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January 1920

## Test 057: Avery Single Row Cultivator 5-10

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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**UNIVERSITY OF NEBRASKA**  
**AGRICULTURAL ENGINEERING DEPARTMENT**  
**UNIVERSITY FARM, LINCOLN**

Report of Official Tractor Test No. 57

Dates of test August 25 to Sept. 8, 1920.

Name, model and rating of tractor Avery Single Row Cultivator, 5-10.

Serial No. Engine GK-818 Serial No. Chassis 2681

Manufacturer The Avery Co., Peoria, Illinois.

Tractor equipment used Kingston Model L Carb. KW Model TK Magneto.

Style and dimensions of wheel lugs Angle 2" high.

**Brake Horse Power Tests**

Horse Power Developed	Crank Shaft Speed R. P. M.	Length of Test Min.	Fuel Consumption			Water Consumption Gallons per Hour			Temperature *Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Humidity %	Barometric Pressure Inches Mercury
			Kind of Fuel	Amount Used per Hour Gallons	Horse Power Hours per Gallon	In Radiator	In Fuel Mixture	Total				
RATED LOAD TEST												
10.11	1246	120	Gasol.	1.86	5.45	0.00	0.00	0.00	190	74.5	87	28.4
		Belt	Slippage 0.89%									
VARYING LOAD TEST												
10.16	1256	10	Gasol.									
10.11	1246	10	"									
0.71	1309	10	"									
2.63	1268	10	"									
5.07	1231	10	"									
7.36	1222	10	"									
6.06	1255	60	Gasol.	1.38	4.39	0.00	0.00	0.00	176	75	88	28.4
MAXIMUM LOAD TEST												
11.14	1228	60	Gasol.	1.86	5.99	0.00	0.00	0.00	188	74	84	28.6
		Belt	Slippage 1.05%									
HALF LOAD TEST												
5.20	1258	60	Gasol.	0.80	6.68	0.00	0.00	0.00	165	70	84	28.5
		Belt	Slippage 0.00%									

\*Taken in discharge line from engine.

Remarks Gasoline used for fuel in this test weighed 6.16# per gallon.

Aver.

Report of Official Tractor Test No. 57

Drawbar Horse Power Tests

Horse Power Developed	Draw Bar Pull Pounds	Speed Miles per Hour	Crank Shaft Speed R. P. M.	** Slippage of Drive Wheels %	Fuel Consumption			Water Used per Hour Gallons	*Temperature of Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Average Humidity %	Barometric Pressure Inches Mercury
					Ind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon					
RATED LOAD TEST. TEN HOURS												
6.00	914	2.46	1223	8.7	Gasol.	1.835	3.27	0.09	192	75	74	28.7
MAXIMUM LOAD TEST (1st 110.7 ft; 2nd 110.4 ft.)												
5.42	1116	1.82	1150	8.1	Gasol	-----Not Recorded-----			180	89	58	28.7
5.39	854	2.36	1169	8.3	"	" "			182	88	58	28.7

\*Taken in discharge line from engine.

Remarks \*\* For computing slippage, the circumference of the drive wheels was taken at points of lugs.  
During the rated and second maximum test the tractor was operated in intermediate gear; during  
the first maximum test the tractor was operated in low gear.

Oil Consumption:

During the complete test consisting of about 30 hours running the following oil was used:

For the engine, 1 gallons of Mobiloil A

For the transmission, none added. gallons of

Report of Official Tractor Test No. 57.

Repairs and Adjustments. Endurance:

During the limbering up run the key lost out of drive pinion and was replaced.

At the end of the test the tractor was apparently in good condition and there were no indications of excessive wear in any part nor any weakness which might require early repair.

It is our opinion that the above repairs do not indicate any ~~Serious~~ mechanical defect.

Brief Specifications Avery Single Row Cultivator, 5-10 H.P. Tract

Engine: Own, 4-cylinder, vertical, L-head, Bore 3", stroke 4".

Rated speed 1200 r.p.m. Rated H.P. belt 10, drawbar 5.

Chassis: 4 wheel, disc clutch, rated speeds: low  $1\frac{1}{2}$ , intermediate 2- $\frac{1}{8}$  and high  $4\frac{1}{4}$  miles per hour.

Total Weight 2650#

General Remarks:

In the advertising literature submitted with the application for test of this tractor we find some claims and statements which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these are excessive or unreasonable except the following:

Exhibit "B" page 50: "The Avery Motor Cultivator is the only real successful cultivator on the market today, and it leads the field in power durability, simplicity, etc., over any cultivator built."

We, the undersigned, certify that above is a true and correct report of official tractor test No. 57.

Fred R. Mohaver  
Engineer-in-Charge

Oscar W. Goguen  
E. E. Brackett  
C. W. Smith  
Board of Tractor Test Engineers.