

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या / No. : Imp. 90/133
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MULTI- ROW JUTE SEED DRILL (MANUALLY- OPERATED)



सत्तमभेय जयते

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Make	:	N. A.
Model	:	N. A.
Serial No.	:	N. A.
Year of manufacture	:	N. A.
Size of drill (mm)	:	4 X 250

4.2 Brief Description of the machine

The manual jute seed drill mainly consists of seed dispenser (seed box), main shaft, drive wheels, furrow openers and seed covering device, etc. The seed dispenser (seed box) is made of MS sheet in conical section with larger side diameter of 122.0 mm and smaller side diameter of 75.5 mm. Two bushes of bore 21.2 \varnothing mm are provided on each side of the seed box through which passes the main shaft. The main shaft is driven through drive wheels. Thus, the motion of the drive wheel via, main shaft causes the seed dispensers (seed box) to rotate. 14 numbers of seed metering orifices of 2.4 mm diameter are provided on each seed dispenser. When seed dispenser rotates, the seeds are fallen through these orifices in the furrow made by the furrow openers. The seeds are then covered by a chain type seed covering device. The main shaft and furrow opener shaft are fitted with a rectangular frame which serves as a handle to pull the seed drill.

4.3 Constructional details (Refer fig. 1)

4.3.1 Frame

Material	:	MS pipe
Shape	:	Rectangular
Dimension (mm)	:	1565 X 935
Constructional details	:	It is fabricated in rectangular shape. It consists of two MS pipes of 1490 X 26 \varnothing X 21 \varnothing mm (Length X OD X ID) size. These two pipes are joined at front end by a pipe of size 840 X 31.7 \varnothing X 21.2 \varnothing mm (Length X OD X ID) which serves as handle while operating the seed drill. At the rear, furrow opener shaft of size 840 X 31.7 \varnothing X 21.2 \varnothing mm (Length X OD X ID) is provided with which furrow opener assembly is fitted. The main shaft is also fitted with this rectangular frame.

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9. DEFECTS, BREAKDOWNS AND REPAIRS

- 9.1 Frequent opening and looping of the chain was observed. Hence, the S-hooks were tightened.
- 9.2 No breakdown was observed in the machine during 21.7 hours of field operation.

10. COMMENTS AND RECOMMENDATIONS

- 10.1 Necessary modifications need to be done to avoid wrapping of chain with the drive wheel lugs and around the main shaft, which restricts the movement of the wheel.
- 10.2 Necessary tools may be supplied with the drill to attend the adjustments and repairs.
- 10.3 Improvement in the design of the drill may be undertaken to reduce the draft of the machine during operation.
- 10.4 It is recommended that the drill 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.

TESTING AUTHORITY

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11. APPLICANT'S COMMENTS

The applicant has stated that they have observed average number of seeds per meter row length as 25 to 35. Whereas, the average number of seeds per meter of row length was observed as 38 to 53 during the course of testing at this Institute.