

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

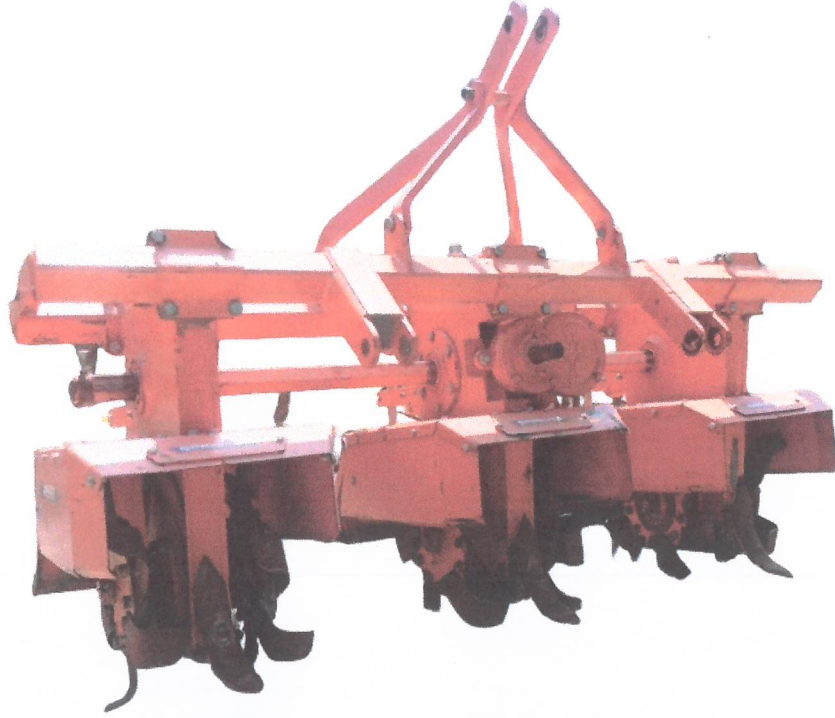
संख्या/No. CSIR/CMERI/FMTTC/2024/056

माह/Month: OCTOBER, 2024

THIS TEST REPORT VALID UP TO

:

30th SEPTEMBER, 2031



SONALIKA INDUSTRIES

(A Unit of International Cars & Motors Ltd.)

ROTARY WEEDER

(MODEL: SLIRRW-3R)



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

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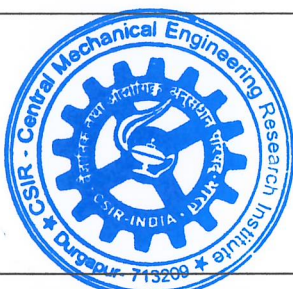
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CSIR/CMERI/FMTTC/2024/056

SONALIKA INDUSTRIES
(A Unit of International Cars & Motors Ltd.)
ROTARY WEEDER SLIRRW-3R
(INITIAL COMMERCIAL TEST)

Name of Machine : Tractor (PTO) Operated Rotary Weeder
Type : Tractor Mounted
Make : SONALIKA INDUSTRIES
(A Unit of International Cars & Motors Ltd.)
Model : SLIRRW-3R
SONALIKA INDUSTRIES
Name and address of the Manufacturer : (A Unit of International Cars & Motors Ltd.)
Village Chak Gujran, Jalandhar Road, Hoshiarpur -146022 (Punjab), INDIA
Name and address of Applicant : SONALIKA INDUSTRIES
(A Unit of International Cars & Motors Ltd.)
Village Chak Gujran, Jalandhar Road, Hoshiarpur -146022 (Punjab), INDIA
Test Conducted at : Farm Machinery Training and Testing Center, CSIR – Central Mechanical Engineering Research Institute, M.G. Avenue, Durgapur- 713209, West Bengal, INDIA, & CMERI- Centre of Excellence for Farm Machinery, Near GNE College, Gill Road, Ludhiana - 141006, Punjab, INDIA

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



Report No.: CSIR/CMERI/FMTTC/2024/056

Month: October

Year: 2024

CSIR - Central Mechanical Engineering Research Institute,

Durgapur - 713209

Report prepared by

Jadhav

(W.B.), INDIA

Report verified by

Sudhakar Kumar Mandal

Farm Machinery Training and Testing Centre,
CSIR-Central Mechanical Engineering Research Institute, Durgapur
THIS REPORT IS VALID UPTO: 30th SEPTEMBER 2031

