



OPERATION	OKLAHOMA				WEST				CENTRAL				EAST				
	No.	Avg.	Low	High	No.	Avg.	Low	High	No.	Avg.	Low	High	No.	Avg.	Low	High	
<b>TILLAGE</b>																	
Moldboard plowing	\$/acre	30	10.04	6.00	15.00	6	7.92	6.00	10.00	9	10.34	7.50	15.00				
Chisel plowing	\$/acre	46	7.23	4.00	12.00	8	6.31	4.00	9.00	10	7.70	5.00	10.00				
Surface chisel	\$/acre	17	7.21	3.00	11.00	2	4.75	3.00	6.50	4	7.00	4.00	10.00				
Discing stubble	\$/acre	53	7.04	4.00	16.00	11	6.36	4.00	12.00	10	8.25	5.00	12.00				
Discing shallow	\$/acre	26	6.97	4.00	12.00	5	5.20	4.00	9.00	6	9.17	7.50	12.00				
Blade or wide sweeps	\$/acre	24	6.24	4.00	8.00	5	5.60	4.00	8.00	2	7.25	7.00	7.50				
Listing (bedding)	\$/acre	3	6.67	5.00	8.00												
Spike tooth harrow	\$/acre	22	4.36	2.00	8.00					6	5.08	3.00	8.00				
Spring tooth harrow	\$/acre	16	5.10	2.00	8.60					8	5.76	4.00	8.60				
Rotary hoe	\$/acre	8	4.47	3.00	5.00												
Row cultivating	\$/acre	7	7.86	5.00	12.00					2	8.00	8.00	8.00				
Field cultivating	\$/acre	25	5.52	2.50	8.00	4	4.48	2.92	6.00	6	6.33	5.00	7.50				
Stalk shredder	\$/acre	3	6.50	5.00	8.50												
Subsoiling	\$/acre	17	10.24	5.00	15.00					3	11.67	10.00	15.00				
<b>FERTILIZER AND CHEMICAL APPLICATION</b>																	
Applying bulk dry fertilizer	\$/acre	120	3.02	1.00	6.00	27	3.04	2.50	4.50	29	3.28	2.00	6.00	13	3.12	2.50	4.00
Renting bulk dry applicator	\$/acre	20	1.64	0.25	6.00	4	1.31	0.25	3.00	8	2.09	0.25	6.00	3	2.33	1.00	4.00
Applying liquid fertilizer	\$/acre	65	3.26	2.00	6.00	18	3.03	2.00	5.00	20	3.44	2.25	6.00	6	4.26	2.50	6.00
Renting liquid applicator	\$/acre	5	2.10	1.00	3.50					2	2.25	1.00	3.50				
Applying anhydrous	\$/acre	22	5.82	2.50	10.00	4	5.38	3.00	6.50	8	6.56	4.50	10.00				
Renting anhydrous applicator	\$/acre	6	1.92	0.50	3.00					3	1.50	0.50	3.00				
Lime application	\$/acre	14	5.00	2.00	10.00	2	4.00	3.00	5.00	4	5.00	3.00	7.00	2	6.00	2.00	10.00
Lime application	\$/ton	9	5.22	5.00	6.00					2	5.50	5.00	6.00				
Ground appl., insect, fung.	\$/acre	19	3.55	2.50	5.00	7	3.32	2.50	5.00	3	4.08	3.50	5.00				
Aircraft appl., insect, fung.	\$/acre	27	4.36	2.50	8.50	9	3.53	3.00	4.00	7	5.50	3.50	8.50	2	3.50	3.00	4.00
Ground spraying for weeds	\$/acre	77	3.72	2.00	9.00	16	3.33	2.00	5.00	19	3.64	2.25	8.00	9	4.10	3.00	7.00
Aircraft spraying for weeds	\$/acre	44	4.45	3.00	10.00	11	4.30	3.00	7.50	12	4.51	3.50	8.00	5	4.90	3.00	10.00
<b>PLANTING</b>																	
Drill small grains	\$/acre	74	7.48	4.00	13.50	15	6.77	4.00	13.00	17	8.59	4.00	13.00	5	9.16	6.00	13.50
Sod drill small grains into bermuda	\$/acre	22	8.70	3.00	12.50	2	7.50	5.00	10.00	4	9.75	9.00	10.00				
Drill alfalfa and other legumes	\$/acre	21	7.18	4.00	15.00	5	6.60	5.00	8.00	7	8.54	5.00	15.00				
Planting cotton	\$/acre	5	6.50	3.00	10.00	3	6.00	3.00	10.00								
Seeding forages	\$/acre	9	4.89	2.50	8.00					2	6.50	5.00	8.00				
Broadcasting seed	\$/acre	11	4.00	2.00	9.00	2	3.25	3.00	3.50	4	3.00	2.50	3.50				
Plant corn, conventional	\$/acre	12	10.00	7.00	13.00					4	10.00	8.00	12.00				
Plant corn, no-till	\$/acre	8	10.44	7.50	13.00												
Plant grain sorghum, conventional	\$/acre	16	9.00	5.00	13.00					5	9.20	5.00	12.00				
