

Rates for Custom Work in Michigan

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Custom hire of machine services may be viewed as an economically desirable alternative for many farmers. For farmers having a relatively small land base and/or limited labor availability, the hiring-in of machine services enables these farmers to employ modern machine technology at a cost that may be lower than owning and operating their own machine. For farmers who own machines, custom hiring-out the machine serves as a means to lower the cost per unit of production for owning the particular machine. For example, by custom hiring-out a machine; the machine ownership costs of depreciation, insurance, and interest are distributed over more acres and usually results in a lower machine ownership cost per acre.

Farmers involved in custom hire often have difficulty in determining a fair charge for both the machine owner and the machine hirer. The market for machine services may not be well established. The machine custom-hire rates reported on the following pages can be used as an indicator or guide, but not as an absolute in establishing a fair charge. The range of rates for the state is quite large. The variability of the rates may be partially attributed to lack of knowledge, and differences in topography, climate, soil conditions, field size, location, equipment size and condition, timeliness, and services performed by a particular machine or operator.

The price data were gathered in April-May 1975 from selected Michigan farmers. The usable responses numbered 326 and are distributed throughout Michigan and its nine crop reporting districts as indicated in Figure 1.

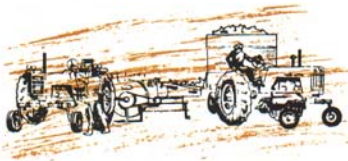


Figure 1. Farmer Responses in each Michigan Crop Reporting District (in parenthesis).
Total Responses — 326.

Tables 1 and 2 present the custom-hire cost data for the state and for each of the nine crop reporting districts. The number of Michigan farmers reporting each custom-hire service is given as is the range of rates for the state and the average rate for the state and each crop reporting district. A blank indicates that the information available was inadequate to report because of insufficient number of responses. This is due to misunderstanding of the information requested or because such services are not used in the particular area.

Part II suggests a technique for figuring the custom rate necessary to cover ownership and operating costs. A more basic question that should be asked and answered is whether machinery should be owned or custom hired. Part III presents a means of analyzing these alternatives and determining which is most profitable. Many county offices offer computerized assistance for answering this question. Check with your local extension office for details.

