

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

संख्या / No. : T-1650/2181/2022  
माह / Month : May, 2022

[ONLINE TESTING]

(यह परीक्षण रिपोर्ट 31/05/2025 तक वैध है। / THIS TEST REPORT IS VALID UPTO : 31/05/2025)



## TAFE 30 DI ORCHARD PLUS V2 TRACTOR



भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय  
(कृषि, सहकारिता एवं किसान कल्याण विभाग)

**GOVERNMENT OF INDIA**  
**MINISTRY OF AGRICULTURE AND FARMERS WELFARE**  
(DEPARTMENT OF AGRICULTURE, CO-OPERATION & FARMERS WELFARE)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान  
ट्रैक्टर नगर, बुदनी (म.प्र.) 466 445  
**CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE**  
(An ISO 9001 : 2015 Certified Institute)

TRACTOR NAGAR, BUDNI (M.P.) 466 445

E-mail: [fmti-mp@nic.in](mailto:fmti-mp@nic.in)

Web site: <http://www.fmttibudni.gov.in>

Telephone: 07564-299003

Page 1 of 49

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

**Manufacturer** : **M/s. Tractor and Farm Equipment Limited**, Post Box No. 3302, (New 77), 35 Mahatma Gandhi Road, Nungambakkam, Chennai - 600 034 (Tamil Nadu)

Location of other manufacturing plants (apa) : (i) **M/s. Tractor and Farm Equipment Limited**, Kalladipatti Plant, 10/205, Kalladipatti (P.O.), Pin code- 624201, Dindigul district, (Tamil Nadu)  
: (ii) **M/s. Tractor and Farm Equipment Limited**, Doddaballapur plant, Plot No. 1, Kiadb Industrial Estate, Doddaballapur, Bangalore – 561203

**Test requested by (applicant)** : The manufacturer  
Selected for test by : The Testing Authority  
Place of running-in : At Institute premises  
Duration of said running-in, (h):  
- Engine : 12  
- Transmission : 24  
**Method of Selection** : The test sample was selected randomly out of five tractors from the production line by the representative of testing authority through online.

Details of tractors made available for random selection:		
S. No.	Chassis Number	Engine Number
(i)	MEA0D47DJM2390883	S217 49627
(ii)	MEA0D47DJM2390713	S217 49644
(iii)	MEA0D47DJM2390786	S217 49633
(iv)	MEA0D47DJM2390349	S217 49637
(v)	MEA0D47DJM2390590	S217 49617

## 1. SPECIFICATIONS

**1.1 Tractor:**  
 Make : TAFE  
 Model : TAFE 30 DI ORCHARD PLUS V2  
 Brand name : None  
 Variants, if any : None  
 Type : Rear Wheel Drive, Standard Agricultural Tractor.  
 Month & Year of manufacture : 09 & 21  
 Chassis number : MEA0D47DJM2390349  
 Country of origin : India

**1.2 Engine:**  
 Manufacturer's address : M/s. Simpsons & Co. Ltd., Huzur Garden, Sembiam, Chennai- 600011  
 Make : Simpson  
 Model : TIIIA S3217-F6  
 Type : Four stroke, natural aspirated, water cooled, direct injection, diesel engine  
 Serial number : S217 49637  
 Year of manufacture : 2021

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

**16.7 Starter motor & Alternator:**

Presence of soil/oil in housing : None  
Condition of bearings and other : Normal  
Components

**17. ADJUSTMENTS, DEFECTS, BREAKDOWNS AND REPAIRS**

S. No.	Adjustments / Defects / Breakdowns and Repairs	Tractor run hours
---Nil---		

**18. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS**

**18.1** On the basis of tests conducted the performance results have been summarized as evaluative (mandatory) / non-evaluation (non-mandatory) parameter applicable for qualifying Minimum Performance criteria as per Clause-4 (Table-1) of **IS: 12207-2019** for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

