

AGROTECH DRUM SEEDER

Ex No - 33



सत्यमेव जयते

भारत सरकार

GOVT OF INDIA

कृषि मन्त्रालय

MINISTRY OF AGRICULTURE

कृषि एवं सहकारिता विभाग

DEPARTMENT OF AGRICULTURE AND COOPERATION

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1. SCOPE OF TEST

The scope of test was to check and assess the following:

1.1 LABORATORY TEST

- Checking of specifications
- Variation in dropping of seeds through different orifices
- Evenness of seed distribution

1.2 FIELD TEST

- Rate of work
- Quality of work
- Field efficiency and labour requirement
- Ease of operation, maintenance and adjustments
- Defects, Breakdowns and Repairs

2. METHOD OF SELECTION

The Agrotech Drum Seeder was directly submitted for test by the applicant at this Institute. Hence the method of selection does not arise.

3. TEST PROCEDURES

There is no test code available for the testing of manually-operated Drum Seeder, as such. Therefore, the test procedure was evolved by the Institute with the agreement of the applicant.

4. SPECIFICATIONS

4.1 General:

Manufacturer	:	Usha Lubes Pvt. Ltd. C-50 & 51, 4 th Phase Adityapur Industrial Area Gamharia, Dist.-Saraikela Kharsawan, Jharkhand-832108
Name of machine	:	Agrotech Drum Seeder
Type	:	Manually Operated
Make	:	AGROTECH
Model	:	DS-1
Serial No.	:	Not provided
Year of manufacture	:	Not provided
Utility	:	For sowing pre-germinated paddy seed.

Source of power : Manual

4.2 Brief description of the machine

The Agrotech Drum Seeder is mainly consists of drum, drum seeder shaft, drive wheel etc. The drum is made of Fiber Reinforced Plastic(FRP) sheet in hyperboloid shape of diameter 197.2 mm. One round shaped MS pipe of length 1810 mm and diameter 35.6 mm is provided through which the drums are passed. The drum seeder shaft is driven through drive wheels. Thus, the motion of the drive wheel via drum seeder shaft causes the drums to rotate. There are two rows of orifices in each drum with 8 nos. of seed metering orifices of 8.0 mm diameter and 8 nos. of seed metering orifices of 6.0 mm diameter on each row at equal distance of 68.5 mm and 65.3 mm respectively from each other. When drum rotates, the pre-germinated paddy seeds are fallen through these orifices of 8.0 mm diameter. The drum seeder shaft is fitted with the frame through handle bush and at the front of the frame handle is provided to pull the drum seeder.

4.3 Constructional details (Refer fig.)

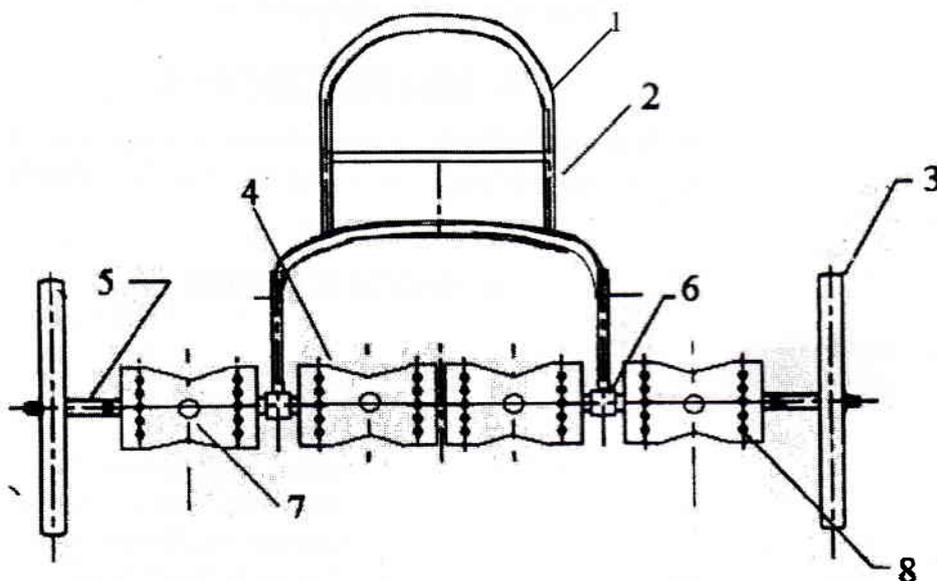


FIG.: CONSTRUCTIONAL DETAILS OF AGROTECH DRUM SEEDER

KEYWORDS:

- | | |
|---------------------------|----------------------|
| 1. Handle grip cum handle | 2. Handle rod |
| 3. Drive Wheel | 4. Drum |
| 5. Shaft | 6. Handle bush |
| 7. Drum Lid | 8. Seed Gateway Lock |

10. COMMENTS AND RECOMMENDATIONS

- 10.1** The seed rate was recorded as 15.73 kg/ha to 17.82 kg/ha which seems to be very low from the agronomical point of view and general seed rate of paddy crop. It should be at least 45 to 50 kg/ha for normal size of paddy seed. Hence, provision should be incorporated to improve the seed rate by increasing the seed gateway or by other arrangement.
- 10.2** It is recommended that the drum seeder may be provided with an identification plate having details like name of manufacturer or trade name, model, serial number of machine, year of manufacturer, type, size and mass, etc. The plate should be riveted on a non-wearing part of the machine.
- 10.3** Necessary tools may be supplied with the drum seeder to attend the adjustments and repairs.
- 10.4** The manufacturer has developed only few pages of technical literature/manual, it is so general. Hence, the same should be provided containing performance, special features, drawing and dimension of the machine. It is also recommended to bring out the manuals in other vernacular languages as per IS: 8132-1999.
- * **Operator:** The operator bears good health and weight as per BMI. Details of operators are given in Annexure-II.

11. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
11.1	10.1	We will increase the hole dia. to improve the seed fall rate for our future production as per customer demand. Seed fall rate varies depends on paddy seed variety and size of the seed.
11.2	10.2	We will provide all relevant details regarding manufacturer's name, model, serial no. etc as recommended.
11.3	10.3	We will provide necessary tolls which is applicable for this.
11.4	10.4	We will provide all relevant & necessary literature/ manuals as recommended.