Table 1. Custom Rates, Continued*

CUSTOM JOB AND EQUIPMENT	No. Reports	MICHIGAN State Average	State Range	Crop Reporting District													
				1	2	3	4	5	6	7	8	9					
				Average	Average	Average	Average	Average	Average	Average	Average	Average					
Planting - Potatoes (\$/ac)	3	19.00	12.00-25.00	-	-	12.00	-	-	-	-	-	-	-	-	-	-	-
8 row rotary hoe	8	9.69	3.00-25.00	-	-	-	-	-	-	11.38	-	-	-	-	-	-	-
Cultivating (\$/ac)	15	2.84	1.50-5.00	-	2.13	-	2.00	2.50	4.00	2.79	2.50	3.75	-	-	-	-	-
4 row cultivator	14	2.16	1.50-3.50	-	-	-	-	1.50	1.50	2.12	2.20	2.17	-	-	-	-	-
4 row rotary hoe	14	2.16	1.50-3.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cultiparking (\$/ac)	27	2.08	1.00-11.00	-	1.00	2.00	1.50	2.00	1.67	2.11	2.16	2.50	-	-	-	-	-
Drilling - Grains & Soybeans (\$/ac)	43	3.74	1.50-20.00	4.50	2.83	3.50	-	2.25	3.33	3.23	3.46	3.60	-	-	-	-	-
No Fertilizer	54	4.19	1.00-25.00	6.00	4.50	3.38	5.00	2.75	4.50	3.53	3.68	4.20	-	-	-	-	-
High Fertilizer	54	4.19	1.00-25.00	6.00	4.50	3.38	5.00	2.75	4.50	3.53	3.68	4.20	-	-	-	-	-
Investing Grain (\$/ac)	62	9.50	6.00-15.00	-	11.80	12.50	10.50	8.79	11.33	9.27	8.88	9.00	-	-	-	-	-
Picker-ear corn	25	11.86	8.00-15.00	15.00	-	12.00	-	12.00	14.50	13.80	10.29	13.62	-	-	-	-	-
Picker-sheller	171	13.03	6.00-20.00	-	11.33	12.00	12.86	12.00	15.11	13.28	12.20	13.90	-	-	-	-	-
Combine-sheller	6	14.17	11.00-17.00	-	-	-	-	11.00	-	17.00	14.00	15.00	-	-	-	-	-
Combine	6	14.17	11.00-17.00	-	-	-	-	11.00	-	17.00	14.00	15.00	-	-	-	-	-
Small Grain	27	8.78	6.00-13.00	8.25	10.00	7.00	12.00	8.20	8.60	7.00	9.71	9.50	-	-	-	-	-
Combine 3'-9"	18	10.20	6.00-15.00	10.21	8.60	8.62	11.75	9.13	9.23	9.56	9.82	11.11	-	-	-	-	-
15'-20"	35	10.27	7.00-15.00	-	-	-	-	10.83	8.33	13.43	10.57	10.12	-	-	-	-	-
Field Beans	30	12.03	7.00-20.00	-	10.00	12.00	-	11.00	10.83	-	13.43	13.75	-	-	-	-	-
Soy beans	43	10.87	6.50-15.00	-	9.00	-	-	11.00	10.00	9.50	11.63	10.85	-	-	-	-	-
Alfalfa + Clover seed (\$/ac)	8	12.75	10.00-20.00	-	-	15.00	-	10.00	-	-	13.40	10.00	-	-	-	-	-
Silage Chopping (\$/ac)	3	23.33	20.00-30.00	-	-	30.00	-	-	-	20.00	-	20.00	-	-	-	-	-
1 row selfpropelled	4	22.50	10.00-35.00	-	-	25.00	-	-	-	-	-	20.00	-	-	-	-	-
2 row selfpropelled	10	18.20	10.00-25.00	-	-	-	-	20.00	22.50	-	15.75	11.00	17.50	-	-	-	-
2 row pull type	2	23.50	25.00-35.00	-	-	25.00	-	-	-	-	22.00	-	-	-	-	-	-
1 row pull type	2	23.50	25.00-35.00	-	-	25.00	-	-	-	-	22.00	-	-	-	-	-	-
Haylage Chopping	9	15.22	10.00-20.00	-	-	13.50	20.00	-	-	17.00	15.00	10.00	-	-	-	-	-
Harvesting Forage (\$/ac)	20	3.90	2.00-10.00	10.00	-	2.00	3.00	2.31	-	3.00	2.67	-	-	-	-	-	-
Baling	23	2.41	1.00-5.00	5.00	-	3.00	1.50	2.00	2.67	2.00	2.50	-	-	-	-	-	-
Rolling	17	4.30	1.50-10.00	3.50	-	3.62	5.20	3.62	-	4.12	4.22	4.83	-	-	-	-	-
Full type mower-conditioner	39	5.71	3.00-15.00	-	-	5.50	-	-	-	6.62	8.00	4.25	4.60	4.00	-	-	-
Self-prop mower-conditioner	39	5.71	3.00-15.00	-	-	5.50	-	-	-	6.62	8.00	4.25	4.60	4.00	-	-	-
Baling and Stacking	97	0.19	0.08-0.40	0.17	0.17	0.15	0.18	0.20	0.19	0.20	0.18	0.23	-	-	-	-	-
Conventional balers (\$/bale)	97	0.17	0.10-0.25	0.15	0.16	-	-	0.18	0.18	0.14	0.20	-	-	-	-	-	-
Hay-twine (Ave. wt. 50 lbs.)	7	0.17	0.10-0.25	0.15	0.16	-	-	0.18	0.18	0.14	0.20	-	-	-	-	-	-
-wire (Ave. wt. 47 lbs.)	53	0.21	0.10-0.35	0.15	0.16	-	-	0.18	0.18	0.19	0.19	0.20	-	-	-	-	-
Straw (Ave. wt. 47 lbs.)	53	0.21	0.10-0.35	0.15	0.16	-	-	0.18	0.18	0.19	0.19	0.20	-	-	-	-	-
Big balers (\$/bale)	8	0.21	0.13-0.35	-	-	0.21	-	-	-	0.13	0.15	0.18	-	-	-	-	-
Hay (Ave. wt. 63 lbs.)	8	0.21	0.13-0.35	-	-	0.21	-	-	-	0.13	0.15	0.18	-	-	-	-	-
Hay (Ave. wt. 1340 lbs.)	6	4.83	3.00-6.00	-	-	4.00	-	4.00	-	-	6.00	-	-	-	-	-	-
Mechanical Loms	5	14.60	7.00-25.00	-	-	-	-	12.00	-	9.00	20.00	-	-	-	-	-	-
Hay Stackers (\$/stack)	5	14.60	7.00-25.00	-	-	-	-	12.00	-	9.00	20.00	-	-	-	-	-	-
Hay - less than 2 tons	3	17.67	15.00-50.00	-	-	-	-	17.50	-	-	18.00	-	-	-	-	-	-
- (Ave. wt. 3500 lbs.)	3	17.67	15.00-50.00	-	-	-	-	17.50	-	-	18.00	-	-	-	-	-	-
- (Ave. wt. 4500 lbs.)	3	17.67	15.00-50.00	-	-	-	-	17.50	-	-	18.00	-	-	-	-	-	-
- (Ave. wt. 8500 lbs.)	3	17.67	15.00-50.00	-	-	-	-	17.50	-	-	18.00	-	-	-	-	-	-
Straw - less than 2 tons	4	10.25	5.00-10.00	-	-	-	-	8.00	-	-	12.50	-	-	-	-	-	-
Hay (Ave. wt. 2000 lbs.)	4	10.25	5.00-10.00	-	-	-	-	8.00	-	-	12.50	-	-	-	-	-	-

