

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

संख्या/No: IMP-375/1261  
माह/Month: March, 2021  
Validity: 28.02.2028



**SANJEEVARAYA ENGINEERING WORKS, SEW 5 DFC  
FIVE BOTTOM DUCK FOOT CULTIVATOR (Tractor Mounted)**



भारत सरकार

**Government of India**

कृषि एवं किसान कल्याण मंत्रालय

**Ministry of Agriculture and Farmers Welfare**

कृषि, सहकारिता एवं किसान कल्याण विभाग

**Department of Agriculture, Cooperation 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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<b>Imp-375/1261</b>	<b>SANJEEVARAYA ENGINEERING WORKS, SEW 5 DFC FIVE BOTTOM DUCK FOOT CULTIVATOR (Tractor Mounted)</b>	<b>COMMERCIAL (ICT)</b>
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Manufacturer : M/s. Sanjeevaraya Engineering Works,  
RTC Bus Stand Complex,  
Dharmavaram-515 671, Anantapuramu  
District, Andhra Pradesh, **India**

Name of Applicant : The Manufacturer

**SANJEEVARAYA ENGINEERING WORKS, SEW 5 DFC  
FIVE BOTTOM DUCK FOOT CULTIVATOR (TRACTOR MOUNTED)**

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## 6.2 Quality of work

- Average depth of operation was recorded as 10.0 to 11.0 cm.
- Average field efficiency was recorded as 61.19 to 70.75 %.

## 6.3 Power requirement

The average draft requirement was ranged from 696.8 to 756.0 kgf and the average power requirement was calculated as 5.69 to 6.85 kW.

## 6.4 Wear of Shovel

Sl. No.	Initial mass (g)	Final mass (g)	Loss of mass (g)	Percentage of wear	
				After 28.0 h	Per hour
1	2672.6	2498.8	173.8	6.50	0.23
2	2661.8	2499.2	162.6	6.11	0.22
3	2679.7	2557.1	122.6	4.57	0.16
4	2863.2	2656.8	206.4	7.21	0.26
5	2645.1	2535.0	110.1	4.16	0.15

**Remark:** - The hourly percentage wear of blades on mass basis was recorded as 0.15 to 0.26 %.

## 7. EASE OF OPERATION & ADJUSTMENTS

No difficulty was observed during the operation and adjustment of cultivator

## 8. DEFECTS, BREAKDOWNS AND REPAIRS

No defect/breakdown and repair was occurred during entire period of field & lab tests.




## 9. SUMMARY OF OBSERVATIONS, COMMENTS AND RECOMMENDATION

- 9.1 The hardness of shovels conforms to the requirement of IS:6813:2000.
- 9.2 All constituents except Silicon content are conforming the requirements of IS 6690:1981 (Reaffirmed 2012). Therefore corrective action in respect of carbon content should be taken.
- 9.3 The material used for tine is mild steel, it is therefore recommended to use carbon steel as per IS 6638:1972.

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- 9.4 The specification of implement hitch does not conform in full to the IS 4468 (Pt-I):1997 (Reaffirmed 2012). It is recommended that the Hitch should be provided conforming to the relevant Indian Standards.
- 9.5 The bolt used for shovel is Hexagonal bolt, it is recommended to use the Counter sunk bolt as per IS 6813: 2000.
- 9.6 The provided labeling plate should be as per the requirement of IS.
- 9.7 **Adequacy of literature:**  
The provided literatures are not found adequate. Operation manual, Service manual, maintenance manual and parts catalogue of trailer in English are required to provide for easy use of users in separate booklets. However, this may be brought out in Hindi and other regional languages as per IS 8132: 1999 (Reaffirmed 2004) for the sake of user & technical personnel in booklets form.

**TESTING AUTHORITY:**

B. N. DIXIT AGRICULTURAL ENGINEER	
P. C. MESHARAM SENIOR AGRICULTURAL ENGINEER	
Dr. P. P. RAO DIRECTOR	

**10. APPLICANT'S COMMENTS**

We have noted your suggestions, as per the possibility we will try to implement all your suggestions in future production.