

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/No. : Imp. 81/121
माह/ Month : February, 2011



Paras Seed cum Fertilizer Drill (Tractor Drawn)



सत्यमेव जयते

भारत सरकार
GOVT OF INDIA

कृषि मन्त्रालय

MINISTRY OF AGRICULTURE

कृषि एवं सहकारिता विभाग

DEPARTMENT OF AGRICULTURE AND COOPERATION

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान
NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

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1. SCOPE OF TEST

The scope of test was to check and assess the following

1.1 Laboratory Test

- i) Checking of specifications.
- ii) Metering mechanism to meter seed and fertilizer at desired rate.
- iii) Variation in dropping of seed and fertilizer in different opener (Inter opener variation).
- iv) Variation of seed & fertilizer rate due to quantity of seed and fertilizer in the seed box and fertilizer box.
- v) Even-ness of seed distribution.
- vi) Hardness and chemical composition of the soil engaging parts.
- vii) Visible damage to the seeds caused by metering mechanism.

1.2 Field Test

- i) Rate of work
- ii) Quality of work
- iii) Power requirement
- iv) Ease of operation and adjustment
- v) Field efficiency and Labour requirement
- vi) Breakdowns & repairs

2. METHOD OF SELECTION

The seed cum fertilizer drill was directly submitted for test by applicant at this Institute. Therefore, the method of selection is not known.

3. TEST CODE / PROCEDURE

The implement was tested in accordance with the relevant clauses of Indian Standards

- i) IS 6316:1993 (Sowing equipment – seed cum fertilizer drill- Test code)
- ii) IS 6813:2000 (Sowing Equipment – Seed cum fertilizer Drill - Specifications) and
- iii) IS: 4468:1997(Part-1) (Specification for Three Point Linkage)

4. SPECIFICATIONS**4.1 General**

Manufacturer	: M/S Bothara foundry and Machine Works, Plot No.: 35 to 40, Industrial estate, Kedgaon, Nagar – Pune Road, Ahmednagar. –414 005
Name of Machine	: Paras seed cum fertilizer drill
Type of implement	: Tractor Drawn
Make	: Paras
Model	: Automatic gear type(apa)
Serial No	: 451
Year of Manufacturer	: 2009

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Cl. 11	ACCESSORIES: - The following accessories may be provided with each drill: - a) Foot board b) Covering device c) Row marker d) Press wheel e) Area recorder	Not provided Not provided Not provided Not provided Not provided	Does not conform
Cl. 12	WORKMANSHIP & FINISH		
Cl 12.1	The welding shall be satisfactory in all aspects and should not be brittle.	Satisfactory	Conforms
Cl 12.2	The components shall be free from rust and shall have a protective coating to prevent surface deterioration in transit and storage	The components are free from rust and have a protective coating to prevent surface deterioration in transit and storage	Conforms
Cl 12.3	The components should be free from pits, burrs and other defects that may be detrimental for their use.	The components are free from pits, burrs and other defects.	Conforms
Cl 14	MARKING & PACKING: -		
Cl 14.1	Each drill shall be marked with the following particulars: a) Indication of the source of Manufacture b) Model, code and serial number; c) Type d) Size d) Type of seeds (suitability) and e) Mass	Provided Provided Provided Not provided Not Provided Not Provided	Does not conform

11. COMMENTS & RECOMMENDATIONS

- (i) The specifications of reversible type furrow openers do not conform to IS: 6813 –2000. This should be looked into for corrective action.
- (ii) The dimensions of seed metering mechanism do not conform to the requirement of IS: 6813-2000. Suitable improvement should be done.
- (iii) Type of fertilizer metering mechanism does not conform to the requirement of IS 6813:2000.
- (iv) The three point linkage system of the seed drill does not conform to IS. This should be looked into.
- (v) Suitable row marker should be provided to maintain equal row spacing.
- (vi) Provision should be made to drop fertilizer at a minimum of 25 mm to the side of the seed.
- (vii) Fertilizer rate is not adjustable up to 1000 kg/ha, it should be looked into.




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- (viii) Suitable clutches are not provided to stop the movement of metering mechanisms when the wheels are turned in reverse direction. This should be looked into.
- (ix) It is recommended that a permanent metallic calibration plate indicating the metering position and quantity of seed and fertilizer should be attached under the top cover of the seed box.
- (x) It is recommended that proper lubrication arrangement should be provided for all moving components except the portions exposed to seed and fertilizer.
- (xi) Seed/fertilizer agitator has not been provided. It should be looked into for corrective action.
- (xii) Provisions should be made for adjustment of chain.
- (xiii) Seed/fertilizer pipes should be properly clamped and any sharp bend should be avoided.
- (xiv) It is recommended that the drill should be provided with an identification plate having details like name of manufacturer or trade name, model, serial number of machine, year of manufacture, type, size, mass and type of seed suitable to sow. The plate should be riveted on the machine on non-wearing part.

12. ADEQUACY OF LITERATURE

The manufacturer has not developed operator's manual, part's catalogue and service manual, etc. as per IS 8132:2004. Hence the same should be provided containing performance, special features, drawing and dimensions of the implement in English, Hindi and other regional languages as per IS 8132:2004.

TESTING AUTHORITY

H. L. YADAV AGRICULTURAL ENGINEER	
P. K. PANDEY SENIOR TEST ENGINEER	
M.K. VISWAKARMA DIRECTOR	

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13. APPLICANT'S COMMENTS

Draft report was made available to the applicant, yet no comments received from the applicant.