* / Except where noted, charges include machine, power, fuel, and machine operator or usual crew.

Table 2. Rates for Miscellaneous Custom Work.

	Unit	Number Reporting	Average Cost Per Acre	Range
Other Harvesting Work				
Stalk Shredding	\$/Acre	13	\$ 3.96	\$2.00-12.00
Swathing Grain		2	7.00	6.00- 8.00
Dig Potatoes		2	4.50	4.00- 5.00
Harvest Sugarbeets		10	29.90	22.00-35.00
Bean Windrowing		3	5.33	3.00- 7.00
Orchard Activities				
Tree Planting	(\$/thousand)	2	22.50	15.00-30.00
Tree Hedging	(\$/acre)	4	47.50	40.00-55.00
Mechanical Harvesting				
Tart cherries		13	.05	.03- .08
Sweet cherries		5	.051	.04- .06
Plums		5	.022	.01- .03
Grapes		2	28.50	25.00-32.00
Brush Chopping		6	13.50	7.00-20.00
Miscellaneous				
Boom Spraying (material cost not included)				
a) Insect & Disease	(\$/acre)	60	3.20	1.00-35.00
b) Weed		92	2.71	1.00-23.00
Aerial Spraying - Insects & disease (\$/acre)				
a) Airplane - Field crops		44	4.08	1.50-22.50
b) Airplane - Orchard		9	3.13	2.00- 5.00
c) Helicopter - Field crops		7	3.20	2.20- 4.50
d) Helicopter - Orchard		2	3.35	2.20- 4.50
Aerial Spraying - Weeds		3	2.43	1.80- 3.00
Aerial Seeding		8	3.44	2.50- 4.50
Aerial Fertilizer Spreading		2	2.75	2.50- 3.00
Ground Spreading of Fertilizer				
	\$/acre	23	1.75	.50- 6.00
	\$/ton	24	3.94	1.00-12.00
Applying Anhydrous Ammonia	(\$/acre)	27	3.30	1.50- 6.00
Shell Ear Corn from Crib	(\$/bu)	6	.087	.02- .20
Drying Corn				
	(\$/bu)			
if remove up to 6% points moisture		22	.06	.01- .15
if remove 6-10% points moisture		19	.072	.01- .15
if remove 11-15% points moisture		16	.085	.01- .25
if remove more than 15% points moisture		17	.098	.01- .30
Trucking				
Per hour	Per hour	7	8.00	.50-18.00
Per mile	Per mile	28	.72	.25- 1.00
Sheep Shearing	(\$/head)	10	.93	.80- 1.00
Bore Post Holes	(\$/hole)	9	.99	.10- 4.00
Tiling				
a) Digging - trenching	(\$/rod)	21	2.06	.17- 4.50
b) Plastic tubing	(\$/rod)	20	3.15	1.50- 5.60
c) Clay tile	(\$/rod)	7	2.42	1.50- 4.12
Bulldozing				
8'	(\$/hour)	27	20.06	10.00-40.00
10'	(\$/hour)	40	25.48	14.00-40.00
12'	(\$/hour)	32	28.88	18.00-48.00
Dragline - 1/2 cu. yd.	(\$/hour)	11	24.00	15.00-30.00
Stone Picking	(\$/hour)	5	19.40	10.00-30.00
Grind Feed	\$/cwt	21	.28	.10- 1.00
Chain Saw	\$/hour	11	8.32	5.00-12.50
Snow Plow	\$/hour	27	\$ 17.15	\$ 2.00-35.00

Part II—How to figure custom rates*

If you are hiring or doing custom work, the following will help you set the custom rate. Custom rates are based on (1) tradition or usual rates set in the community, (2) bargaining position of both parties, and (3) costs of operating the machines on your farm.