Plant grain sorghum, no-till	\$/acre	15	10.47	7.50	13.00	2	11.50	10.00	13.00								
Plant soybeans, conventional	\$/acre	10	9.00	5.00	13.00					2	10.00	8.00	12.00				
Plant soybeans, no-till	\$/acre	22	10.55	6.00	13.00	3	11.00	10.00	13.00	2	9.75	7.50	12.00	2	8.00	6.00	10.00
<b>HAYING</b>																	
Mowing hay	\$/acre	38	7.88	2.00	12.00	8	9.38	8.00	10.00	9	8.00	5.00	10.00	4	5.13	2.00	10.00
Raking hay	\$/acre	42	3.96	2.00	10.00	7	4.71	2.00	10.00	10	3.10	2.00	7.00	3	4.50	3.00	5.50
Swathing	\$/acre	124	9.18	4.00	14.00	45	9.37	5.00	12.00	21	8.93	4.00	12.00	2	7.75	7.50	8.00
Cutting to stacking for one ton	\$/ton	14	27.23	10.00	40.00	3	24.33	10.00	33.00					2	20.00	10.00	30.00
<b>Small square bales</b>																	
Baling small square bales	\$/bale	71	0.68	0.42	2.20	13	0.56	0.50	0.75	15	0.74	0.45	2.20	5	0.83	0.50	1.00
Baling small square bales	\$/ton	8	20.85	12.50	30.00									2	25.50	21.00	30.00
Cutting to stacking for a small square bale	\$/bale	14	1.31	0.55	1.75					5	1.21	0.55	1.60				
Cutting to stacking for one ton	\$/ton	14	27.23	10.00	40.00	3	24.33	10.00	33.00					2	20.00	10.00	30.00
Base rate for hauling small square bale	\$/bale	14	0.51	0.35	0.65					5	0.56	0.50	0.65				
extra charge per bale	\$/mile	14	0.11	0.01	0.50					5	0.15	0.01	0.50				
for a distance over XX miles	miles	14	5.43	1.00	10.00					5	4.60	1.00	10.00				
<b>Large square bales (4'X4'X8')</b>																	
Baling a large square bale (4'X4'X8')	\$/bale	35	11.43	5.00	15.00	7	11.71	9.00	13.00	5	13.00	12.00	14.00	3	9.83	5.00	12.50
Base rate for hauling large square bale	\$/bale	4	3.50	3.00	4.00												
extra charge per bale	\$/mile	4	1.25	1.00	2.00												
for a distance over XX miles	miles	4	3.50	1.00	5.00												
<b>Large round bales (800 to 1500 lb.)</b>																	
Baling a large round bale (800-1500 lb.)	\$/bale	159	9.82	3.00	20.00	39	9.87	8.00	20.00	35	10.07	3.00	18.00	16	10.03	3.00	15.00
Cutting, raking, baling large round bales	\$/bale	73	13.43	10.00	20.00	2	16.00	12.00	20.00	16	14.31	13.00	18.00	15	13.17	11.50	20.00
Base rate for hauling a large round bale	\$/bale	15	3.80	2.00	5.00	3	3.00	2.00	4.00	3	4.33	3.00	5.00				
extra charge per bale	\$/mile	15	0.95	0.10	2.00	3	1.17	0.50	2.00	3	1.67	1.00	2.00				
for a distance over XX miles	miles	15	6.87	1.00	15.00	3	7.67	3.00	15.00	3	10.00	5.00	15.00				
<b>Giant round bales (1500 to 3000 lb.)</b>																	
Baling a giant round bale (1500-3000 lb.)	\$/bale	33	9.12	5.00	14.00	8	10.25	8.00	14.00	5	9.20	8.00	10.00	3	7.67	5.00	13.00
<b>SMALL GRAIN AND SOYBEAN HARVEST</b>																	
Swathing small grains	\$/acre	27	9.46	6.00	12.00	9	9.78	8.00	12.00	4	9.25	7.00	12.00				
Combining wheat & small grains (flat rate)	\$/acre	96	14.04	8.60	20.00	25	13.12	12.00	15.00	22	14.53	8.60	20.00	6	15.67	12.00	19.00
Base rate for combining grain	\$/acre	78	13.26	10.00	18.00	25	12.84	10.00	15.00	11	13.50	12.00	15.50				
extra charge per bushel	\$/bu.	78	0.13	0.05	0.20	25	0.13	0.05	0.20	11	0.13	0.10	0.15				
for excess over XX bushels/acre	bu./acre	78	21.14	10.00	40.00	25	21.20	20.00	30.00	11	19.45	10.00	30.00				

