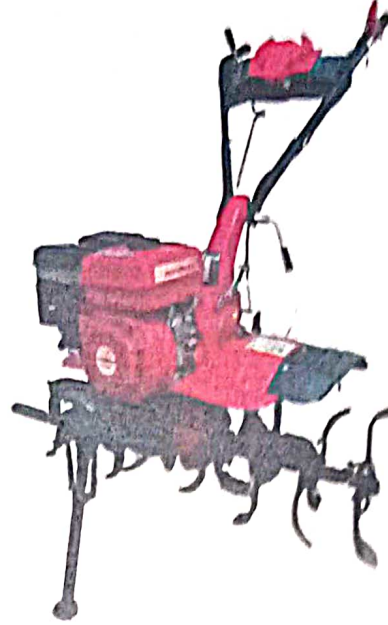


THIS TEST REPORT IS VALID UPTO 28.02.2027



AGRINEER POWER WEEDER
Model: AN205P



सत्यमेव जयते

भारत सरकार

GOVT OF INDIA

कृषि एवं किसान कल्याण मंत्रालय

MINISTRY OF AGRICULTURE & FARMERS WELFARE

कृषि, सहकारिता एवं किसान कल्याण विभाग

DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS WELFARE

उत्तर पूर्व क्षेत्र कृषि यंत्र परीक्षण एवं प्रशिक्षण संस्थान

NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

विश्वनाथ चरियाली: विश्वनाथ: असम, पिन-784 176

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[AN ISO 9001:2015 CERTIFIED INSTITUTION]

Machine 51/416	AGRINEER POWER WEEDER Model: AN205P	COMMERCIAL (ICT)
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4. SPECIFICATION

4.1 General:
 Make : AGRINEER
 Model : AN205P
 Name and address of manufacturer : Chongqing Haofa Machinery Manufacturing Co. Ltd., Chongqing, China
 Name and address of applicant : Agrineer Agro Machinery Pvt. Ltd., Ganesh Nagar, Near Forest Colony, Satara- 415 003, Maharashtra
 Name of machine : Power weeder
 Type of machine : Self propelled, Walk behind
 Working size of machine, (mm) : 1030
 Year of manufacture : 2021
 Serial no. of machine : 20210925

4.2 Details of prime mover:
 Manufacturer : Chongqing Haofa Machinery Manufacturing Co. Ltd., Chongqing, China
 Make : AGRINEER
 Model (apa) : AN205P
 Type : Single cylinder, four stroke, air cooled, Inclined, Spark ignition engine.
 Year of manufacture : 2021
 Engine serial No. : 210300142
 Recommended high idle speed, rpm : 3700 ± 100
 Recommended low idle speed, rpm : 1400 ± 100
 Recommended rated speed, rpm : 3400
 Rated power observed, kW : 1.97 @ 3400 rpm
 Country of origin : CHINA

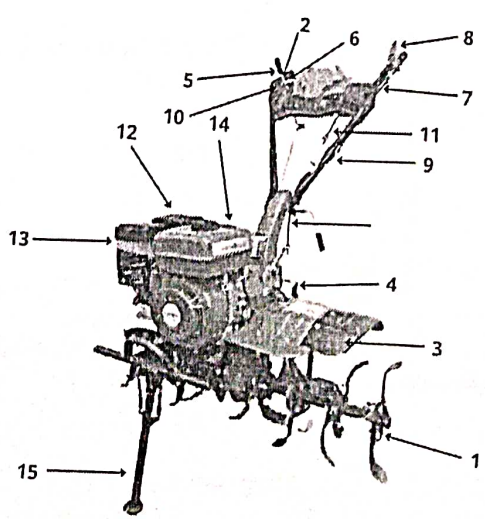


Fig.1 AGRINEER AN205P Power Weeder

Machine 51/416	AGRINEER POWER WEEDER Model: AN205P			COMMERCIAL (ICT)
Sulphur (S)	0.05 (max)	0.05 (max)	0.008	Conforms
Phosphorous (P)	0.05 (max)	0.05 (max)	0.017	Conforms
Boron (B)	--	--	0.001	--

12. FIELD PERFORMANCE TEST

The field tests were conducted for 25.29 hours of field operation for testing the said Power Weeder. The field tests were conducted at rated rpm of 3400. The detailed test results are represented in the Annexure and summarized in the ensuing table:

Sl.No.	Parameters	Observations
1	Type of soil	: Medium
2	Soil moisture (%)	: 12.34 to 15.43
3	Bulk density of soil (g/cc)	: 1.68 to 1.71
4	Speed of operation (kmph)	: 0.559 to 0.692
5	Depth of cut (cm)	: 7.4 to 7.8
6	Width of cut (m)	: 1.07 to 1.08
7	Area covered (ha/h)	: 0.052 to 0.065
8	Time required for one ha (h)	: 15.38 to 19.23
9	Field efficiency (%)	: 83.10 to 88.41
10	Weeding efficiency (%)	: 82.69 to 87.14
11	Fuel consumption	
	- l/h	: 0.982 to 1.040
	- l/ha	: 15.68 to 19.80

12.1 Rate of work

- Rate of work was recorded as 0.052 to 0.065 ha/h and the speed of operation vary from 0.559 to 0.692 kmph.
- Time required to cover one hectare was recorded as 15.38 to 19.23 hours.

