

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

INITIAL COMMERCIAL TEST REPORT

THIS TEST REPORT VALID UP TO

:

संख्या/No. CSIR/CMERI/FMTTC/2024/027

माह/Month: June, 2024

31st MAY, 2031



**GREENFARM MACHINERIES PVT. LTD.
BRUSH/ WEED CUTTER (GF-PH-SP35)**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान
CSIR - Central Mechanical Engineering Research Institute

महात्मा गांधी एवेन्यू, दुर्गापुर
Mahatma Gandhi Avenue, Durgapur

पश्चिम बंगाल - 713209

West Bengal - 713209

Website: <https://cmeri.res.in>

E-mail: fmttc.cmeri@gmail.com

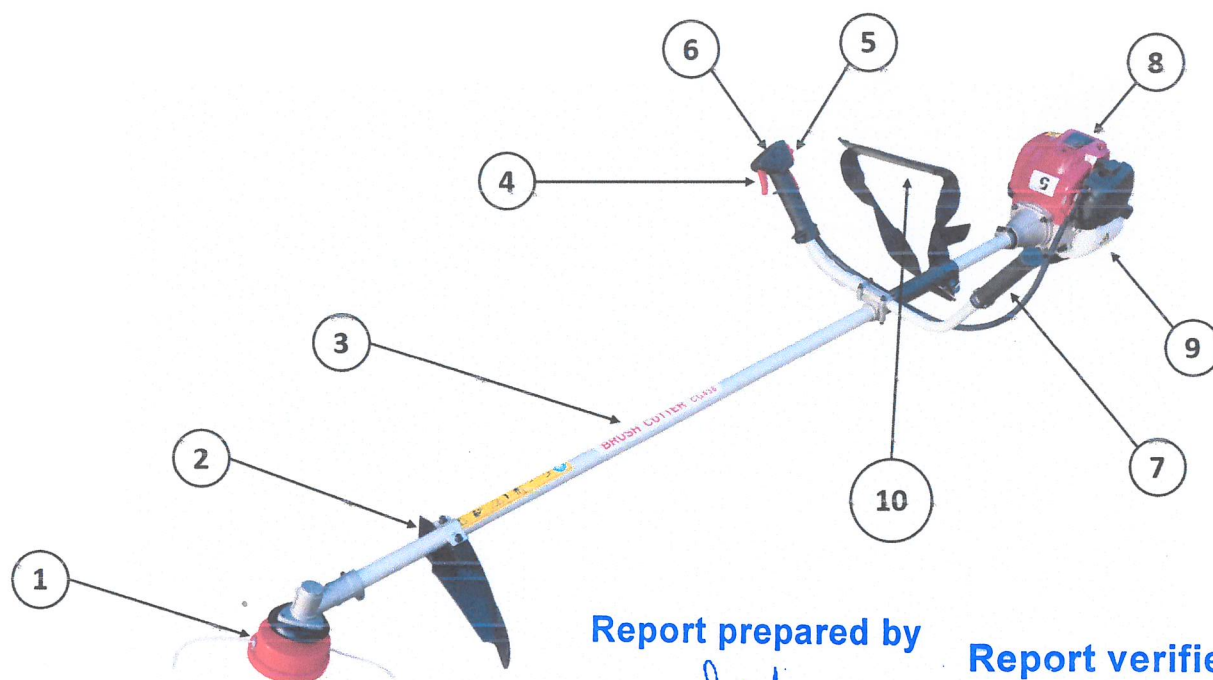
Telephone: 9434592007 / 7001361295

Fax: +91-343-2546745

5. SPECIFICATIONS

5.1 General

Name of Machine	: Brush / Weed Cutter
Type of machine	: Engine operated Side Pack Brush Cutter
Name of manufacturer and address	: Zhejiang Wenxin Mechanical & Electrical Co. Ltd. No 893, South Jiutang, Binhai Industrial Park, Taizhou City, Zhejiang Province, China.
Name of applicant and address	: Greenfarm Machineries Pvt. Ltd. (A Group company of Sanatan Merchants Pvt. Ltd.) 16 Strand Road, Diamond Heritage, 9 th Floor, Unit No. 901, Kolkata – 700001
Make	: Greenfarm Machineries Pvt. Ltd.
Model	: GF-PH-SP35
Country of origin	: China
Frame serial no	: Not Specified
Year of manufacturer	: 2023
Recommended use	: For cutting grass, weeds etc.