OPERATION	OKLAHOMA				WEST				CENTRAL				EAST				
	No.	Avg.	Low	High	No.	Avg.	Low	High	No.	Avg.	Low	High	No.	Avg.	Low	High	
Storing grain, per bu., per mo.	\$/bu.	9	0.04	0.02	0.07												
Combining soybeans (flat rate)	\$/acre	25	18.52	12.00	24.00					3	19.67	18.00	21.00	5	17.00	15.00	19.00
Base rate for combining soybeans	\$/acre	2	15.00	13.00	17.00												
extra charge per bushel	\$/bu.	2	0.15	0.13	0.17												
for excess over XX bushels/acre	bu./acre	2	20.00	20.00	20.00												
Base rate for hauling small grains, soybeans	\$/bu.	20	0.13	0.10	0.15	7	0.13	0.12	0.15								
extra charge per bushel	\$/bu.	20	0.07	0.01	0.20	7	0.06	0.02	0.12								
for excess over XX miles	miles	20	15.45	5.00	30.00	7	15.00	5.00	25.00								
Storing soybeans, per bu., per mo.	\$/bu.	4	0.04	0.03	0.05												
Small grains (fieldwork though harvesting)	\$/acre	10	50.70	20.00	86.00	2	44.00	30.00	58.00	3	49.67	20.00	86.00				
Soybeans (fieldwork though harvesting)	\$/acre	3	61.67	60.00	65.00												
<b>CORN, GRAIN SORGHUM HARVEST</b>																	
Combining grain sorghum (flat rate)	\$/acre	23	14.83	10.00	20.00	3	13.00	12.00	14.00	4	14.50	13.00	18.00				
Base rate for combining grain sorghum	\$/acre	11	13.09	10.00	15.00	3	14.00	13.00	15.00								
extra charge per bushel	\$/bu.	11	0.14	0.10	0.20	3	0.14	0.13	0.15								
for excess over XX cwt.	bu./acre	11	31.36	20.00	50.00	3	43.33	30.00	50.00								
Base rate for hauling grain sorghum	\$/bu.	7	0.13	0.12	0.15												
extra charge per bushel	\$/bu.	7	0.05	0.01	0.13												
for excess over XX miles	miles	7	17.14	5.00	30.00												
Storing corn, per bu., per mo.	\$/bu.	3	0.04	0.03	0.05												
Storing grain sorghum, per bu., per mo.	\$/bu.	2	0.04	0.03	0.05												
Combining corn (flat rate)	\$/acre	13	19.15	14.00	20.00					4	19.50	18.00	20.00				
Combining corn (flat rate)	\$/bu.	4	0.24	0.20	0.26												
Base rate for combining corn	\$/acre	2	16.50	13.00	20.00												
extra charge per bushel	\$/bu.	2	0.15	0.13	0.17												
for excess over XX bushels/acre	bu./acre	2	55.00	30.00	80.00												
Grain sorghum (fieldwork though harvesting)	\$/acre	2	65.00	60.00	70.00												
Corn (fieldwork though harvesting)	\$/acre	2	74.00	70.00	78.00												
<b>COTTON HARVEST</b>																	
Stripping cotton	\$/lb.	7	0.08	0.05	0.10												
<b>PEANUT HARVEST</b>																	
Digging peanuts	\$/acre	2	10.00	10.00	10.00												
Combining peanuts	\$/acre	2	32.50	20.00	45.00												
<b>LIVESTOCK OPERATIONS</b>																	
Spraying	\$/head	12	2.00	1.00	3.50	2	2.00	1.00	3.00	2	3.25	3.00	3.50	2	1.50	1.00	2.00
Dehorning	\$/head	27	2.17	0.50	5.00	6	2.58	1.00	5.00	3	1.00	1.00	1.00	5	2.20	1.00	5.00