S. No.	Characteristic	Category (Evaluative / Non-Evaluative)	Requirements as per IS: 12207-2019	Values declared by the applicant(D)/ Requirement (R)	As observed	Whether meets the requirements (Yes/No)
1	2	3	4	5	6	7
<b>18.1.1</b>	<b>PTO Performance:</b>					
a)	Maximum power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of $\pm 5\%$ for PTO power and or Engine power $>26$ kW $\pm 10\%$ for PTO power and or engine $\leq 26$ kW	15.5 (D)	14.9	Yes
b)	Power at rated engine speed, (kW)	Non-Evaluative	-do-	15.5 (D)	13.4	<b>No</b>
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+10 percent Max.	265 (D)	259	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non-Evaluative	$\pm 8$ percent	100 (D)	90.2	Yes
e)	Back-up torque, percent	Evaluative	12 percent	12 (D)	40.7	Yes
f)	<b>Maximum operating temperature, (°C)</b>					
1)	Engine oil	Evaluative	The declared value should not exceed the max. value specified by the oil company and the observed value under high ambient condition should not exceed the declaration.	132 (D)	99	Yes
2)	Coolant (water)	Evaluative	The declared value should not exceed the boiling temperature of coolant under the pressurized or otherwise and the observed value under high ambient condition should not exceed the declaration.	110 (D)	81	Yes

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

1	2	3	4	5	6	7
<b>g)</b>	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. power under High ambient conditions	2.61 (Maximum) (R)	0.48	Yes
<b>h)</b>	Smoke level	Evaluative	Maximum light absorption coefficient of 3.25 per meter or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR)	3.25 per meter (Maximum) (R)	0.19	Yes
<b>18.1.2</b>	<b>Drawbar performance:</b>					
<b>a)</b>	Maximum drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)	Non-Evaluative	Minimum 70 percent of static mass with ballast	Ballasting not recommended by the manufacturer	Not applicable	Not applicable
<b>b)</b>	Max. drawbar pull without ballast, as the case may be corresponding to 15 percent wheel slip or 7 percent track slip, (kN)	Evaluative	Minimum 70 percent of static mass of tractor without ballast or as the case may be	10.0 (D) 9.71 (R) (Minimum)	9.78	Yes
<b>c)</b>	Maximum drawbar power without ballast as the case may be, (kW)	Evaluative	Minimum 80 % of PTO power as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor. Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft.	12.0 (D) 11.2 (R) (Minimum)	13.3	Yes
<b>d)</b>	Max. transmission oil temperature (°C)	Evaluative	The declared value should not exceed the maximum value specified by oil company	132 (D)	81	Yes
<b>18.1.3</b>	<b>Power lift and hydraulic pump performance:</b>					
<b>a)</b>	Maximum lifting capacity throughout the range of lift, (kN):					
	1) At hitch points	Evaluative	[Tolerance of ± 10%]	10.0 (D)	10.98	Yes
	2) With the standard frame	Evaluative	The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft.	8.50 (D) 3.51 (R) (Minimum)	9.45	Yes
<b>b)</b>	Maximum drop in the height of the point of application of the force after each 5 min. interval for a total duration of 30 min/ mm	Non-Evaluative	The observed value should not exceed 50 mm.	50 (D) 50 (R) (Maximum)	125	<b>No</b>

