

# SUMMARY OF OECD TEST 3108 - NEBRASKA SUMMARY 1158

## JOHN DEERE 6230R EECON DIESEL INFINITELY VARIABLE TRANSMISSION

### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.l/l)	Gal/hr (l/h)	
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>						
<b>Rated Engine Speed—(PTO speed—1044 rpm)</b>						
191.0 (142.4)	2100	10.94 (41.41)	0.399 (0.243)	17.46 (3.44)	0.35 (1.34)	Fuel used during the active exhaust regeneration - 1.7 gal (6.5 l) (see Note 1, p.2)
<b>Standard Power Take-off Speed (1000 rpm)</b>						
206.0 (153.6)	2012	11.49 (43.51)	0.389 (0.237)	17.93 (3.53)	0.42 (1.58)	
<b>Maximum Power (1 hour)</b>						
217.8 (162.4)	1800	11.90 (45.04)	0.381 (0.232)	18.30 (3.61)	0.44 (1.68)	

### VARYING POWER AND FUEL CONSUMPTION

191.0 (142.4)	2100	10.94 (41.41)	0.399 (0.243)	17.46 (3.44)	0.35 (1.34)	Air temperature
166.3 (124.0)	2151	9.76 (36.96)	0.409 (0.249)	17.03 (3.36)	0.29 (1.11)	70°F (21°C)
126.7 (94.4)	2184	7.93 (29.98)	0.436 (0.265)	15.98 (3.15)	0.21 (0.81)	Relative humidity
85.8 (64.0)	2220	6.21 (23.50)	0.505 (0.307)	13.81 (2.72)	0.14 (0.53)	22%
43.4 (32.4)	2246	4.61 (17.45)	0.740 (0.450)	9.41 (1.86)	0.06 (0.23)	Barometer
--	2250	2.91 (11.00)	--	--	0.04 (0.14)	29.8" Hg (101.0 kPa)

Maximum torque - 704 lb.-ft. (955 Nm) at 1500 rpm  
 Maximum torque rise - 47.5%  
 Torque rise at 1700 engine rpm - 41%  
 Power increase at 1800 engine rpm - 14.0%

### DRAWBAR PERFORMANCE UNBALLASTED - FRONT DRIVE ENGAGED FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med bulb	Air dry inch Hg (kPa)	Barom.	
<b>Power at Rated Engine Speed—Speed setting 9</b>										
181.0 (135.0)	12010 (53.42)	5.65 (9.10)	2100	1.8	0.426 (0.259)	16.19 (3.19)	0.016 (0.010)	214 (101)	50 (10)	29.8 (100.9)
<b>75% of Pull at Rated Engine Speed—Speed setting 9</b>										
140.3 (104.6)	8980 (39.94)	5.86 (9.43)	2173	1.6	0.454 (0.276)	15.18 (2.99)	0.016 (0.010)	214 (101)	50 (10)	29.8 (100.9)
<b>50% of Pull at Rated Engine Speed—Speed setting 9</b>										
95.9 (71.5)	5985 (26.63)	6.01 (9.67)	2208	0.7	0.515 (0.313)	13.40 (2.64)	0.015 (0.009)	207 (97)	50 (10)	29.8 (100.9)
<b>75% of Pull at Reduced Engine Speed—Speed setting 11</b>										
138.0 (102.9)	8980 (39.94)	5.76 (9.28)	1717	1.2	0.420 (0.255)	16.41 (3.23)	0.016 (0.010)	187 (86)	48 (9)	29.8 (100.9)
<b>50% of Pull at Reduced Engine Speed—Speed setting 11</b>										
95.5 (71.2)	5985 (26.62)	5.98 (9.63)	1744	1.0	0.460 (0.280)	14.97 (2.95)	0.016 (0.010)	185 (85)	48 (9)	29.8 (100.9)

**Location of tests:** DLG e.V. Test Centre, Technology and Farm inputs, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

