

व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)
COMMERCIAL TEST REPORT (INITIAL)

संख्या/No: Machine-612/1669
माह/Month: July, 2024

THIS TEST REPORT IS VALID UPTO 30.06.2031



**VELS AGRO, SHM-6R WALK BEHIND RICE
TRANSPLANTER**



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि एवं किसान कल्याण विभाग

Department of Agriculture and Farmers Welfare

दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Southern Region Farm Machinery Training and Testing Institute

ट्रैक्टर नगर, गार्लदिन्ने-515 731, जिला: अनंतपुर (आं. प्र.)

Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)

[An ISO 9001:2015 CERTIFIED INSTITUTE]

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Manufacturer, (apa) : M/s. Jiangsu Yongtao Industry Co. The West
Of Zengguang Bridge Dongxing Town,
Jingjiang City, Jiangsu Province, **China**.

Applicant : M/s. Vels Agro Machineries Pvt. Ltd.,
Flat No.55,56, China Mariamman Koil St
Tharangai Salai, Mayiladuthurai-609001.

VELS AGRO, SHM-6R WALK BEHIND RICE TRANSPLANTER

Report No.: **Machine-612/1669** Month: **July** Year: **2024**

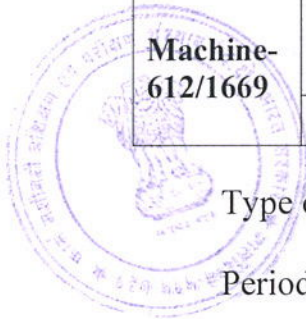


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Type of test : COMMERCIAL (ICT)

Period of test : June, 2024

Test Report No. : Machine-612/1669

Month / Year of release : July, 2024

- i) The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
- ii) The data given in this report pertain to the particular machine randomly selected by testing authority.
- iii) The results presented in this report do not, in any way, attribute to the durability of the machine.
- iv) This report should not be reproduced in part or full without prior permission of the Director, Southern Region Farm Machinery Training and Testing Institute, Garladinne, Anantapur (A.P.).
- v) This is a report on Commercial Test of Rice Transplanter named “VELS AGRO, SHM-6R WALK BEHIND RICE TRANSPLANTER”. This report is valid up to 30.06.2031, Vide Ministry's O.M. No. 13-22/2020-M&T (I&P) dated 12.12.2023.

SELECTED CONVERSIONS

| S. No | Units | Conversion Factor |
|-------|-----------------------|--------------------------------|
| 1 | Force | |
| | 1 kgf | 9.80665 N |
| | | 2.20462 lbf |
| 2 | Power | |
| | 1 hp | 1.01387 metric hp (Ps) |
| | | 745.7 W |
| | 1 Ps | 735.5 W |
| | 1 kW | 1.35962 Ps |
| 3 | Pressure | |
| | 1 psi | 6.895 kPa |
| | 1 kgf/cm ² | 98.067 kPa = 735.56 mm of Hg |
| | 1 bar | 100 kPa = 10 N/cm ² |
| | 1 mm of Hg | 1.3332 m-bar |

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16. SUMMARY OF OBSERVATIONS, COMMENTS AND RECOMMENDATIONS

16.1 Engine Performance:

- 16.1.1 The maximum power was observed as 3.14 KW under natural ambient condition against the declared value of 3.4 kW.
- 16.1.2 Specific fuel consumption of engine corresponding to maximum power recorded as 414 g/kWh against the declared value of 395 g/kWh.
- 16.1.3 Max. torque was observed as 10.8 Nm against the declared value of 10.5 Nm.
- 16.1.4 Back up torque of engine was observed as 7.46 %.

16.2 Mechanical vibration:

The amplitude of mechanical vibration on various assemblies of the transplanter was observed to the extent of 446 micron, which is on higher side. In view of the above, this should be given top priority for corrective action.

16.3 Marking/Labeling:

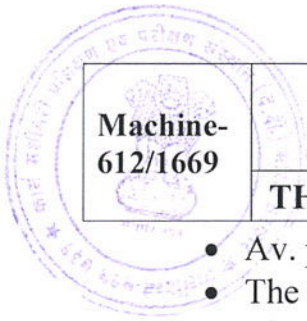
The labeling plate does not reveal all the required information. It is therefore recommended that a suitable labeling plate covering all essential components, inter alia, the following must be provided:

- i. Address of manufacturer
- ii. Make
- iii. Rated rpm
- iv. Engine no.
- v. Engine hp
- vi. Year of manufacture
- vii. Specific fuel consumption (g/kWh)

16.4 Field Test:

The transplanter was operated in varying field conditions for a total period of 26.0 hours for transplanting ADT-53 variety of paddy seedlings. The results are summarized as under: -

- Av. forward speed of operation was observed as 2.69 to 2.84 kmph.
- Av. area covered was recorded as 0.336 to 0.365 ha/h.
- Av. depth of transplanting was recorded as 4.6 to 5.20 cm.
- The spacing between rows was recorded as 30 cm.
- Av. number of plants per hill was recorded as 9 to 12.
- Av. spacing between hills was recorded as 9 to 12 cm.
- Av. total number of hills in 5 m row length was recorded as 30 to 37.
- Av. number of hills per sq. m. was recorded as 30.
- Av. percentage of missed hills was recorded as 1.0 to 1.65.
- Av. percentage of floating seedlings was recorded as Nil to 1.
- Av. percentage of buried seedlings was recorded as Nil to 1.



Machine-
612/1669

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- Av. percentages of damaged seedling were recorded as Nil to 1.65.
- The total percentage of transplanting faults was recorded as 2 to 3.30.
- The consumption of nursery trays was recorded as 227 to 245 numbers per hectare.
- The hourly fuel consumption was recorded as 0.95 to 1.15 l and fuel required for planting of one hectare area was recorded as 2.83 to 3.15 l.

16.4.1 The quality of work was observed as smooth during entire transplanting operation. The overall performance of the machine was found satisfactory.

16.5 Components/assembly inspection:

16.5.1 The transplanter and engine were dismantled after **39.17** hours of operation and wear of critical components were observed within the limits.

16.5.2 The main gear box, planting box, planting arm drive mechanism and bearings were dismantled after completion of field operation and found in satisfactory working condition.

16.6 Safety provisions:




The machine is provided with various safety provisions while working in the field or moving on the road as mentioned in the **clause 5.10** of this test report.

16.7 Technical literature:

Operator's manual, service manual and parts catalogue of Rice Transplanter and engine in separate booklet were supplied with the Rice Transplanter for reference during the test. It is however, recommended that same may be revised in Hindi and other regional languages as per IS 8132: 1999 (Reaffirmed 2004) for the sake of user & technical personnel.

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TESTING AUTHORITY

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|---|--|
| Er. PRAMOD YADAV AGRICULTURAL ENGINEER |  |
| Dr. B.M. NANDEDE DIRECTOR |   |

17. APPLICANTS COMMENTS

| Sl.no. | Para no. | COMMENTS |
|--------|----------|---|
| 1 | 16.2 | We will take suitable corrective action to minimize vibration level |
| 2 | 16.3 | We will provide necessary information in labeling plate. |
| 3 | 16.7 | We will provide in necessary languages as per requirement. |