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

1	2	3	4	5	6	7	
<b>18.1.4</b>	<b>Brake performance at 25 kmph:</b>						
<b>a)</b>	Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with unballasted, (m):						
	1)	Cold brake	Evaluative	10	10 (R)	7.74	Yes
	2)	Hot brake	Evaluative	10	10 (R)	7.99	Yes
<b>b)</b>	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s <sup>2</sup> . (N)	Evaluative	600	600 (R)	255 to 350	Yes	
<b>c)</b>	Whether parking brake is effective at a force of 600 N at foot pedal(s) or 400 N at hand lever	Evaluative	Yes / No	Yes (R)	Yes	Yes	
<b>18.1.5</b>	<b>Noise measurement:</b>						
<b>a)</b>	Maximum ambient noise emitted by the tractor at bystanders' position, dB(A)	Evaluative	88 dB(A) for >1.5 tonne GVW and 85 dB(A) for <1.5 tonne GVW (as per CMVR)	88 (R)	83	Yes	
<b>b)</b>	Maximum noise at operator's ear level dB(A)	Evaluative	As per CMVR	96 (R)	91	Yes	
<b>18.1.6</b>	<b>Amplitude of mechanical vibrations at:</b>						
	1)	Left foot rest	Non-Evaluative	100 microns (max)	100 (D)	142	<b>No</b>
	2)	Right foot rest				127	<b>No</b>
	3)	Seat (with driver seated)				124	<b>No</b>
	4)	Steering Wheel				112	<b>No</b>
<b>18.1.7</b>	<b>Air cleaner oil pull over:</b>						
	Maximum air cleaner oil pull over (%)	Evaluative	0.25 % (max.)	0.25	0.18	Yes	
<b>18.1.8</b>	<b>Haulage requirements:</b>						
<b>a)</b>	Gross mass of the trailers, (tones):						
	-Two wheel	Non-Evaluative	--	3.0 (D)	3.0	Yes	
-Four wheel	--		Not recommended	Not applicable	Not applicable		
<b>b)</b>	Distance travelled / litre of fuel consumption, (km/l):						
	-Two wheel	Non-Evaluative	--	4.8 to 6.5 (D)	8.11 to 8.62	<b>No</b>	
	-Four wheel		--	Not recommended	Not applicable	Not applicable	
<b>c)</b>	Fuel consumption (ml/km/tonne):						
	-Two wheel	Non-Evaluative	--	25 to 30 (D)	38.68 to 41.10	<b>No</b>	
	-Four wheel		--	Not recommended	Not applicable	Not applicable	

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

1	2	3	4	5	6	7
<b>18.1.9</b>	<b>Wetland cultivation:</b>					
	Sealing for the following assemblies:	Evaluative	The identified assemblies should essentially meet the requirement of IS: 11082. - No water ingress in the identified assembly given in column - 2. If tractor does not meet the requirements of wetland cultivation, it may be recommended for dry land operation only	<b>The manufacturer has recommended that the tractor is not suitable for wetland cultivation (puddling operation) and therefore, the wetland cultivation (puddling operation) test was not conducted.</b>		--
	1) Clutch assembly	-do-				
	2) Brake housings	-do-				
	3) Front axle hubs	-do-				
	4) Engine oil	-do-				
	5) Transmission oil	-do-				
<b>18.1.10</b>	<b>Safety features:</b>					
<b>a)</b>	Guards against moving and hot parts	Evaluative	Belt drives, pulleys, silencer, hydraulic pipes (As per IS 12239 (Part-2))	Meets the requirement		Yes
<b>b)</b>	Lighting arrangement	Evaluative	As per CMVR	Meets the requirement		Yes
<b>c)</b>	Seating requirements (Tractors having more than 1150 mm rear track width)	Non-Evaluative	Should meet the requirements of IS: 12343-2021	Not applicable as the rear track width of the tractor is less than 1150 mm		Not applicable
<b>d)</b>	Technical requirements for PTO shaft	Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)	Meets the requirement		Yes
<b>e)</b>	Dimensions of three-point linkage	Non-Evaluative	Should meet the requirements of IS: 4468 (Part-2)1993 (As amended from time to time)	<b>Does not meet the requirement</b>		<b>No</b>
<b>f)</b>	Specifications of linkage drawbar	Evaluative	Should meet the requirements of IS:12953-1990	Meets the requirement		Yes
<b>g)</b>	Swinging drawbar (wherever fitted)	Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)	Not fitted		Not applicable
<b>h)</b>	1) Maximum travelling speed at rated engine speed in reverse gears, kmph	Evaluative	Should not exceed 20 kmph	(11.08 kmph) Meets the requirement		Yes
	2) Audible warning signal on tractor	Evaluative	As soon as the travelling speed in reverse gear reaches to 20 kmph, an audible warning signal on tractor shall be activated. The safety aspects about the operation of shuttle technology shall be brought in operation and manufacturer/dealer shall ensure the training on this aspect to operator before the delivery of tractor.	Not provided		Not applicable

