

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2024/064
माह/Month: October, 2024

THIS TEST REPORT VALID UP TO : 30th SEPTEMBER, 2031



**FORTUNE POWER WEEDER
(MODEL: FAI-500 CUB)**



Government Of India



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान
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CSIR/CMERI/FMTTC/2024/064

**FORTUNE AGRO IMPEX
POWER WEEDER
(MODEL NO.- FAI-500 CUB)
(INITIAL COMMERCIAL TEST)**

Name of Machine : Petrol Engine Operated Power Weeder
Type : Self-propelled, Walk Behind Power Weeder
Make : Fortune Agro Impex
Model : FAI 500 CUB
Name and address of Manufacturer : Fortune Agro Impex
'Fortune House', No 343, 9th Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, Mallathahalli Lake Road, Bangalore-560056. Karnataka, India
Name and address of Applicant : Fortune Agro Impex
'Fortune House', No 343, 9th Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, Mallathahalli Lake Road, Bangalore-560056. Karnataka, India
Test Conducted at : Farm Machinery Training and Testing Centre
CSIR - Central Mechanical Engineering Research Institute, M G Avenue, Durgapur, Pin - 713209, West Bengal.

THIS TEST REPORT IS VALID UP TO: 30th September 2031
[vide DAC&FW OM No. 13-22/2020- M&T (I&P) dated 12.12.2023]



Report No.: CSIR/CMERI/FMTTC/2024/064

Month: October

Year: 2024

**CSIR - Central Mechanical Engineering Research Institute,
Durgapur - 713209
(W.B.), INDIA**

Report prepared by

[Signature]

Report verified by
Subrata Kr Mandal

**Farm Machinery Training and Testing Centre,
CSIR-Central Mechanical Engineering Research Institute, Durgapur
THIS REPORT IS VALID UPTO: 30th September 2031**

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4 SPECIFICATIONS

4.1 General

Type of machine	: Self-propelled, Walk Behind Power Weeder
Make	: Fortune Agro Impex
Model	: FAI-500 CUB
Serial No.	: PW5005
Name and address of manufacturer	: Fortune Agro Impex 'Fortune House', No 343, 9 th Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, Mallathahalli Lake Road, Bangalore-560056. Karnataka, India
Year of manufacture	: 2024
Country of origin	: India

