



**GREENSYSTEM SC1011, 11 TINE SPRING LOADED CULTIVATOR  
(Tractor Mounted)**



सत्यमेव जयते  
भारत सरकार  
GOVT OF INDIA

कृषि एवं किसान कल्याण मन्त्रालय

MINISTRY OF AGRICULTURE & FARMERS WELFARE

कृषि, सहकारिता एवं किसान कल्याण विभाग

DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS WELFARE

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान

**NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE**

विश्वनाथ चारिआलि, जिला- विश्वनाथ (असम)

BISWANATH CHARIALI: BISWANATH: ASSAM, PIN - 784 176

[AN ISO 9001:2015 CERTIFIED INSTITUTION]

Ph. No. 03715-222094

Website: <http://nerfmtti.nic.in>

Fax No: 03715-230358

E-Mail: [fmti-ner@nic.in](mailto:fmti-ner@nic.in)



### 8. EASE OF OPERATION & ADJUSTMENTS

No noticeable difficulty was observed during the operation and adjustment of cultivator.

### 9. DEFECTS, BREAKDOWNS AND REPAIRS

No breakdown was occurred during 26.4 h of field test of the cultivator.

### 10. SUMMARY OF OBSERVATIONS, COMMENTS AND RECOMMENDATIONS

- 10.1** The specification of springs for tractor mounted Spring loaded Cultivator, does not conform to IS: 6638 – 1972 (Reaffirmed Feb. 2011). This should be improved and provided as per the requirement of Indian Standard.
- 10.2** The specification of tine does not conform to IS: 7565 (PART I) – 1975 (Reaffirmed Mar., 2009). This should be improved and provided as per the requirement of Indian Standard.
- 10.3** The dimension of reversible shovel does not conform to IS: 3342-1998 (Reaffirmed Mar., 2009). This should be looked into for corrective action for standardization.
- 10.4** The dimension of hitch pyramid of the implement does not conform to IS: 4468-1997 (Part-1) (Reaffirmed Feb., 2012). This should be looked into for corrective action for standardization.
- 10.5** The percentage of carbon and manganese in the shovel was not within its required range as per IS: 3342:1998. Therefore it is recommended to looked into for corrective action.
- 10.6 Performance of the cultivator:**
- 10.6.1 Rate of work:**
- c) The area cover was recorded as 0.889 to 1.03 ha/h at the speed of operation from 5.10 to 5.25 km/h.
- d) The time required to cover one hectare area was recorded as 0.97 to 1.13 h.
- 10.6.2 Quality of work:**
- d) The depth of cut was recorded as 11 to cm.
- e) Average working width was observed as 227 to 245 cm.
- f) Field efficiency was observed as 75.5 to 81.5 %.
- 10.6.3 Power requirement:**
- The draft of implement was recorded from 511 to 699 kgf and power requirement was calculated as 7.41 to 9.83 kW.
- 10.6.4 Labour requirement:**
- One skilled operator was needed to operate the tractor with the implement.
- 10.7 Wear Assessment:**
- The hourly rate of wear of the reversible shovel on mass and dimensional basis was recorded as 0.17 to 0.25 % and 0.08 to 0.27 % respectively.
- 10.8** The contact angle of the shovel with tine was not declared as per the recommendation of IS: 6638-1972.



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**10.9 Labelling plate:**

Manufacturer's name, serial no. and year of manufacture were indicated on the labeling plate. However, it is recommended to specify make, model, specify size and number of tines as per Indian Standard.

**10.10 Technical literature:**

Parts Catalogue was provided along with the machine during the course of testing. It is further recommended to bring out these manual and Operator cum Service Manual in Hindi and other vernacular languages as per IS: 8132-1999.

**TESTING AUTHORITY**

S. G. PAWAR AGRICULTURAL ENGINEER	
A.K. UPADHYAY SENIOR AGRICULTURAL ENGINEER	
K.K. NAGLE DIRECTOR	

Draft test report compiled by -

Sh. Rahul Prajapati, Sh. Sandeep Kumar

**11. APPLICANT'S COMMENTS**

Para No.	Our reference	Applicant's Comments
11.1	10.1	We agree with the recommendations and will look in to providing springs for spring cultivator conforming to Indian Standards IS: 6638 – 1972 (Reaffirmed Feb. 2011)
11.2	10.2	We agree with the recommendations and will look in to providing tines for spring cultivator conforming to Indian Standards IS: 7565 (PART I) – 1975 (Reaffirmed Feb. 2009)
11.3	10.3	We agree with the recommendations and will look in to providing shovels for cultivator conforming to Indian Standards IS: 3342 - 1998
11.4	10.4	We agree with the recommendations and will look in to providing hitch pyramid for cultivator conforming to Indian Standards IS: 4468 – 1997 (PART I)
11.5	10.5	We agree with the recommendations and will look in to providing shovels with correct chemical composition for cultivator conforming to Indian Standards IS: 3342 – 1998
11.6	10.8	We agree with the recommendations and we will provide contact angle of shovel with tine as per recommendation of IS: 6638 – 1972
11.7	10.9	We agree with the recommendations and will mention size and number of tines on serial number on the serial number plate as per Indian Standard.
11.8	10.10	We agree with the recommendations and will provide manual in Hindi and other vernacular languages as per IS: 8132 - 1999

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