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

1	2	3	4	5	6	7
<b>18.1.11</b>	<b>Labelling of tractors (Provision of labelling plate):</b>					
	1) Make	Evaluative	Should conform to the requirements of CMVR along-with maximum PTO power in kW and year of manufacture in numerical form MM YY Digit 01-12 in box No.1 for MM will represent the months & next two digits in box No.2 for YY will represent the year of manufacturing.	TAFE	Yes	
	2) Model	Evaluative		TAFE 30 DI ORCHARD PLUS V2	Yes	
	3) Month & Year of manufacture	Evaluative		09/21	Yes	
	4) Engine number	Evaluative		S217 49637	Yes	
	5) Chassis number	Evaluative		MEA0D47DJM2390349	Yes	
	6) Declaration of PTO power, kW	Evaluative		15.5	Yes	
	7) Specific fuel consumption, g/kWh	Evaluative		265	Yes	
<b>18.1.12</b>	<b>Discard limit for:</b>					
(a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by Manufacturer	91.683	91.476 to 9.495	Yes
(b)	Clearance between piston & cylinder liner at skirt, (mm)	Non-Evaluative		0.25 With new ring	0.147 to 0.155	Yes
(c)	Piston diameter at skirt, mm	Non-Evaluative		Piston is discard when the ring groove clearance exceed 0.25 with new ring	91.342 to 91.343	Yes
(d)	<b>Ring end gap (mm):</b>					
	- Top comp. ring.	Evaluative	-do-	1.5	0.45	Yes
	- 2 <sup>nd</sup> comp. ring.		-do-	1.5	1.05	Yes
	- Oil ring.		-do-	1.5	0.40	Yes
(e)	<b>Ring groove clearance (mm):</b>					
	- Top comp. ring.	Evaluative	-do-	--	Tapped rings	--
	- 2 <sup>nd</sup> comp. ring.	Evaluative	-do-	0.25	0.054 to 0.056	Yes
	- Oil ring.	Evaluative	-do-	0.25	0.035 to 0.036	Yes
(f)	<b>Clearance of main bearings, (mm):</b>					
	- Diametrical	Evaluative	-do-	0.30	0.115 to 0.137	Yes
	- Crank shaft end float	Evaluative	-do-	0.50	0.20	Yes
(g)	<b>Clearance of big end bearings, (mm):</b>					
	- Diametrical	Evaluative	-do-	0.50	0.115 to 0.137	Yes
	- Axial	Evaluative	-do-	0.75	0.25 to 0.30	Yes
(h)	Clearance between king pin and bush, (mm)	Non-Evaluative	-do-	0.50	0.216 to 0.288	Yes
(i)	Clearance between center pin and bush, (mm)	Non-Evaluative	-do-	0.20	0.087 to 0.107	Yes

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

1	2	3	4	5	6	7
<b>18.1.13</b>	<b>Literature (Submission to test agency):</b>					
(a)	Operator manual	Evaluative	The printed literature in booklet form should be provided as per IS 8132 & should submit along with the test sample	Provided / Not Provided	Provided	Yes
(b)	Parts Catalogue	Evaluative		Provided / Not Provided	Provided	Yes
(c)	Workshop/ Service manual	Evaluative		Provided / Not Provided	Provided	Yes
<b>18.1.14</b>	Fitment of Roll Over Protective Structure (ROPS): for tractors having more than 1150 mm rear track width	Evaluative	ROPS should meet the requirement of IS:11821 or OECD code or equivalent International Standard	Not provided	Not fitted	Not applicable
<b>18.1.15</b>	Standard accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor	Provided	Provided	Yes
<b>18.1.16</b>	Accessories (Optional)	Non Evaluative	Ballast weights if fitted should meet the requirement of CMVR.	Provided	Not Provided	Not applicable