4.2 Details of prime mover

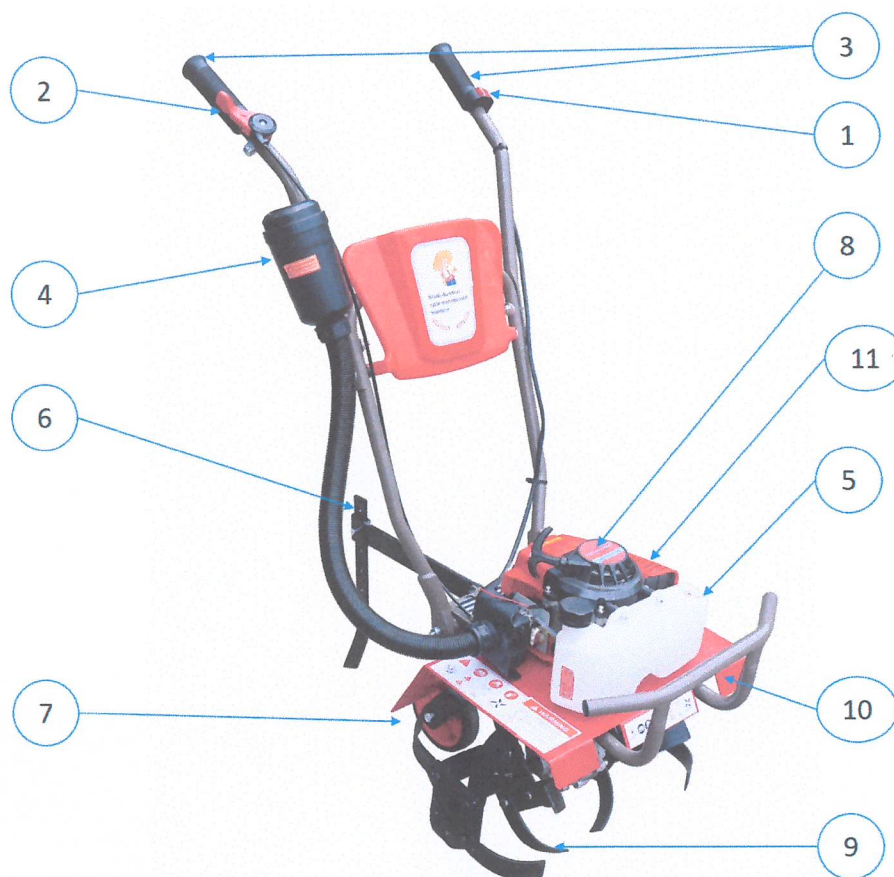
Name and address of manufacturer	: Fortune Agro Impex 'Fortune House', No 343, 9 th Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, Mallathahalli Lake Road, Bangalore-560056. Karnataka, India
Type	: Single Cylinder, 2 – Stroke, Air – Cooled, Spark Ignition Engine
Make	: Fortune Agro Impex
Model	: PW5005
Country of origin	: India
Year of manufacture	: 2024
Engine speed (Manufacturer's recommended setting), (rpm)	:
High idle speed	: 8000
Low idle speed	: 2000 ± 200
Rated speed, (rpm)	: 6500
No load engine speed for field operation, (rpm)	: 7000
Speed at maximum torque, rpm	: 5000 ± 200
Max Torque (Nm)	: 1.4 Nm
Rated Power (kW)	: 1.5 (2.0) @ 7000 rpm
Max Power (kW)	: 1.5 (2.0) @ 7000 rpm

Report prepared by

J. K. Chel

Report verified by

Subrata Kr Mandal



Key Words:

- | | | | |
|----|----------------------|----|-------------------------|
| 1 | Engine ON/OFF Switch | 2 | Accelerator |
| 3 | Steering handle bar | 4 | Air Cleaner |
| 5 | Fuel Tank | 6 | Depth Control Mechanism |
| 7 | Transport Wheel | 8 | Engine |
| 9 | Rotor | 10 | Rotor Cover |
| 11 | Exhaust | | |

Fig.1: Component details of Power Weeder, FAI 500 CUB

4.9 Power Transmission system

Type

: Engine power is transmitted from the engine centrifugal clutch to rotating shaft through a gear case consisting of a bevel pinion, a bevel gear and a gear shaft. Increasing the throttle lever enables the weeder for operation.



Fig. 2: Schematic Power Transmission Diagram

14 COMMENTS & RECOMMENDATION

- 14.1** The mechanical vibration marked as (*) under section 7, are on higher side. It is not just directly concerned with operator's health, safety and comfort, but also adversely affects the useful life of the components. It needs to be corrected.
- 14.2** Observed Noise level of the Power weeder by operator's ear level is on the higher side. This needs to be considered for corrective action.
- 14.3** Chemical composition of the blade does partially confirm with the IS Standard requirement. It needs to be looked into for corrective actions.

Report prepared by



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CSIR/CMERI/FMTTC/2024/064	FORTUNE AGRO IMPEX POWER WEEDER (MODEL NO.- FAI-500 CUB) (INITIAL COMMERCIAL TEST)
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15 TECHNICAL LITERATURE

The operator, maintenance & parts manual of sprayer was provided during the test which found adequate, however, the manual should be updated as per IS: 8132:1999, with the inclusion of safety instructions regarding handling poisonous agrochemical and first aid.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 21/10/2024
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>Subrata K Mandal</i> 21.10.2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>Ludip Samanta</i> 21/10/24



16 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
16	14.1 to 14.3	Regarding Mechanical vibration and Noise level we will take necessary steps to reduce the problems in our upcoming production. In case blades also we will rectify the as per IS standards.

Report prepared by

[Signature]

Report verified by

Subrata K Mandal

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