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4. SPECIFICATION

4.1. General

| | | |
|----------------------------------|---|---|
| Type of machine | : | Tractor (PTO) Operated Rotary Weeder |
| Make | : | SONALIKA INDUSTRIES (A Unit of ICML) |
| Model | : | SLIRRW-3R |
| Serial No. | : | VQ389054 |
| Name and Address of manufacturer | : | SONALIKA INDUSTRIES (A Unit of International Cars & Motors Ltd.) Village Chak Gujran, Jalandhar Road, Hoshiarpur, Punjab |
| Year of manufacture | : | 2024 |
| Country of origin | : | INDIA |
| Type of blade | : | L-TYPE (Hatchet) |
| Working width, mm | : | 1710 (adjustable) |
| Recommended Prime mover size | : | 40-50 hp |

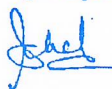
4.2. Details of prime mover

Tractor used during test

| | | |
|-------------------|---|---|
| Make | : | SONALIKA |
| Model | : | SONALIKA DI 47 RX |
| Engine Sr. No. | : | E17E002815 |
| Max. PTO power kW | : | 30.80 kW; T-1134/1160/2018& February, 2018 |
| SFC (g/kW – hr) | : | 261 |

*During testing 2WD mode was selected.

Report prepared by



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Table-2: Summary of field performance

| | | | |
|-------|--------------------------|-----|----------------|
| i) | Tractor used | : | Sonalika DI 47 |
| ii) | Gear used | : | L-2 |
| iii) | Type of soil | : | Sandy Loam |
| iv) | Soil moisture,% | : | 15.7 to 16.6 |
| v) | Speed of operation, kmph | : | 3.67 to 4.06 |
| vi) | Depth of cut, cm | : | 7.2 to 8.1 |
| vii) | Width of cut, m | : | 1.69 to 1.70 |
| viii) | Area covered, ha/h | : | 0.62 – 0.69 |
| ix) | Wheel slippage, % | : | -3.11to-2.22 |
| x) | Fuel consumption | | |
| | | l/h | 5.13 to 6.20 |
| | | l/h | 10.23 to 11.23 |
| xi) | Weeding efficiency, % | : | 91.30 to 93.10 |
| xii) | Field efficiency, % | : | 76.10 to 81.10 |
| xiii) | PTO Power, kW | : | 17.48 |



(a)



(b)

Fig. 7 (a) & (b): Testing of machine in sugarcane field.

7.1 Rate of work:

The rate of work is assessed by the area covered during field operation. Area covered by the machine ranged from 0.62 to 0.69 ha/h at the speed of 3.67 to 4.06 kmph.

7.2 Quality of work:

Quality of work is assessed by the depth of cut in field operation and weeding efficiency which were observed from 7.2 to 8.1 cm & 91.30 to 93.10% respectively.

Report prepared by

Report verified by

Subrata Kumar Mandal

| | | | | |
|-----|-----------------------------|---|----------|----------|
| 18. | Marking/Labeling of machine | The labeling plate should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacture, Serial Number, Type, Size, Size of prime mover (kW) | Provided | Conforms |
| 19. | Literature | Operator manual, service manual, parts catalogue should be provided. | Provided | Conforms |

13. COMMENTS & RECOMMENDATIONS

- 13.1 The rate of work is assessed by the area covered during field operation. Area covered by the machine ranged from 0.62 to 0.69 ha/h at the speed of 3.67 to 4.06 kmph.
- 13.2 Quality of work is assessed by the depth of cut in field operation and weeding efficiency which were observed from 7.2 to 8.1 cm and 90.40 % to 93.89 % respectively.
- 13.3 The tractor (PTO) operated weeder has the provision to adjust working width according to row crop spacing.

Report prepared by



Report verified by



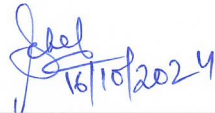
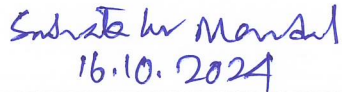
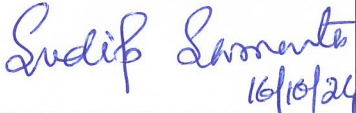
14. TECHNICAL LITERATURE

The following technical literatures were provided by the applicant during the field test:-

- (i) Operator's manual
- (ii) Service manual
- (iii) Parts catalogue

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

TESTING AUTHORITY

| | | |
|-----------------------------------|---|---|
| Report Prepared by | Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre |  16/10/2024 |
| Report Approved by | In-Charge, CSIR-CMERI Farm Machinery Testing Centre |  16.10.2024 |
| Report Approved for release by | Head, Business Development Unit, CSIR-CMERI, Durgapur |  16/10/24 |

15. APPLICANT'S COMMENTS

| Para No. | Our Reference | Applicant's Comments |
|----------|---------------|---|
| 15 | 13.1 to 13.3 | Agreed for comments and recommendations table no 13.1,13.2 & 13.3 |

