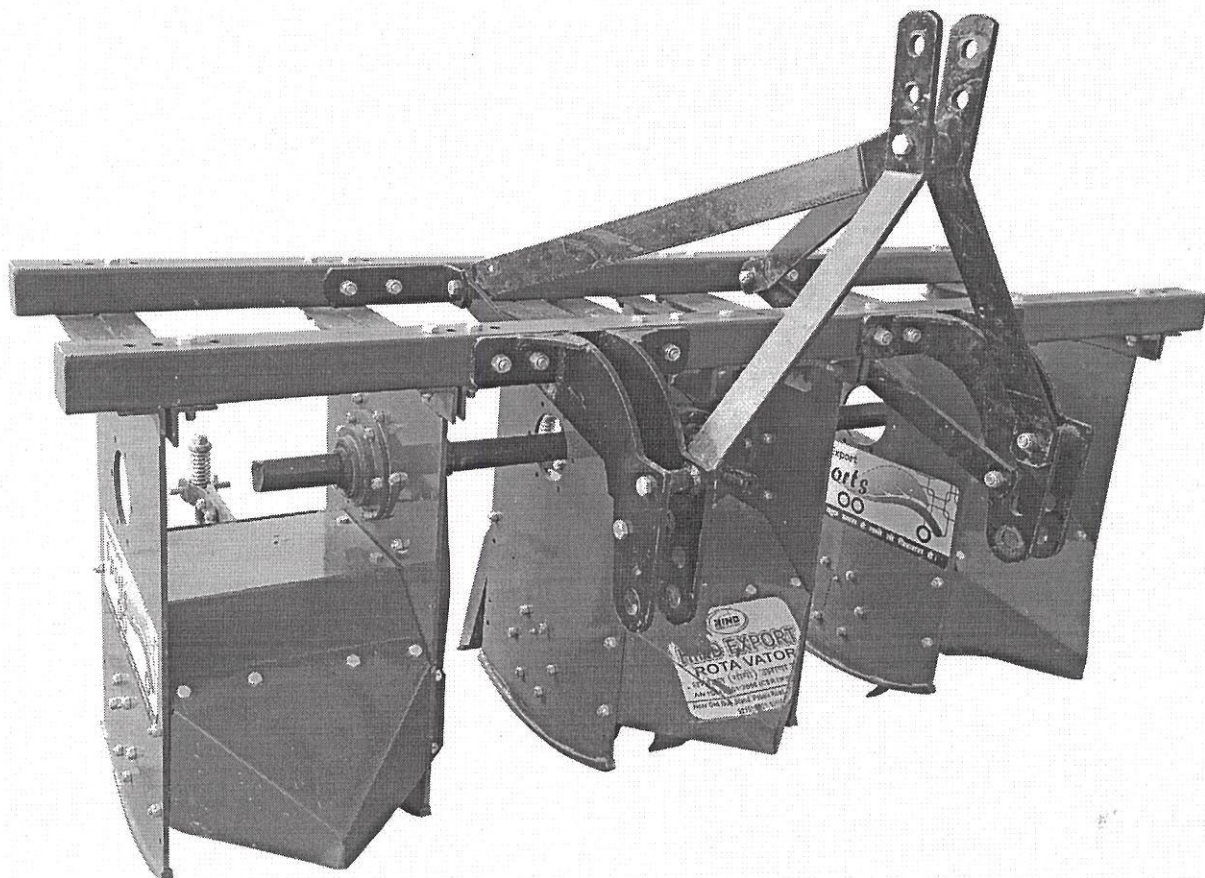


व्यावसायिक परीक्षण रिपोर्ट  
COMMERCIAL TEST REPORT

संख्या/ No. IMP-1052/2850/2022  
माह/Month: May, 2022

THIS TEST REPORT VALID UP TO : 31<sup>st</sup> May 2029



**HIND EXPORT, HE,  
TRACTOR (PTO) OPERATED WEEDER**



भारत सरकार

**Government of India**

कृषि एवं किसान कल्याण मंत्रालय

**Ministry of Agriculture and Farmers Welfare**

कृषि एवं किसान कल्याण विभाग

**Department of Agriculture and Farmers Welfare**

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

**Northern Region Farm Machinery Training and Testing Institute**

ट्रैक्टर नगर, सिरसा रोड, हिसार, (हरियाणा) - 125 001

**Tractor Nagar, Sirsa Road, HISAR (Haryana)-125 001**

Website: <http://nrfmtti.gov.in/>

E-mail: [fmti-nr@nic.in](mailto:fmti-nr@nic.in)

Tele./FAX: 01662-276984

**Page 1 of 18**

**8.2 Quality of work:**

Quality of work is assessed by the depth of cut in field operation and weeding efficiency which were observed from 7.7 to 8.2 cm & 88.27 to 92.86% respectively.

**8.3 Wear of blades****8.3.1 Mass basis**

The wear of the rotary weeder blades was measured after 27.92 hrs of field operation and the observation are as under:

Sr. No.	Initial mass of blade (g)	Mass after 27.92 hrs. (g)	Loss of mass (g)	Percent wear (%)	Percent wear per hours
1.	965	917.6	47.4	4.91	0.176
2.	983	922.2	60.8	6.19	0.222
3.	975	927.8	47.2	4.84	0.173
4.	995	939.6	55.4	5.57	0.199
5.	988	935.2	52.8	5.34	0.191
6.	958	920.5	37.5	3.91	0.140

**9. EFFECTIVENESS OF SEALINGS**

After completion of field test for 27.92 hrs, the implement was dismantled to check effectiveness of sealing provided against ingress of dust in various sub-assemblies and decide the condition of components of the tractor (PTO) operated weeder.

