

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

संख्या/No. CSIR/CMERI/FMTTC/2022/020

INITIAL COMMERCIAL TEST REPORT

माह/Month: December, 2022

THIS TEST REPORT VALID UP TO

:

31ST DECEMBER, 2029



**BHOOMI AGRO
MANUALLY OPERATED ROUND SEED DIBBLER
(BRD - 01)**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र

Farm Machinery Training and Testing Centre

सीएसआईआर - केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान

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5 SPECIFICATIONS

5.1 General Specifications of Machine

Name of the Machine	: Manually Operated Round Seed Dibbler
Type	: One Row Manually Operated – Push Type
<u>Product details</u>	
a. Make	: Bhoomi
b. Model	: BRD-01
c. Manufacturers Address	: Bhoomi Agro Industries Plot No. G-1077, Road No. A-1, Kishan Gate, Lodhika G.I.D.C, Metoda, Rajkot, Gujarat- 360021
d. Serial No	: 7470
e. Year of manufacture	: 2022
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	: 1120
Width	: 480
Size of handle pipe (mm)	
Outer diameter	: 19.2
Inner diameter	: 15
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 by handle holder with screw and nut.



8 FIELD TEST

The test was conducted for maize seed for 22.5 hours at CSIR-CMERI, Durgapur. The observed results are shown below

8.1 Trial – I

Sl. No	Parameters	As observed
1	Date of Test	01.11.2022
2	Duration of Test (h)	7.7
3	Type of soil	Sandy loam
4	Soil moisture (%)	18
5	Name of seeds used	Maize
6	Variety of seed	GK 3155
7	Average forward speed (km/h)	2.05
8	Average depth of seed placed (cm)	5.3
9	Average spacing between seeds (cm)	15.02
10	Average working width (m)	0.75
11	Area covered (ha/h)	0.12
12	Time required for one ha (h)	8.02
13	Seed rate (kg/ha)	36.9
14	Field efficiency (%)	81.1

8.2 Trial – II

Sl. No	Parameters	As observed
1	Date of Test	02.11.2022
2	Duration of Test (h)	7
3	Type of soil	Sandy loam
4	Soil moisture (%)	17
5	Name of seeds used	Maize
6	Variety of seed	GK 3155
7	Average forward speed (km/h)	2.12
8	Average depth of seed placed (cm)	5.2
9	Average spacing between seeds (cm)	14.92
10	Average working width (m)	0.75
11	Area covered (ha/h)	0.13
12	Time required for one ha (h)	7.98
13	Seed rate (kg/ha)	40.0
14	Field efficiency (%)	78.9



9 RATE OF WORK

- The average area covered was recorded as 0.15 to 0.18 ha/hr. at average operating speed of 2.3 to 2.48 km/hr.
- The field efficiency was recorded as 81.8 to 95.4%.

9.1 QUALITY OF WORK

- Average depth of sowing was recorded as 5.1 to 5.3 cm.
- The average spacing between seeds was recorded as 14.9 to 15.2 cm

10 EASE OF OPERATION AND ADJUSTMENT

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

11 LABOUR REQUIRMENTS

One labour can effectively operate the round seed dibbler.

12 DEFECTS, ADJUSTEMENTS, BREAKDOWNS AND REPAIRS

There is no breakdown occurred during the total operation of 22.5 hours of operation.






13 COMMENTS AND RECOMMENDATIONS

NIL

14 TECHNICAL LITERATURE

The User manual of the seed cum fertilizer drill are provided by the applicant during the test along with the application form. However, these manuals need to be updated as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	 13/12/2022
Report Verified by	Scientist, CSIR-CMERI Farm Machinery Testing Centre	 13/12/2022
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	Substantive Manual 13.12.2022
Report Approved for release by	Head, Business Innovation and Skill Group, CSIR-CMERI, Durgapur	 14/12/22

15 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
15	13	Noted

