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व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/No. : Imp.79/119
माह /Month : December, 2010



Swan Rotavator Model : 4 feet (Tractor Operated)

APPROVED BY _____
DATE _____



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
- Hardness of soil engaging parts (Rotavator blades)
- Chemical analysis of critical components (Rotavator blades)
- Wear analysis of critical components

1.2 FIELD TEST:

- Rate of work.
- Quality of work
- Ease of operation, maintenance and adjustments
- Labour requirement
- Defects, Breakdowns & Repairs

2 METHOD OF SELECTION

The implement was directly submitted for test by the applicant at this Institute.

3 TEST PROCEDURES

- i) IS: 6690-2002: Specification for blades for rotavator for power tillers.
- ii) IS: 4931-2004 - Agricultural tractors-Rear Mounted PTO.
- iii) IS: 4468 - 1997 (Pt-I) Agricultural wheeled Tractors- Rear Mounted three point linkage.
- iv) IS: 11531-2001 Test code for puddler.

4 SPECIFICATIONS**4.1 General:**

Manufacturer	:	M/s New Swan Enterprises (Agro Tech Division), C-213, Phase VIII Focal Point, Ludhiana (Punjab) 141 010
Name of machine	:	Rotavator(Tractor operated)
Type	:	Gear type
Make	:	Swan
Model	:	Four feet
Serial number	:	NSE-009
Year of manufacture	:	2010
Type of blade	:	L-Shaped
Working width of implement (mm)	:	1305
Power source as recommended	:	30 to 35 H.P.

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10. DEFECTS, BREAKDOWNS AND REPAIRS




- 10.1 Presence of mud and water was observed in the secondary reduction gear box after completion of 20.27 hours of Puddling test.
- 10.2 Few rotor blade fixing bolts were broken out during dry land Rotavation test.

11. COMMENTS AND RECOMMENDATIONS

- 11.1 The specifications of implement hitch does not conform to the IS: 4468 (Pt-I)-1997. Hence, it is recommended that implement should be provided with the hitch conforming to relevant Indian standard.
- 11.2 The dimensions of splined end pinion shaft and propeller shaft insert dimensions does not conform to IS: 4931-2004. This should be looked into for corrective action.
- 11.3 Presence of mud was observed in the secondary reduction gear box. Hence proper sealing may be provided.
- 11.4 The grade and change period of oil used in gear boxes of rotavator, should be given in the printed literature and suitable sticker should also be pasted on rotavator.
- 11.5 It is recommended that arrangement for changing the in rotor speed to suit wider range of soil and soil moisture condition, should be provided.
- 11.6 The labeling plate needs to be provided with implement, to indicate the particulars like make, model, year of manufacture, size and recommended power.
- 11.7 **Adequacy of literature:** Only one leaflet was supplied with the implement during the course of testing. It is therefore recommended that operator's manual, service manual and spare parts catalogue should also be provided in English, Hindi and other regional languages as per IS: 8132-2004.

The cover shall be of reasonable durability and shall be of an appropriate size to protect the internal pages and the binding shall be appropriate and durable for the intended usage.

TESTING AUTHORITY

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

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12. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
12.1	11.1 to 11.8	We have gone through very minutely the comments and recommendations advised by the Institute. In this context we may inform you that we will implement the entire recommendations point to point wise.