

व्यावसायिक परीक्षण रिपोर्ट  
COMMERCIAL TEST REPORT

संख्या/ No.: MTB - 07/2957/2022

माह/Month: December, 2022

**THIS TEST REPORT VALID UP TO : 31<sup>st</sup> December, 2027**



**SHREE KHODIYAR AGRO INDUSTRIES, DESHI 3W,  
RIDE ON SELF PROPELLED MULTI PURPOSE  
TOOL BAR (SANEDO)**



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**

**[ISO 9001:2015 CERTIFIED]**

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

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

Tele./FAX: 01662-276984

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**15. RUNNING-IN**

The Ride On Self Propelled Tool Bar was run-in for 0.5 hour before field performance test. All the fasteners were checked and tightened thereafter

**16. FIELD TEST**

The field performance test under dry land condition was conducted with cultivator attachment for 13.01 hours at no load engine speed of 3000 rpm and with flat blade attachment for 13.83 hours at no load engine speed of 3000 rpm. In all, 5 tests trials were conducted in black soil at the Moviya Gondal, Rajkot. The results of the field test for dry land operation is summarized as below.

**SUMMARY OF FIELD PERFORMANCE TEST**

Sr. No.	Parameter		Cultivator	Flat blade
i)	Type of soil	:	Black	Black
ii)	Soil moisture, %	:	5.25 to 5.35	4.40 to 4.70
iii)	Bulk density of soil, g/cc	:	1.20 to 1.26	1.18 to 1.22
iv)	Speed of operation, kmph	:	4.17 to 4.26	4.26 to 4.30
v)	Depth of cut, cm	:	5.13 to 5.40	5.17 to 5.70
vi)	Width of cut, m	:	0.81	0.81 to 0.88
vii)	Area covered, ha/h	:	0.255 to 0.266	0.273 to 0.303
viii)	Time required for one ha	:	3.76 to 3.92	3.30 to 3.66
ix)	Fuel consumption			
		l/h :	0.95 to 1.10	0.84 to 0.95
		l/ha :	3.69 to 4.31	2.97 to 3.48
x)	Field efficiency, %	:	75.0 to 78.7	77.9 to 80.2
xi)	Draft, kgf	:	22.94	72.03

**16.1 Field operation****16.1.1 Rate of work**

- Time required to cover one hectare with cultivator and flat blade was recorded as 3.76 to 3.92 and 3.30 to 3.66 hours, respectively.
- The average area covered was recorded as 0.255 to 0.266 ha/h for cultivator and 0.273 to 0.303 ha/h for flat blade.

**16.1.2 Quality of work**

- The average depth of cut was recorded as 5.13 to 5.40 cm for cultivator and 5.17 to 5.70 cm for flat blade.
- The hourly fuel consumption was recorded as 0.95 to 1.10 l/h for cultivator and 0.84 to 0.95 l/h for flat blade. Fuel consumption to complete 1 ha was recorded 3.69 to 4.31 l/ha for cultivator and 2.97 to 3.48 l/ha for flat blade.



**18.6.2 Mass basis:**

The wear of the Flate blade was measured after 13.83 h. of field operation and the observations are as under:

Sl. No.	Initial mass (g)	Mass after 13.83 hrs. (g)	Loss of mass (g)	Percent wear (%)	Percent wear per hour
1	1750	1731	19.0	1.09	0.08

**19. COMMENTS & RECOMMENDATIONS****19.1 Mechanical vibration**

The amplitude of mechanical vibration marked as (\*) on the relevant chapter, are on drastically higher side. It is not just directly concerned with operator's health, safety and comfort, but also adversely affect the useful life of the components. In view of above, this deserve to be given top priority for corrective action.

**19.2** Spark arresting device is not provided. It **MUST** be provided.

**19.3** The model of governor is not specified. It **MUST** be specified.

**19.4** Valve guide clearance and valve spring stiffness discard limit is not specified. It **MUST** be specified.

**19.5 Field Test**

**19.5.1** Ride on self propelled multi-purpose tool bar was operated in varying field condition.

- The average depth of cut was recorded as 5.13 to 5.40 cm for cultivator and 5.17 to 5.70 cm for flat blade..
- The hourly fuel consumption was recorded as 0.95 to 1.10 l/h for cultivator and 0.84 to 0.95 l/h for flat blade. Fuel consumption to complete 1 ha was recorded 3.69 to 4.31 l/ha for cultivator and 2.97 to 3.48 l/ha for flat blade.
- Time required to cover one hectare with cultivator and flat blade was recorded as 3.76 to 3.92 and 3.30 to 3.66 hours, respectively.
- The average area covered was recorded as 0.255 to 0.266 ha/h for cultivator and 0.273 to 0.303 ha/h for flat blade.

**19.6** Overall, the performance was found to be satisfactory.

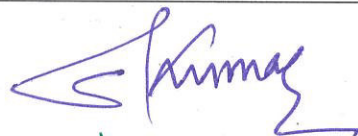

**20. TECHNICAL LITERATURE**

The following literatures are provided by the applicant during the test.

- a) Operator manual
- b) Parts catalogue
- c) Service manual

However, the manuals need to be updated as per IS: 8132-1999.

**TESTING AUTHORITY**

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 30.12.2022

The test report is compiled by Er. Sunil Kumar Patil, Senior Technical Assistant

**21. APPLICANT'S COMMENTS**

Para No.	Our Reference	Applicant's Comments
21.1	19.1	Design improvements will be taken up for further reduction in vibration.
21.2	19.2	It is B class/group of Governor in manufacturer's report.
21.3	19.3	Spark arresting device is provided as an optional fitment.
21.4	19.4	We informed to engine manufacturer's respective department for discard limit.
21.5	19.5	We informed to engine manufacturer's respective department for discard limit.
21.6	19.6	Land work, can be considered suitable as per average requirement and as per requirement is introduced as special purpose machine.