Branding	\$/head	22	1.09	0.25	3.00	5	1.05	0.75	1.50	4	0.63	0.50	1.00	3	1.50	1.00	2.50
Castrating	\$/head	29	2.33	0.50	5.00	5	2.70	0.50	5.00	6	1.83	0.50	5.00	4	2.88	1.00	5.00
Worming	\$/head	25	4.02	0.50	12.50	6	3.75	1.00	10.00	8	5.16	0.50	12.50	2	5.00	4.00	6.00
Artificial insemination	\$/head	7	12.50	5.00	25.00									2	7.50	5.00	10.00
<b>MISCELLANEOUS</b>																	
Pecan Shaking	\$/tree	4	6.25	5.00	10.00												
Picking up pecans (% for owner)	%	7	50.0%	40.0%	60.0%												
Building new fence (5-wire, steel posts)	\$/mile	30	2231	450	6600	7	1515	900	2190	2	1500	1000	2000	5	2820	600	5000
Digging line fence post holes	\$/hole.	5	3.40	0.50	10.00												
Brush hogging	\$/hour	16	25.19	5.00	45.00					2	27.50	25.00	30.00	3	19.00	7.00	30.00
Dozing (D6 or smaller)	\$/hour	46	63.54	40.00	90.00	7	62.86	40.00	90.00	10	67.50	55.00	90.00	5	61.00	40.00	80.00
Dozing (D7 or smaller)	\$/hour	26	80.38	60.00	110.00	7	79.29	60.00	90.00	5	90.00	65.00	110.00	3	78.33	60.00	90.00
Clearing cedar trees	\$/hour	16	49.22	25.00	70.00	4	55.00	30.00	70.00	5	49.00	40.00	65.00				
Hauling cattle flat truck, capacity	lb.	11	29636	12000	50000	2	23000	21000	25000	3	30000	25000	34000	2	36500	25000	48000
Per mile (one-way load)	\$/mile	17	1.95	1.20	3.00	3	2.22	1.65	3.00	5	1.95	1.20	2.50	2	1.75	1.50	2.00
Hauling cattle belly semi-truck, capacity	lb.	18	49278	40000	54000					3	46667	40000	50000	6	50333	48000	54000
Per mile (one-way load)	\$/mile	22	2.30	2.00	3.75					4	2.19	2.00	2.30	4	2.50	2.00	3.75
Gooseneck trailer, length	feet	24	26.42	17.00	36.00	2	29.00	28.00	30.00	3	24.00	20.00	28.00	5	25.60	20.00	36.00
capacity	lb.	18	14111	10000	24000					3	12667	11000	15000	4	18000	14000	24000
rate per mile	\$/mile	21	1.75	1.00	4.00	2	2.13	1.75	2.50	3	1.87	1.40	2.20	3	1.17	1.00	1.50
Combining alfalfa seed	\$/acre	7	16.00	13.00	20.00	2	15.00	13.00	17.00	3	16.33	14.00	20.00				
<b>TRACTOR RENTAL</b>																	
2 wheel drive-less than 100 hp	\$/hour	16	19.81	10.00	50.00					2	12.50	10.00	15.00	2	13.50	12.00	15.00
2 wheel drive-between 100 and 150 hp	\$/hour	15	23.50	15.00	50.00	2	20.50	16.00	25.00					2	17.50	15.00	20.00
2 wheel drive-greater than 150 hp	\$/hour	9	29.78	15.00	65.00	2	25.00	20.00	30.00								
4 wheel drive-less than 175 hp	\$/hour	5	31.20	15.00	65.00												
4 wheel drive-greater than 175 hp	\$/hour	4	42.50	30.00	65.00												
<b>MACHINERY RENTAL</b>																	
Grain drill	\$/acre	7	4.21	2.00	8.00												
No-till drill	\$/acre	16	8.44	4.00	13.00					2	8.13	4.25	12.00	3	9.00	7.00	10.00
Grain cart with auger	\$/bu.	3	0.38	0.06	1.00												
Skid loader	\$/hour	4	47.50	40.00	60.00												