**Dates of tests:** February to March, 2018

**Manufacturer:** John Deere GmbH & Co., KG Mannheim Germany

**CONSUMABLE Fluids:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8378 Fuel weight 6.98 lbs/gal (0.836 kg/l) Diesel Exhaust Fluid (DEF) 32% aqueous urea solution DEF weight 9.071 lbs/gal (1.087 kg/l) Oil SAE 10W-30 API service classification CJ-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Front axle lubricant John Deere Hy-Gard fluid

**ENGINE: Make** John Deere Diesel **Type** six cylinder vertical with two turbochargers, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** \*CD6068U032610\* **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.19" x 5.00" (106.5 mm x 127.0 mm) **Compression ratio** 17.0 to 1 **Displacement** 414 cu in (6788 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element and prestrainer **Fuel cooler** radiator for pump return fuel **Exhaust** DOC (diesel oxidation catalyst)/DPF (diesel particulate filter) System and SCR (selective catalyst reduction) with a vertical muffler **Cooling medium** temperature control thermostat and variable speed fan

**CHASSIS: Type** front wheel assist **Serial No.** \*1L06250RTHR882919\* **Tread width** rear 71.3 (1812 mm) to 78.8" (2002 mm) front 72.5" (1842 mm) to 79.1" (2010 mm) **Wheelbase** 114.2" (2900 mm) **Hydraulic control system** direct engine drive **Transmission** Infinitely variable **Nominal travel speeds mph (km/h)** forward 0 - 31 mph (0-50 km/h), reverse 0 - 31 mph (0-50 km/h) **Clutch** a foot pedal controls the hydrostatic oil flow **Brakes** wet multiple disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 1000 rpm at 2012 engine rpm, economy PTO 540 rpm at 1618 engine rpm or 1000 rpm at 1659 engine rpm **Unladen tractor mass** 21100 lb (9570 kg)

## DRAWBAR PERFORMANCE

### UNBALLASTED - FRONT DRIVE ENGAGED - 1800 ENGINE RPM MAXIMUM POWER IN SELECTED SPEED SETTINGS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. <sup>o</sup> F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Speed setting 4										
164.1 (122.4)	21935 (97.57)	2.81 (4.52)	2098	9.2	0.476 (0.290)	14.54 (2.86)	0.013 (0.008)	199 (93)	46 (8)	29.8 (101.0)
Speed setting 5										
176.5 (131.6)	21650 (96.31)	3.06 (4.92)	1969	8.6	0.465 (0.283)	14.87 (2.93)	0.018 (0.011)	208 (98)	45 (7)	29.8 (101.0)
Speed setting 6										
185.3 (138.2)	20465 (91.04)	3.40 (5.47)	1802	6.0	0.450 (0.274)	15.38 (3.03)	0.021 (0.013)	212 (100)	45 (7)	29.8 (101.0)
Speed setting 7.5										
195.7 (145.9)	17535 (78.01)	4.19 (6.73)	1801	3.3	0.426 (0.259)	16.24 (3.20)	0.020 (0.012)	214 (101)	43 (6)	29.8 (101.0)
Speed setting 9										
201.7 (150.4)	14805 (65.86)	5.11 (8.22)	1800	2.2	0.413 (0.251)	16.76 (3.30)	0.018 (0.011)	214 (101)	43 (6)	29.8 (101.0)
Speed setting 11										
203.4 (151.7)	13185 (58.66)	5.78 (9.31)	1802	2.1	0.411 (0.250)	16.85 (3.32)	0.020 (0.012)	208 (98)	37 (3)	29.8 (100.9)
Speed setting 13										
202.0 (150.6)	11190 (49.77)	6.77 (10.89)	1801	1.7	0.413 (0.252)	16.75 (3.30)	0.020 (0.012)	207 (97)	37 (3)	29.8 (100.9)
Speed setting 15										
196.3 (146.4)	9165 (40.78)	8.03 (12.92)	1802	1.4	0.425 (0.259)	16.30 (3.21)	0.020 (0.012)	207 (97)	37 (3)	29.8 (100.9)
Speed setting 17										
198.3 (147.9)	8050 (35.80)	9.24 (14.87)	1810	1.2	0.419 (0.255)	16.50 (3.25)	0.020 (0.012)	205 (96)	37 (3)	29.8 (100.9)
Speed setting 19										
201.2 (150.0)	7320 (32.56)	10.31 (16.59)	1805	1.0	0.414 (0.252)	16.70 (3.29)	0.020 (0.012)	207 (97)	37 (3)	29.8 (100.9)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

**NOTE 1:** The manufacturer declares that the average time between active regenerations is 100 hours.

**NOTE 2:** The performance figures on this report are the result of replacing the electronic engine control module of the John Deere 6250R with the John Deere 6230R module.