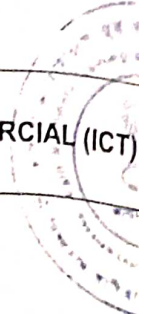
12.2 Quality of work

- Depth of cut was recorded as 7.4 to 7.8 cm.
- Working width was observed as 1.07 to 1.08 m.
- Field efficiency was found as 83.10 to 88.41 %.
- Weeding efficiency was found as 82.69 to 87.14 %.

12.3 Adequacy of power of prime mover

The power of prime mover was found adequate.

Machine 51/416	AGRINEER POWER WEEDER Model: AN205P	COMMERCIAL (ICT)
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- Pitting of seat/faces of valves : None
- Any visual damage to the teeth of timing gears : None
- Clearance between valve guide and valve stem (mm) :
 - Intake valve : 0.18
 - Exhaust valve : 0.19
- 15.2 Clutch:**
 - Any marked wear in clutch friction plate : No
 - Condition of clutch release bearing. : Normal
 - Condition of pilot bearing : Normal
 - Condition of pressure plate : Normal
 - Presence of oil and water in clutch housing : None

15.3 Transmission gears:
All the Gears of the transmission system were found in normal condition.

15.4 Rotary drive unit:
The rotary drive unit was dismantled and all the components were found in normal condition.

16. COMMENTS & RECOMMENDATIONS

- 16.1 Specific fuel consumption of engine corresponding to rated power as observed during test exceeds 5 % of that declared by the applicant/manufacturer. This does not fulfill the requirement of IS 7347-1974 and should be looked into for corrective action.
- 16.2 Rated power of the engine has been observed as 1.97 kW against declaration of 4.0 kW. This may be looked into for corrective action.
- 16.3 High idle and low idle engine rpm were not getting as desired during engine testing. On request of the applicant carburetor, spark plug and governor setting was changed. This should be looked into for quality improvement.
- 16.4 The power mentioned on the labeling plate was 6.5 hp, however during engine test the rated power observed was 2.64 hp (1.97 kW). Also, on labeling plate, tilling depth was mentioned as ≥ 100 mm, however during field test maximum depth observed was 78 mm. This shall be looked into for corrective action.
- 16.5 The amplitude of mechanical vibration marked as (*) is on drastically higher side and is directly concerned with operator's health, safety and comfort. Besides, it is also adversely affect the useful life of the component. In view of above, this deserves to be given top priority for corrective action.
- 16.6 Noise at operator's ear level was observed on higher side against warning limit of 85 dB (A) as

Machine 51/416	AGRINEER POWER WEEDER Model: AN205P	COMMERCIAL (ICT)
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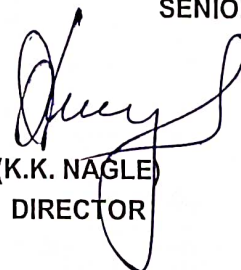
specified by ILO for continuous exposure of 8 hours per day. This calls for reduction in noise level to improve the operator's comfort & safety.

- 16.7 The hardness of rotary blades does not conform to the requirement of IS 6690:1981 (Reaffirmed 2012). This may be looked into for corrective action.
- 16.8 The chemical composition of rotary blade with respect to Manganese does not conform to the requirement of IS 6690:1981 (Reaffirmed 2012). This may be looked into for corrective action.
- 16.9 Machine maneuverability while taking turns during field operation was not comfortable. It shall be looked into to improve ease of operation for the operator.
- 16.10 **Technical literature:**
Operator's manual, service manual and parts catalogue of the machine was supplied with the test sample for reference during the test. It is however, recommended that same may be revised and brought out in Hindi & other regional languages as per IS 8132:1999 (Reaffirmed 2004) for the sake of user & technical personnel.

TESTING AUTHORITY


(M.R. PATIL)
AGRICULTURAL ENGINEER

on leave
(J.P. MANDAL)
SENIOR AGRICULTURAL ENGINEER


(K.K. NAGLE)
DIRECTOR

17. APPLICANT'S COMMENTS

Para No.	Applicant's Comments
16.1 to 16.10	We will intimate our manufacturer to take the necessary action to implement the recommendation for future production. We will also take the necessary action which can be executed from our side.