Report prepared by

J. K. Mandal

Report verified by

Subrata K. Mandal

FIG. 2 : SCHEMATIC VIEW OF BRUSH / WEED CUTTER

- | | | |
|--------------------------------------|---------------------------|---------------|
| 1. Nylon rope | 2. Grass deflector | 3. Frame pipe |
| 4. Throttle cum clutch lever | 5. Engine stopping switch | 6. RHS handle |
| 7. LHS Handle | 8. Engine | 9. Fuel tank |
| 10. Hook for attaching shoulder belt | | |

11.1.2 Fuel consumption

Average fuel consumption was observed as 2.56 to 2.79 lit/h.

11.2 Seasonal Grass cutting using Nylon Rope Assembly**11.2.1 Rate of work**

- i) The average area covered (rate of work) was observed as 0.079 ha/h.
- ii) Average time required for one hectare was observed as 26.58 hours.
- iii) Average number of Seasonal Grass in one square meter was 432 to 679.
- iv) Average mass of Seasonal Grass cut was 9.80 to 14.10 kg/h.

11.2.2 Fuel consumption

Fuel consumption was observed as 1.94 lit/h

11.3 Labour requirement

Two skilled operator was needed to operate the brush cutter continuously. Additionally, one more labour is needed to gather the collected/ bush /weeds.

11.4 Adequacy of power of prime mover

The power of prime mover was found adequate.

11.5 Wear analysis of critical components

Components	Duration of operation (h)	Initial length/ mass (gm/mm)	Length Mass after operation (gm/mm)	Loss of length /mass (gm/mm)	Percentage wear (%)	Percentage wear on hour basis (%)
Nylon rope	1.51	2252	450	1802	80.017	22.22
Straight Blade	10.45	310.19	236.33	73.86	23.81	2.50
Circular Blade	8.55	364.56	355.43	9.13	2.50	0.28

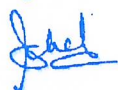
12. EASE OF OPERATION, ADJUSTMENT AND SAFETY

No problem was observed during the test except, the fatigue was observed during the operation of the machine due to excessive mechanical vibration and noise.

13. DEFECTS, BREAKDOWN AND REPAIR

No breakdown occurred during 21.86 hours of operation.

Report prepared by



Report verified by



14. COMMENTS AND RECOMMENDATIONS

- 14.1** The noise level at the OEL lever is higher, which needs to be reduced to improve the operator's comfort and safety.
- 14.2** The mechanical vibration is on the higher side. It is not just directly affect the operator's health, safety, and comfort, but also adversely affect the useful life of the components. Corrective action needs to be taken to reduce the vibration level.
- 14.3** The chemical composition of cutter blade material partially meet the requirement as per IS:1511-79 (RA 2012). It needs to be updated.

Report prepared by



Report verified by



15. TECHNICAL LITRATURE

The following literature are not provided by the applicant during the test along with the application form.

- a. Users' manual book
- b. Parts' catalogue
- c. Service manual

These manuals need to be provided as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	<i>Jhel</i> 25/06/2024
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>Subrata Kumar Mandal</i> 25.06.2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>Sudip Samanta</i> 25/6/24

16. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicants Comments
16	14.1 to 14.3	We would like to confirm that we will comply with all your recommendations as stated in the DTR as soon as possible



Report prepared by

Jhel

Report verified by

Subrata Kumar Mandal