

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2022/014
माह/Month: Oct. 2022

THIS TEST REPORT VALID UP TO : 31ST October, 2022



**AGRINEER- AN 205P
POWER WEEDER**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान
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4. SPECIFICATIONS

4.1 General

Type of machine	: Power weeder with Petrol Engine, Walk Behind Type
Make	: AGRINEER
Model	: AN 205P
Serial No.	: PC22070684
Name and address of manufacturer	: Chongqing Weiwang Machinery Manufacturing Co., Ltd. Group 5, Jiangming Village, Longshui Town, Dazu District, Chongqing-402360,
Year of manufacture	: 2022
Country of origin	: China

4.2 Details of prime mover

Name and address of manufacturer	: Chongqing Weiwang Machinery Manufacturing Co., Ltd. Group 5, Jiangming Village, Longshui Town, Dazu District, Chongqing-402360,
Type	: Air Cooled, 4-Stroke, OHV, Single Cylinder, Petrol Engine, Vertical.
Make	: AGRINEER
Model	: AN 205P
Sr. No.	: PC22070638
Country of origin	: P.R. of China
Month & Year of manufacture	: June of 2022
Engine speed (Manufacturer's recommended setting), (rpm)	: 3450
High idle speed	: 3600
Low idle speed	: 1850
Rated speed, (rpm)	: 3450
No load engine speed for field operation, (rpm)*	: 3000
Speed at maximum torque, rpm*	: 2550
Max Torque (Nm)*	: 15
Rated Power (kW)*	: 4.9/6.5 hp
Max Power (kW)*	: 5.39 / 7.1 hp



11. RUNNING IN

The Power weeder was run-in for one hour before field performance test as recommended by the applicant. All the fasteners were checked & tightened thereafter.

12. FIELD TEST

The field test under dry land condition was conducted for 29.88 h. The field performance tests were conducted at the rated 3000 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 weeds
ii)	Height of weed, cm	:	4 to 15

Table 4: Summary of field performance test

Sl. No.	Parameter		Range
i	Type of soil	:	Sandy loam
ii	Average Soil moisture, %	:	13.0 to 17.1
iii	Average Bulk density of soil, g/cc	:	1.53 to 1.70
iv	Average Speed of operation, kmph	:	1.5 to 2.5
v	Average depth of cut, cm	:	6.7 to 9.6
vi	Average Width of cut, m	:	1.11 to 1.13
vii	Average Area covered, ha/h	:	0.12 to 0.21
viii	Average Time required for one ha	:	4.7 to 8.7
ix	Average Fuel consumption		
		l/h :	0.9 to 1.0
		l/ha :	4.5 to 7.7
x	Average Weeding efficiency, %	:	94.1 to 98.3
xi	Average Field efficiency, %	:	67.7 to 76.9

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

13. ADJUSTMENT, DEFECTS, BREAKDOWNS & REPAIRS

No noticeable breakdown occurred during test.



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		origin, Make, Model, Year of manufacturer, Serial number, Engine number, Engine HP, rated rpm & SFC.		
28	Literature	Operator manual, service manual and Parts catalogue should be provided.	Provided	Conforms

16. COMMENTS & RECOMMENDATION

16.1 Mechanical vibration

The amplitude of mechanical vibration marked as (*) under section 9, are on 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. It needs to be corrected.

16.2 The hardness of blades does not conform to the requirements of IS: 6690-1981 as mentioned in section 10. Corrective action needs to be taken for this.

16.3 Chemical composition of blades does not conform to the requirements of IS: 6690-1981 as mentioned in section 10. Corrective action needs to be taken for this.

16.4 Material of blade does not conform the requirement. This need to be looked into for corrective action.

16.5 Material of Rotor shaft does not conform the requirement as per standard. It need to be looked into for corrective action.

16.6 The thickness of the rotor shaft does not confirm the requirement of standard. It need to be looked into.

16.7 Marking/labeling Marking/labeling machine plate partially does not confirm the critical specification requirement. This need to be consider for corrective actions.

17. TECHNICAL LITERATURE

The following literatures are provided by the applicant during the test along with the application form.

a) User's manual book

b) Parts catalogue

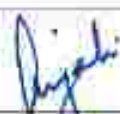
c) Service manual

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

TESTING AUTHORITY



Farm Machinery Training and Testing Centre, CSIR-Central Mechanical Engineering Research Institute, Durgapur THIS REPORT IS VALID UPTO: 31 ST OCTOBER 2027	26 of 28
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CSIR/CMERI/FMTTC/2022/014	AGRINEER AN205P POWER WEEDER (INITIAL COMMERCIAL TEST)
Dr. ANJALI CHATTERJEE Chief Scientist	
Dr. SUBRATA KUMAR MANDAL Senior Principal Scientist	
Md. IMRAN SHEKH Senior Scientist	

18. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
16	16.1 to 16.7	We will take corrective action against the same.