Sr. No.	Location	Whether ingress of mud and/or water was observed
1.	Primary reduction gear box	No
2.	Secondary reduction chain & sprocket	No
3.	Hub of rotor assembly	No

**10. EASE OF OPERATION, ADJUSTMENTS & SAFETY**

- 10.1 Universal coupling shaft is provided with safety cover.
- 10.2 The tractor (PTO) operated weeder has the provision to adjust working width according to row crop spacing

**11. DEFECTS BREAKDOWNS AND REPAIRS**

No defect observed during the test.

**12. SPECIAL FEATURES**

- 12.1 Tractor operated.
- 12.2 Overall width of weeder is adjustable according to crop spacing.

**13. CRITICAL TECHNICAL SPECIFICATIONS**

Vide Ministry's communication F. No. 13-9-2019 M&amp;T (I&amp;P) dated 26.04.2019.

Sr. No.	Parameters	Specifications	Observed	Remarks
1	Type	Tractor mounted, PTO Powered	PTO powered	Conforms
2	Working width (mm)	1500 (min.)	1850	Conforms
3	Type of blades	Hatchet/Straight/Curved/L type	L-Type	Conforms
4	Material of blade	Boron steel 28 MnCrB5/ High Carbon steel EN42j	High carbon steel ENJ42	Conforms
5	Hardness of material, HRC	38 (min.)	44.02	Conforms
6	Type of primary transmission	Gear	Gear	Conforms
7	Type of secondary transmission	Gear/chain & sprocket	Gear	Conforms
8	Material for rotor shaft	SAE 1045 (CRS)/ EN8/EN9	EN8	Conforms
9	No. of flanges per row	2 (min.)	02	Conforms
10	Type of flanges	Square/ circular/ rectangular	Circular	Conforms
11	No. of blades in each flange	4 (min.)	06	Conforms
12	No. of rotor blade	8 (min.)	36	Conforms
13	Thickness of rotor blade (mm)	5 (min.)	07	Conforms
14	Material of blade	Boron steel 28 MnCrB5 EN42j	28 MnCrB5	Conforms
15	Hardness of blade, HRC	38 (min.)	Provided	Conforms
16	Provision for shield/cover to prevent flying of mud & stone from rotor	Must be provided	Provided	Conforms
17	Depth control mechanism	Must be provided	<b>Not provided</b>	<b>Does not conform</b>
18	Marking/Labelling of machine	The labelling plate should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacture, Serial Number, Type, Size, Size of prime mover (kW)	Provided	Conforms
19	Literature	Operator manual, service manual, parts catalogue should be provided.	Provided	Conforms

**13. CRITICAL TECHNICAL SPECIFICATIONS**

Vide Ministry's communication F. No. 13-9-2019 M&amp;T (I&amp;P) dated 26.04.2019.

Sr. No.	Parameters	Specifications	Observed	Remarks
1	Type	Tractor mounted, PTO Powered	PTO powered	Conforms
2	Working width (mm)	1500 (min.)	1850	Conforms
3	Type of blades	Hatchet/Straight/Curved/L type	L-Type	Conforms
4	Material of blade	Boron steel 28 MnCrB5/ High Carbon steel EN42j	High carbon steel ENJ42	Conforms
5	Hardness of material, HRC	38 (min.)	44.02	Conforms
6	Type of primary transmission	Gear	Gear	Conforms
7	Type of secondary transmission	Gear/chain & sprocket	Gear	Conforms
8	Material for rotor shaft	SAE 1045 (CRS)/ EN8/EN9	EN8	Conforms
9	No. of flanges per row	2 (min.)	02	Conforms
10	Type of flanges	Square/ circular/ rectangular	Circular	Conforms
11	No. of blades in each flange	4 (min.)	06	Conforms
12	No. of rotor blade	8 (min.)	36	Conforms
13	Thickness of rotor blade (mm)	5 (min.)	07	Conforms
14	Material of blade	Boron steel 28 MnCrB5 EN42j	28 MnCrB5	Conforms
15	Hardness of blade, HRC	38 (min.)	Provided	Conforms
16	Provision for shield/cover to prevent flying of mud & stone from rotor	Must be provided	Provided	Conforms
17	Depth control mechanism	Must be provided	<b>Not provided</b>	<b>Does not conform</b>
18	Marking/Labelling of machine	The labelling plate should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacture, Serial Number, Type, Size, Size of prime mover (kW)	Provided	Conforms
19	Literature	Operator manual, service manual, parts catalogue should be provided.	Provided	Conforms


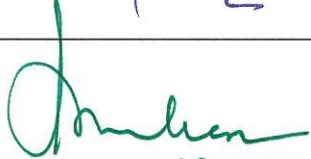
**14. COMMENTS & RECOMMENDATIONS**

- 14.1 Three point linkage of implement does not conform in toto, to the requirement of IS:4468 (Part-1)-1997 and therefore, it may be looked into for corrective action.
- 14.2 The dimension of PIC of implement does not conform in toto, the requirement of IS:4931-1995 and therefore, it may be looked into for corrective action.
- 14.3 The chemical composition of blade does not conform, in toto to the requirement of IS:6690-1981. This need to be looked into for corrective action.
- 14.4 The recommended PTO speed of prime mover is not specified on the labeling plate. It **MUST** be looked into
- 14.5 Depth control mechanism is not provided. It should be provided.

**15. TECHNICAL LITERATURE**

One booklet entitled "Owners" manual was provided for reference during test. The same, however, needs to be updated as per IS:8132-1999.

**TESTING AUTHORITY**

SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 18.05.2022

Test report compiled by: Er. Dharmendra Kumar, Technical Assistant.

**16. APPLICANT'S COMMENTS**

No specific comment received from the applicant.