

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट  
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2024/060

माह/Month: October, 2024

THIS TEST REPORT VALID UP TO

: 30<sup>th</sup> SEPTEMBER 2031



**FORTUNE AGRO WEED SLASHING BRUSH CUTTER  
(MODEL – FAI 200 SMART CUT)**



सत्यमेव जयते  
Government Of India



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](mailto:fmttc.cmeri@gmail.com)

Telephone: 9434592007 / 7001361295

Fax: +91-343-2546745

CSIR/CMERI/FMTTC/2024/060	<b>FORTUNE AGRO WEED SLASHING BRUSH CUTTER (MODEL NO.- FAI 200 SMART CUT) (INITIAL COMMERCIAL TEST)</b>
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<b>Name of the Machine</b>	: Weed Slashing Brush Cutter
<b>Type of Machine</b>	: Engine Operated Brush Cutter
<b>Make</b>	: Fortune Agro
<b>Model</b>	: FAI 200 SMART CUT
<b>Name and address of Manufacturer</b>	: Fortune Agro Impex 'Fortune House', No 343, 9 <sup>th</sup> Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, (Mallathahalli Lake Road), Bangalore-560056
<b>Name and address of Applicant</b>	: Fortune Agro Impex 'Fortune House', No 343, 9 <sup>th</sup> Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, (Mallathahalli Lake Road), Bangalore-560056
<b>Test Conducted at</b>	: Farm Machinery Training and Testing Centre CSIR- Central Mechanical Engineering Research Institute, M G Avenue, Durgapur, Pin – 713209, West Bengal.

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



Report No.: CSIR/CMERI/FMTTC/2024/060

Month: October

Year: 2024

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

**Report verified by**

*Subrata Kr Mandal*

**Report prepared by**

*[Signature]*

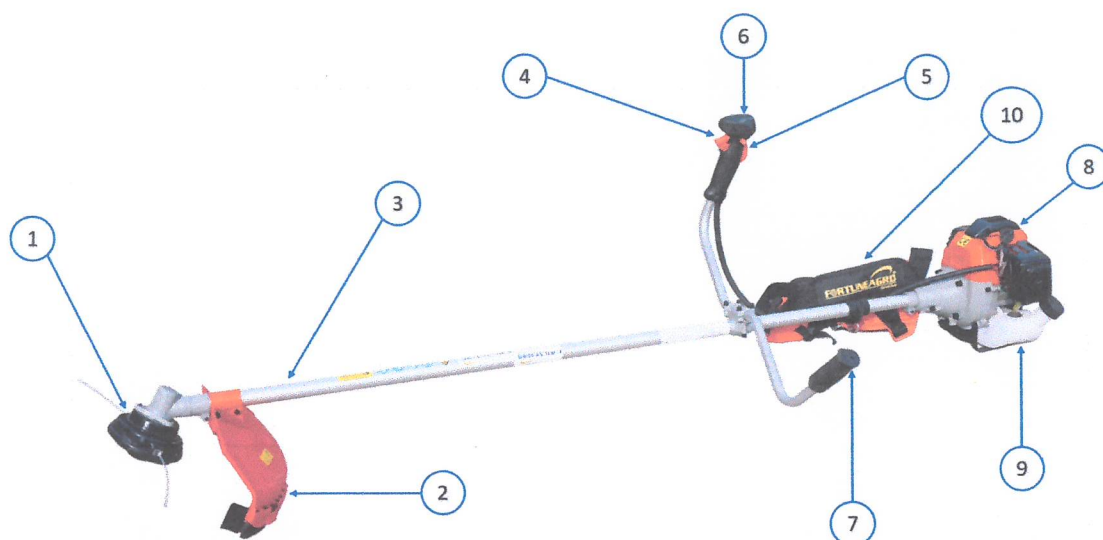
Farm Machinery Training and Testing Centre,  
CSIR-Central Mechanical Engineering Research Institute, Durgapur  
**THIS REPORT IS VALID UPTO: 30<sup>TH</sup> September 2031**

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## 5 SPECIFICATIONS

### 5.1 General

Name of the Machine	: Weed Slashing Brush Cutter
Type of Machine	: Engine Operated Brush Cutter
Make	: Fortune Agro
Model	: FAI – 200 SMART CUT
Name and address of Manufacturer	: Fortune Agro Impex 'Fortune House', No 343, 9 <sup>th</sup> Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, (Mallathahalli Lake Road), Bangalore-560056
Name and address of Applicant	: Fortune Agro Impex 'Fortune House', No 343, 9 <sup>th</sup> Block, Sir M. Visvesvaraya Layout, Kengunte First Main Road, (Mallathahalli Lake Road), Bangalore-560056
Country of origin	: India
Frame serial no	: BC2009/KA/2732/373/2024/BC2009
Year of manufacturer	: 2024
Recommended use	: All kind of Weed / Brushes and Paddy Harvesting



**Fig. 2: Schematic View of Brush Cutter / Weed Slasher**

- |                                      |                           |               |
|--------------------------------------|---------------------------|---------------|
| 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 |                           |               |

**Report verified by**

*Subrata Kr Mondal*

**Report prepared by**

*Subrata Kr Mondal*

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#### 12.4 Adequacy of power of prime mover

The power of prime mover was found adequate.

#### 12.5 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	10.50	5650	645	5005	88.58	8.4
Straight blade	9.17	305	235	70	22.95	2.5

### 13 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.

### 14 DEFECTS, BREAKDOWN AND REPAIR

No breakdown occurred during 20.67 hours of operation.

### 15 COMMENTS AND RECOMMENDATIONS

- 15.1** The noise level at the OEL lever is higher, which needs to be reduced to improve the operator's comfort and safety.
- 15.2** 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.
- 15.3** The chemical composition of cutter blade material doesn't meet the requirement as per IS: 6025-1982. It needs to be looked into for corrective actions.

Report prepared by

*[Signature]*

Report verified by

*[Signature]*

### 16 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>J. Chel</i> 21/10/2024
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>Subrata Kr Mandal</i> 21.10.2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>Ludip Sarker</i> 21/10/24



### 17 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicants Comments
17	15.1 to 15.3	We will take necessary steps to decrease in Noise Level, Mechanical vibration and improve strength in cutting blades. We will take care in your suggestions mentioned.

Report prepared by  
*J. Chel*

Report verified by  
*Subrata Kr Mandal*