<b>18.2 CATEGORY OF BREAKDOWNS / DEFECTS (As per clause 5.0 of IS:12207-2019):</b>					
S. No.	Category of Breakdown	Category (Evaluative / Non-Evaluative)	Requirements as per IS: 12207-2019	As observed	Whether meets the requirement (Yes/No.)
1.	Critical breakdown	Evaluative	There is no 'critical breakdown' during the course of testing.	None	Yes
2.	Major breakdowns	Evaluative	There are not more than 02 major breakdowns and neither of them is of repetitive nature.	None	Yes
3.	Minor breakdowns	Evaluative	Not more than five and frequency of each should not be more than two.	None	Yes
4.	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed five, that is, (2 major + 3 minor) or 5 minor breakdowns.	None	Yes



T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

- 18.3 Conformity with following IS:**
- i) Guide lines for declaration of power and specific fuel consumption and labelling of agricultural tractors (First revision) [IS10273: 1987 (Reaffirmed in January, 2019)] : Conforms
  - ii) Agricultural tractors - Rear mounted power take-off - Types 1, 2 and 3 (third revision) [IS:4931-1995 (Reaffirmed in January, 2019)] : Conforms
  - iii) Agricultural wheeled tractors - Rear mounted three-point linkage: Part 2 Categories 1N (fourth revision) [IS 4468(Part-II):1993/ISO 730-2:1979 (Reaffirmed in 2019)]. : Conforms
  - iv) Drawbar for agricultural tractors – Link type [IS 12953:1990 (Reaffirmed October, 2017)]. : Conforms
  - v) Agricultural tractors - Operator's seat technical requirement [IS 12343 –2021]. : Not applicable as the rear track width of the tractor is less than 1150 mm
  - vi) Guide for safety & comfort of operator of agricultural tractors: Part 1 General requirements (first revision): [IS 12239 (PT-1)-2018 /ISO 4254-1:2013]. : **Does not conform**
  - vii) Tractors and machinery for agriculture and forestry – Technical means for ensuring safety Part 2: Tractors (first revision) (IS 12239 (PT-2) 1999) (Reaffirmed in January, 2019)] : **Does not conform**
  - viii) Guide lines for location and operation of operator controls on agricultural tractors and machinery (first revision) IS: 8133- 1983 (Reaffirmed in January, 2019)]. : Conforms
  - ix) Tractors and machinery for agriculture and forestry, powered lawn and garden equipment - Symbols for operator controls and other displays Part 2 Symbols for agricultural tractors and machinery [IS:6283 (Part-1)- 2006 and IS: 6283 (Part-2)- 2007 (Reaffirmed in January, 2019)] : Conforms
  - x) Agricultural Tractors and Machinery - Lighting device for travel on public roads (IS: 14683-1999) (Reaffirmed in January, 2019)] : Conforms

**18.4 Salient Observations:**

**18.4.1 Laboratory tests:**

**18.4.1.1 PTO performance test:**

- (i) The rated PTO power was recorded as **13.4 kW** against the declaration of **15.5 kW**, which does not meet the non-evaluative requirement of IS: 12207-2019. This should to be looked into for necessary corrective action.

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

- (ii) **The Term “Rated Power” is derived from the expression “Availability of power at rated rpm”. Further the rated rpm is defined as “the engine speed specified by the tractor manufacturer for continuous operation at full load”. The existing vast difference between declared rated power & observed rated power, therefore, needs to be reduced to the reasonable limit.**

**18.4.1.2 Hydraulic performance test:**

The maximum cumulative drop in the height of hydraulic lift during lift maintenance load test for total duration of 30 minute has been recorded as **125 mm** against the maximum permissible limit of 50 mm as per IS:12207-2019. This may be looked into for necessary corrective action

**18.4.1.3 Mechanical Vibration:**

The amplitude of mechanical vibration on various assemblies marked as (\*) in Chapter-10 of this test report is on higher side especially at especially on the left and right foot rest, seat and steering wheel. This calls for dampening down of vibrations to improve the operational comfort and service life of components.

**18.4.1.4 Three-point linkage:**

- (i) The lateral distance from lower hitch point to centre line of the tractor of three-point linkage does not meet the requirement of IS: 4468 (Part-2) Category 1N -Narrow Hitch: 1993 (Re-affirmed in 2019). This should be looked into for necessary corrective action.
- (ii) Some of the parameters of three-point linkages conform to Cat. 1N and some of them conform to Cat. I. Keeping in view the spirit of standardization, necessary improvements may be incorporated.