Here is how the machine cost of operation can be determined:

A. Ownership cost per unit (acre, bushel, ton, hour)

Depreciation:	$\frac{\text{Original cost-salvage value}}{\text{estimated life}}$	\$ _____	
Interest:	Interest rate X original cost + 2**	_____	
Repairs:	Estimated 2 to 5% of original cost	_____	
Taxes and insurance:	Estimated 1 to 2% of original cost	_____	
Total ownership cost annually		_____	
Ownership cost per unit: Total ownership cost + estimated annual use.....(bu., acre, ton, hour)			(A) \$ _____

B. Operating cost per unit (acre, hour, bushel, ton)

Tractor: Gas, oil, repair			
	Gal. gas per unit X price X 1.10***	_____	
Machine: Gas, oil, maintenance			
	Gal. gas per unit X price X 1.10***	_____	
Labor:	Hours per unit X wage rate. If acres, bushels, or tons, divide the wage rate by acres, bushels, or tons per hour ...	_____	
Total operating cost per unit		_____	(B) \$ _____

C. Total ownership and operating cost (A plus B) per unit \$ _____

D. Custom rate (per acre, hour, bushel, or ton)..... \$ _____

Total ownership and Operating cost adjusted for tradition bargaining power, or risk.

*Source: T. R. Nodland and H. G. Routhe, Extension Pamphlet 134, University of Minnesota, June 1961.

**Interest on declining balance basis.

***The addition of 10% to gasoline cost is for oil and minor maintenance.

Part III— Farm machinery – should you own it?*

To decide if you should own a machine, compare the custom rate with the ownership and operating cost of the machine on your farm. Use the following worksheet to determine cost of ownership and operating the machine. Compare this cost with the custom rate in your area. For computer help ask your extension agent for Telplan Program 03.

1. Determination 1—What will be the annual cost of owning and operating this machine?

Ownership Cost

Depreciation: $\frac{\text{Original cost-salvage value}}{\text{estimated life}} \dots\dots\dots$ \$ _____

Interest: Interest rate X original cost \div 2** $\dots\dots\dots$ _____

Repairs: Estimated 2 to 5% of cost $\dots\dots\dots$ _____

Taxes and Insurance: Estimated 1 to 2% of cost $\dots\dots\dots$ _____

Total ownership cost annually: $\dots\dots\dots$ (A) \$ _____

Ownership cost per unit: Total ownership cost \div estimated annual use (bu., acre, ton, hour) $\dots\dots\dots$ (B) \$ _____

Operating Cost per Unit

Tractor: Gas, oil, repair

Gal. gas per unit X price X 1.10*** $\dots\dots\dots$ _____

Machine: Gas, oil, maintenance

Gal. gas per unit X price X 1.10*** $\dots\dots\dots$ _____

Labor: Hours per unit X wage rate. If acres, bushels or tons, divide the wage rate by acres, bushels, tons per hour $\dots\dots\dots$ _____

Total operating cost per unit $\dots\dots\dots$ (C) \$ _____

Total ownership and operating cost per unit (B + C) $\dots\dots\dots$ (D) \$ _____

2. Determination 2—Will it cost more to own it than to hire it done?

Custom rate (see tables 1 and 2) $\dots\dots\dots$ (E) \$ _____

If ownership and operating cost exceed the custom rate, purchase is not desirable unless loss of production and timeliness of operation are an important factor. One should also consider alternative uses for capital and labor in another part of the farm business.

3. Determination 3—What acreage (or number of other units) is necessary to justify purchase of this machine?

$\frac{\text{Total ownership cost (A)}}{\text{Custom rate-operating cost (E - C)}} = \text{_____ acreage (or number of other units)}$

needed to justify ownership.

Note: Other factors that might help justify a purchase are:

- 1) Possible losses due to untimeliness.
- 2) Possibility of doing custom work.

Other factors that might be unfavorable toward purchase are:

- 1) Better alternative use of capital.
- 2) Alternative value of tractor and labor saved if custom work is hired.
- 3) Possible to do job with smaller machine.

*Source: T. R. Nodland and H. G. Routh, Extension Pamphlet 134, University of Minnesota, June 1961.
 **Interest on declining balance basis.
 ***The addition of 10% to gasoline cost is for oil and minor maintenance.