**NOTE 3:** This tractor has an engine control feature, I.P.M. (Intelligent Power Management) that allows the engine to run in a "boosted" mode, increased power level, at elevated drawbar travel speeds.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. The manufacturer's claims of 212 PTO Hp (158 kW), at rated engine speed and 220 PTO Hp (164 kW) at 1000 PTO rpm with I.P.M. activated were not verified. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **3108**, Nebraska Summary 1158, July 26, 2019.

Roger M. Hoy  
Director

M.F. Kocher  
P.J. Jasa  
S.K. Pitla  
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load at 4.6 mph (7.5 km/h)	69.4	69.8
Transport speed - speed setting - 31 mph (50 km/h)		74.0
Bystander		--

Horizontal distances of drawbar hitch point behind rear wheel axis - 36.7 in (933 mm), 38.7 in (983 mm), 41.5 in (1053 mm), 44.2 in (1123 mm)

#### TIRES AND WEIGHT

**Rear Tires** - No., size, ply & psi (kPa)  
**Front Tires** - No., size, ply & psi (kPa)  
**Height of Drawbar**  
**Static Weight with operator** - Rear  
 - Front  
 - Total

#### Tested Without Ballast

Two 710/70R42;\*\*\*;12(80)  
 Two 600/70R30;\*\*\*;12(80)  
 22.8 in (580 mm)  
 12875 lb (5840 kg)  
 8390 lb (3805 kg)  
 21265 lb (9645 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: 3N

Quick Attach: No

Lift cylinders:

2 x 90 mm

Maximum force exerted through whole range: 15600 lbs (69.4 kN)

i) Sustained pressure at compensator cutoff: 2975 psi (205 bar)

**two outlet sets combined**

ii) Pump delivery rate at minimum pressure: 42.6 GPM (161.1 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 38.9 GPM (147.3 l/min)

Delivery pressure: 2510 psi (173 bar)

Power: 57.0 HP (42.5 kW)

**single outlet set**

ii) Pump delivery rate at minimum pressure: 31.1 GPM (117.8 l/min)

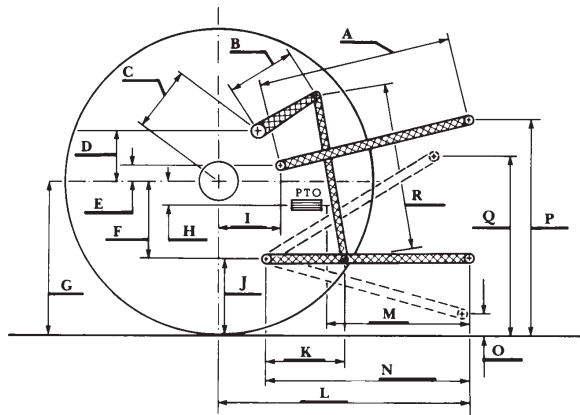
iii) Pump delivery rate at maximum

hydraulic power: 29.9 GPM (113.1 l/min)

Delivery pressure: 2130 psi (147 bar)

Power: 37.3 HP (27.8 kW)

## HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	28.9	735
B	18.1	460
C	21.7	624
D	24.6	605
E	7.5	190
F	13.2	335
G	38.4	975
H	4.3	110
I	21.8	554
J	25.2	640
K	29.8	757
L	51.4	1305
M	27.0	685
N	43.3	1100
O	9.1	230
P	52.2	1325
Q	40.4	1026
R	45.7	1160

## RECOMMENDED CITATION FORMAT:

NTTL.(2019) OECD tractor test 3108 for John Deere 6230R Eecon Diesel.

Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>