.12.2023]



Report No.: CSIR/CMERI/FMTTC/2024/001

Month: March

Year: 2024

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



Farm Machinery Training and Testing Centre,
CSIR-Central Mechanical Engineering Research Institute, Durgapur
THIS REPORT IS VALID UPTO: 28th February 2031

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5 SPECIFICATIONS

5.1 General Specification of Machine

Name of the Machine	:	Balwaan Agriculture Manual Seeder
Type	:	Agriculture Manual Seeder
<u>Product details</u>		
a. Make	:	Balwaan Krishi
b. Model	:	S-12
c. Manufacturers Address	:	MODISH TRACTOR AURKISAN PVT LTD 17-C Sharma Colony Extension -22, Godam Industrial Area, Jaipur, Rajasthan - 302006
d. Serial No	:	WB000111
e. Year of manufacture	:	2023
f. Suitable crop	:	Maize, Beans, Peanuts, Cotton, Black Gram (like round seeds). Test is conducted for Maize as per applicants Requirement.

5.2 Constructional Details

5.2.1 Handle

Type	:	Mild Steel Pipe
Size of handle (mm)		
Length	:	1640
Width	:	500
Size of handle pipe (mm)		
Outer diameter	:	19.30
Inner diameter	:	17.2
No. of handle holder	:	02
Size of handle holder, (mm)		
Length	:	100
Outer diameter	:	25
Inner diameter	:	19.5
Method of fixing	:	Handle is fabricated from MS Pipe. Two parts of handle are fixed on handle holder by welding.



Summary of the field performance

Summary of the field performance		
Sl. No	Parameters	Range
1	Duration of Test (h)	20.5
2	Type of soil	Sandy loam
3	Soil moisture (%)	15 to 16
4	Name of seeds used	Maize
5	Variety of seed	GK 3155
6	Average forward speed (km/h)	2.15 to 2.67
7	Average depth of seed placed (cm)	4.7 to 5.5
8	Average spacing between seeds (cm)	13.8 to 14.0
9	Average working width (m)	0.75
10	Area covered (ha/h)	0.13 to 0.15
11	Time required for one ha(h)	6.5 to 7.7
12	Seed rate (kg/ha)	50.0 to 53.3
13	Field efficiency (%)	74.9 to 80.3

9 Rate of Work

- The average area covered was recorded as 0.13 to 0.15 ha/hr. at average operating speed of 2.15 to 2.67 km/hr.
- The field efficiency was recorded as 47.9 to 80.3%.

9.1 Quality of Work

- Average depth of sowing seeds was recorded as 4.7 cm to 5.5 cm
- The average spacing between seeds was recorded as 13.8 to 14.0

10 Ease of Operation and Adjustments

Operation and adjustments of the round seed dibbler can be done easily.

11 Labour Requirements

One labour can effectively operate the manual seeder.

12 Defects, Adjustments, Breakdown and Repairs

There is no breakdown occurred during the total operation of 20.50 hrs. of operation.



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13 COMMENTS & RECOMMENDATION

13.1 Part's catalogue and service manual are not provided with the machine, it should be provided.

13.2 Hand tools kit are not provided with the sample, it should be provided.

14 TECHNICAL LITERATURE

The following literatures are not provided by the applicant during the test along with the application form.

- a) User's manual book
- b) Parts' catalogue
- c) Service manual

These manuals need to be provided as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	 06/03/2024
Report Verified by	Scientist, CSIR-CMERI Farm Machinery Testing Centre	 06/03/2024
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	 06/03/2024
Report Approved for release by	Head, Business Development Group, CSIR-CMERI, Durgapur	 06/3/24

15 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
	13.1 & 13.2	We will provide



Farm Machinery Training and Testing Centre, CSIR-Central Mechanical Engineering Research Institute, Durgapur THIS REPORT IS VALID UPTO: 28 th February 2031	18 of 18
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