**18.4.1.5 Operator’s work place:**

Operator’s work place meets the requirements of IS: 12239 (Part-I) 2018, except the following:

- (i) Provision of vertical retainers at inner sides of clutch & brake pedal.
- (ii) Provision of spark arresting device in the exhaust system.

Above parameters does not meet the requirement of 12239 (PT-1) 2018 /ISO 4254-1:2013 This should be looked into for necessary corrective action at production level.

**18.4.1.6 Constructional requirement with regard to safety:**

Meets the requirements of IS: 12239 (Part-II)-1996 (Re-affirmed in January, 2019), except the following:

- (i) PTO master shield has not been provided.
- (ii) Differential lock has been not provided.

**18.4.1.7 Field performance test:**

**18.4.1.7.1 Dry land operation:**

- (i) During the field test (dry land operation -rotavation test) the average working depth was recorded as 6 to 7 cm with the matching rotavator as recommended by the applicant. Upon, this applicant vide letter No. Nil dated 29.03.2022 has requested to continue the rotavation operation with the recommended matching rotavator. This should be looked into for necessary corrective action.

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

**18.4.1.7.2 Wet land cultivation (puddling operation):**

The manufacturer has recommended that the tractor is not suitable for wetland cultivation (puddling operation) and therefore, the wetland cultivation (puddling operation) was not conducted. It is recommended that this fact that the tractor is not suitable for wetland (puddling) operation should be mentioned clearly & boldly in all the relevant literature of the tractor & also a cautionary notice regarding non-suitability of tractor for puddling operation may be displayed on the bonnet of the tractor.

**18.5 Haulage performance:**

- i) The specific fuel consumption with two-wheel trailer was recorded as 38.68 to 41.10 **ml/km/tonne**, respectively against the declaration of 25 to 30 ml/km/tonne respectively. This should to be looked into for necessary corrective action.
- ii) The distance traveled per liter of fuel consumption with two-wheel trailer was recorded as 8.11 to 8.62 **km/l**, respectively against the declaration of 4.8 to 6.5 **km/l** respectively. This should to be looked into for necessary corrective action.

**18.6 Wheel Rims:**

**18.6.1 The sizes of steered wheel rims & drive wheel rims were found to be “4.50 E x 16” & drive wheel rims “W 10 x 24” respectively against the requirement of “4.00E x16” & “W11x24” respectively as per ITTAC manual & IS:13154 -2015. It must be looked into for necessary corrective action.**

**18.6.2 Rule 95 A (2) of CMVR, 1989 read in conjunction with IS: 13154- 2015 provides for “The Agricultural Tractor manufacturer shall select ONLY THAT RIM SIZE AS RECOMMENDED BY THE TYRE MANUFACTURER.” In this case, the rim size RECOMMENDED by IS: 13154-2015, by ITTAC manual is steered wheel rims & drive wheel rims “4.00E x16” & “W11x24” respectively. An immediate corrective action is required to be taken even in stand point of view with compliance to CMVR, 1989.**

**18.7 Maintenance / Service Problems:**

No noticeable maintenance or service problem was observed during the test.

**18.8 Recommendation with regard to safety on tractor:**



The following requirements, inter alia, may be considered for incorporation on the tractor:

- (i) Provision of spark arrester in the exhaust system of tractor’s engine as per IS: 12239 (Part-I) 2018.
- (ii) Vertical retainers at inner sides of clutch pedals should be provided as per relevant standard.
- (iii) Provision of PTO master shield around the PTO shaft as per IS: 4931-1995(Reaffirmed in January, 2019).
- (iv) The working clearance between position and draft control lever of hydraulic system was measured as 20 mm against the minimum requirement 70 mm as per IS: 12239 (Part-2)-1999 (Re-affirmed in January, 2019).
- (v) Provision of Differential lock.

