

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2024/030

माह/Month: June, 2024

THIS TEST REPORT VALID UP TO

:

31<sup>st</sup> MAY, 2031



**ASPEE POWER WEEDER  
(MODEL: PW 63C)**



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**

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**4 SPECIFICATIONS****4.1 General**

Type of machine	: Self-Propelled, Walk Behind Type
Make	: ASPEE
Model	: PW – 63C
Serial No.	: 22797
Name and address of manufacturer	: ASPEE Agro Equipment Pvt. Ltd. SURVEY/ BLOCK No. 84, VILLAGE/ POST: Balwada, Tal. Chikli, Dist. – Navasari, PIN – 396521, GUJARAT GST NO. 24AAACA8980G1ZN
Year of manufacture	: 2024
Country of origin	: India

**4.2 Details of prime mover**

Name and address of manufacturer*	: ASPEE Agro Equipment Pvt. Ltd. SURVEY/ BLOCK No. 84, VILLAGE/ POST: Balwada, Tal. Chikli, Dist. – Navasari, PIN – 396521, GUJARAT
Type	: Single Cylinder, 2 – Stroke, Air – Cooled
Make*	: ASPEE
Model	: 1E48F
Country of origin*	: India
Year of manufacture*	: 2024
Engine speed (Manufacturer's recommended setting), (rpm)*	:
High idle speed	: 7000
Low idle speed	: 6990
Rated speed, (rpm)*	: 7500
No load engine speed for field operation, (rpm)*	: 3000
Speed at maximum torque, rpm*	: 7000
Max Torque (Nm)*	: 3.3
Rated Power (kW)*	: 2.0 kW @ 7500 rpm
Max Power (kW)*	: 2.2

\*As per specification sheet provided by applicant

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## 10 FIELD TEST

The field test under dry land condition was conducted for 22.05 h. The field performance tests were conducted at the rated 7500 rpm. Multiple test trials were conducted in sandy loam soil at the FMTTC, CSIR-CMERI farm, Durgapur. The results of the field test for dry land operation are summarized in Table – 4.

### Crop parameters

i)	Type of weed	:	Seasonal Grass
ii)	Height of weed, cm	:	9 to 22

**Table 4: Summary of field performance test**

Sl. No.	Parameter		Range
I	Type of soil	:	Sandy Loam
ii	Average Soil moisture (%)	:	12.5 to 17.8
iii	Average Bulk density of soil (g/cc)	:	1.55 to 1.72
iv	Average Speed of operation (kmph)	:	1.33 to 1.55
v	Average depth of cut (cm)	:	4.6 to 5.0
vi	Average Width of cut (m)	:	0.50 to 5.4
vii	Average Area covered (ha/h)	:	0.05 to 0.06
viii	Average Time required for one ha (Hr.)	:	17.6 to 21.5
ix	Average Fuel consumption		
		L/hr. :	0.8 to 1.1
		L/ha :	17.1 to 22.1
x	Average Weeding efficiency (%)	:	90.4 to 95.6
xi	Average Field efficiency (%)	:	63.4 to 79.2

The detailed field performance testing data is given in Annexure I.

## 11 DEFECTS, BREAKDOWNS & REPAIRS

No noticeable defects, breakdown occurred during test.

### 11.1 Wear of Blades(Mass Basis) :

The wear of the rotary weeder blades was measured after 22.05 hr. of field operation and the observations are as under:

Sl. No.	Mass Before Test, (gm)	Mass after 22.05 hr. of Test, (gm)	Loss of mass, (gm)	Percent wear, (%)	Percent wear per hour
1	259.06	245.25	13.81	5.33	0.24
2	270.45	252.61	17.84	6.60	0.30
3	258.7	243.56	15.14	5.85	0.27
4	249.5	231.12	18.38	7.37	0.33



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26.	Direction of exhaust emission away from Operator	Must be provided	Provided	Conforms
27.	Marking/labeling machine	The labeling plate should be riveted on the body of machine having Name and address of manufacturer & Applicant, Country of origin, Make, Model, Year of manufacturer, Serial number, Engine number, Engine HP, rated rpm & SFC.	Provided	Conforms
28.	Literature	Operator manual, service manual and Parts catalogue should be provided.	Provided	<b>Does not Confirm in toto.</b>

### 13 COMMENTS & RECOMMENDATION

- 13.1** The mechanical vibration marked as (\*) under section 6, 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.
- 13.2** 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.
- 13.3** Chemical composition and Hardness of the blade does partially confirm with the IS Standard requirement.
- 13.4** The parts catalogue is not provided. It needs to be provided as per IS standards.
- 13.5** The users or service manual is provided. But it needs to be updated as per IS standards.

Farm Machinery Training and Testing Centre, CSIR-Central Mechanical Engineering Research Institute, Durgapur <b>THIS REPORT IS VALID UPTO: 31<sup>st</sup> MAY 2031</b>	18 of 20
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Report prepared by

*[Signature]*

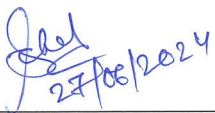
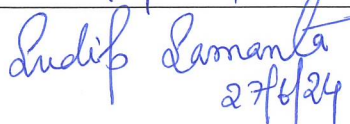
Report verified by

*Subrata Kr Mandal*

**14 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	 27/06/2024
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	 27/06/2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	 27/6/24

**15 APPLICANT'S COMMENTS**

Para No.	Our Reference	Applicant's Comments
15	13.1	We appreciably noted the same, we will do the needful to reduce mechanical vibration.
	13.2	We appreciably noted the same, we will take necessary corrective action.
	13.3	We noted the same, we will take necessary corrective action.
	13.4	Noted the same, we will provide updated catalogue as per IS standards.
	13.5	Noted the same, we will provide updated service manual as per IS standards.