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

- 18.9 Adequacy of Literature supplied with machine:**
- 18.9.1** The following literature was supplied with the tractor for reference during the testing.
- (i) Operator Instruction book of "TAFE 30 DI ORCHARD PLUS V2" Tractor model.
  - (ii) Workshop Service manual of "TAFE 30 DI ORCHARD PLUS V2" Tractor model.
  - (iii) Parts Book of "TAFE 30 DI ORCHARD PLUS V2" Tractor model.
- 18.9.2** The operator manual may be brought out for the guidance of users and service personnel as per IS:8132-1999 incorporating, inter alia, the following:
- (i) Discard limit of all components.
  - (ii) Details of optional features.
  - (iii) Recommended for gross mass of trailer.
  - (iv) Recommended that the tractor is not suitable for wetland cultivation (puddling operation).

**TESTING AUTHORITY:**

<b>C.V. CHIMOTE TEST ENGINEER</b>	
<b>P. K. PANDEY DIRECTOR</b>	

Draft test report is compiled by: C.S. Raghuwanshi, Agricultural Engineer.

**19. APPLICANT'S COMMENTS**

Para No.	Our Reference	Applicant's comments
19.1	18.4.1.1,18.4.1.2,18.4.1.3,18.4.1.4, 18.4.1.5,18.4.1.6,18.4.1.7.1,18.5, 18.6.1 & 18.6.2	We will study & take appropriate corrective actions.

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

**ANNEXURE- I**

**BRIEF SPECIFICATION OF MATCHING IMPLEMENTS AS DECLARED BY APPLICANT**

S.No.	Item	MB Plough	Rotavator
1.	Make	Popular steel works	Agristar
2.	Type	Mounted	Mounted
3.	No. of bottom/blades	Two	20 (5 flanges)
4.	Type of bottom/blades	General purpose	Hatchet shape
5.	Size of bottom/blades, (mm)	2 x150	230 x 75 x 7
6.	Spacing of bottom/flanges, (mm)	400	170
7.	Lower hitch point span, (mm)	465	445
8.	Mast height, (mm)	430	460
9.	<b>Overall dimensions, (mm):</b>		
	- Length	1220	910
	- Width	910	1240
	- Height	1250	930
10.	Gross mass, (kg)	135	215

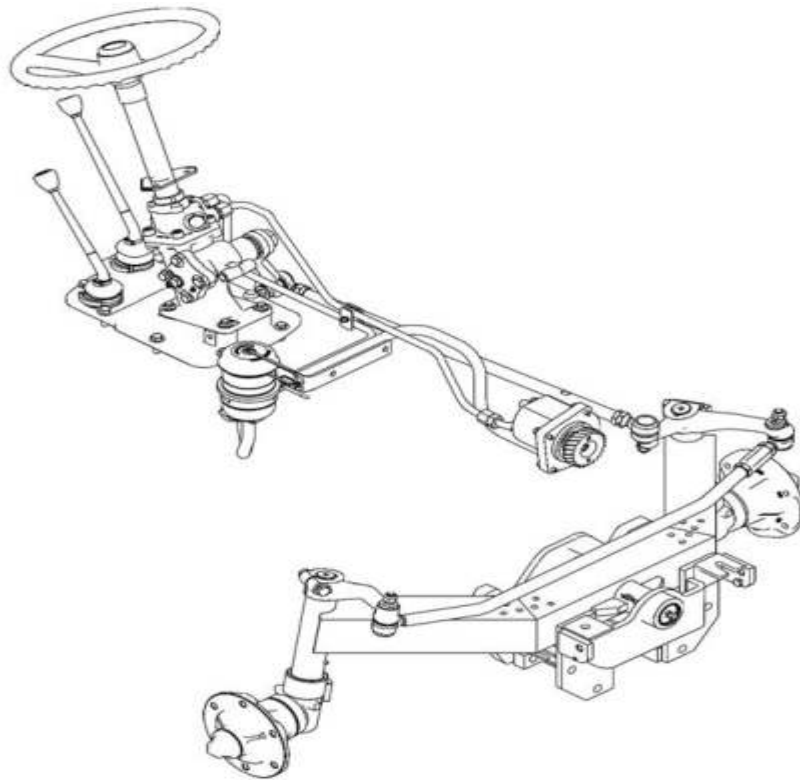
**ANNEXURE-II**

**BRIEF SPECIFICATION OF MATCHING TRAILER AS DECLARED BY APPLICANT**

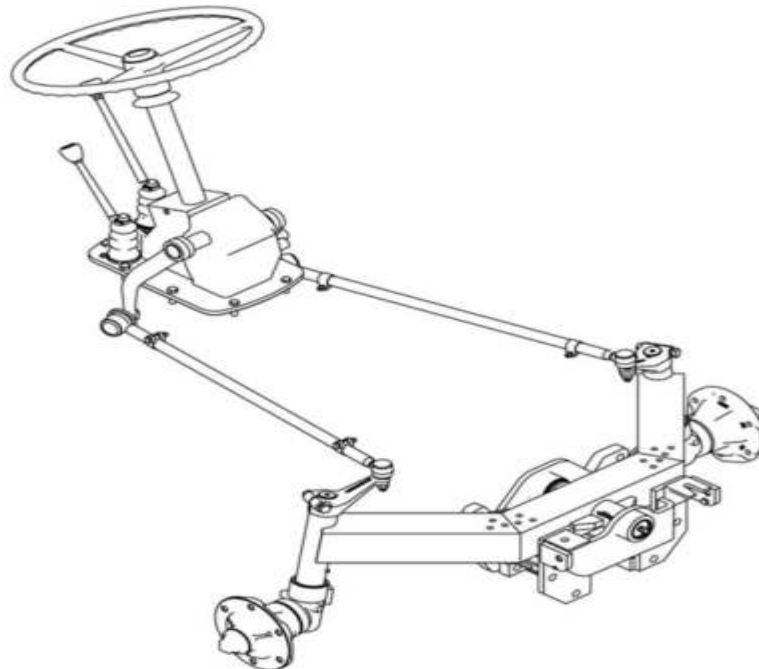
S.No.	Parameters	Trailer
1.	Type of trailer	Semi-Trailer
2.	Number of axles	Single
3.	Un laden weight of Trailer, kg	1670
4.	Fully laden weight of Trailer, (kg)	3000
5.	<b>Overall dimension of trailer, (mm)</b>	
	Overall width	1870
	Overall length	4180
	Overall height	2175
	Wheel base	Not applicable
	Wheel track	1600
6.	<b>Dimension of fitted Platform, (mm):</b>	
	Length	3400
	Width	1830
	Height from ground	1160
7.	Brakes of trailers	Not provided

T- 1650/2181/2022	TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)
	THIS TEST REPORT IS VALID UPTO: 31/05/2025

**ANNEXURE- III**



**Fig.1 STANDARD FITMENT-HYDRO ASSIST POWER STEERING**



**Fig.2 OPTIONAL FITMENT -MECHANICAL STEERING**

T- 1650/2181/2022	<b>TAFE 30 DI ORCHARD PLUS V2 TRACTOR – Commercial (Initial)</b>
	<b>THIS TEST REPORT IS VALID UPTO: 31/05/2025</b>

**ANNEXURE- III**

**TRACTOR RUN HOURS DURING TEST**

<b>A.</b>	<b>LABORATORY AND TRACK TESTS:</b>	<b>HOURS</b>
1.	Running-in	37.0
2.	PTO performance test	12.2
3.	Drawbar performance test	14.1
4.	Power lift and hydraulic pump performance test	3.2
5.	Brake test	1.5
6.	Noise measurement	1.5
7.	Air cleaner oil-pull over test	3.5
8.	Mechanical vibration test	1.0
9.	Turning ability	0.2
10.	Location of centre of gravity	0.2
11.	Operator's field of vision	0.2
12.	Theoretical speed test	0.6
<b>B.</b>	<b>FIELD TEST:</b>	
1.	MB Ploughing	17.1
2.	Rotavation	22.2
<b>C.</b>	<b>HAULAGE TEST:</b>	6.3
<b>D.</b>	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	3.6
	<b>TOTAL:</b>	<b>124.5</b>