## Costs of Ownership and Operation

The management decision to own a machine, to custom hire operations performed, or to custom perform operations is partially determined by cost, which is heavily influenced by the amount of use realized over the period of machine ownership. Estimates of fixed and variable costs per hour can be approximated using the following steps. Unless accurate records are used to estimate costs, variability in machine and operator efficiencies can cause actual results to be significantly different from estimated results.

- A. Acres per hour = Acres covered in normal day ÷ hours in normal day = \_\_\_\_\_ acres ÷ \_\_\_\_\_ hours = \_\_\_\_\_
- B. Average investment = (Original cost + Trade-in value) ÷ 2 = (\$ \_\_\_\_\_ + \$ \_\_\_\_\_) ÷ 2 = \$ \_\_\_\_\_
- C. Annual Depreciation =  $\frac{\text{Original cost} - \text{Trade-in value}}{\text{Number of years owned}}$  = (\$ \_\_\_\_\_ - \$ \_\_\_\_\_) ÷ \_\_\_\_\_ years = \$ \_\_\_\_\_
- D. Annual Interest = Average Investment x Interest rate = \$ \_\_\_\_\_ x \_\_\_\_\_ % = \$ \_\_\_\_\_
- E. Annual Personal Taxes = Average Investment x Tax rate (1) = \$ \_\_\_\_\_ x \_\_\_\_\_ % = \$ \_\_\_\_\_
- F. Annual Insurance = Average Investment x Insurance rate (2) = \$ \_\_\_\_\_ x \_\_\_\_\_ % = \$ \_\_\_\_\_
- G. Total Annual Ownership Costs (Sum of C through F) = \$ \_\_\_\_\_
- 
- H. Ownership Annual Costs Per Year =  $\frac{\text{Ownership Annual Costs}}{\text{Acres}}$  = \$ \_\_\_\_\_ ÷ \_\_\_\_\_ acres/year = \$ \_\_\_\_\_
- I. Repairs Per acre =  $\frac{\text{Repairs (3)}}{\text{Acres Per Year}}$  = \$ \_\_\_\_\_ ÷ \_\_\_\_\_ acres/year = \$ \_\_\_\_\_
- J. Fuel Cost Per acre =  $\frac{\text{Fuel Price} \times \text{Gallons Per Hour (4)}}{\text{Acres Per Hour}}$  = (\$ \_\_\_\_\_ /gal. x \_\_\_\_\_ gal./hour) ÷ \_\_\_\_\_ acres/hour = \$ \_\_\_\_\_
- K. Labor costs Per acre =  $\frac{\text{Daily Wage}}{\text{Acres Per day}}$  = \$ \_\_\_\_\_ /day ÷ \_\_\_\_\_ acres/day = \$ \_\_\_\_\_
- 
- L. Total Cost Per Acre = Sum of items H through K above = \$ \_\_\_\_\_

- (1) Use local tax rate if known. One to two percent is a reasonable "guesstimate".
- (2) Use own insurance rate if known. One-half to one percent is a reasonable "guesstimate".
- (3) Use your repair expense data, if available. One percent of original price for each year machine is kept is a rough estimate; e.g., 10% per year if machine is to be used for 10 years.
- (4) Estimate fuel use or see OSU Fact Sheet F-1211, "Tractor Selection, Operation and Service for Minimum Fuel Consumption."

### Possible Advantages of Using Custom Operations

- Ownership costs are avoided.
- Capital and labor can be channeled to other uses.
- Machine use can be readily adjusted to changes in crop mix and market conditions.
- Specialized operations may benefit from experience and skilled operator.
- Jobs may be completed faster using several machines.

### Possible Disadvantages of Using Custom Operations

- Service may not be available at the best time.
- Reliability of the custom operator may not be known.
- Rates may be excessive in special situations.

Each manager must choose the best combination of owned and hired machines. The quotations here will be

helpful in estimating custom costs and to provide a base figure for agreement on a rate when well established local rates are not available. If you have questions, ask your Extension Educator- Agriculture or Area Agricultural Economics Specialist for additional information.

### Considerations to Keep in Mind

Keep in mind there is a wide variation in rates charged for most jobs, even within the same geographic area, partly because some custom work is done for friends, relatives, and neighbors at reduced rates, partly because *some* custom work is done late by farmers who do their own work first and therefore do not attempt to include the full cost of machine ownership in their rates, and partly because it is easy to under-estimate the full cost of ownership and operation of machinery.

A small number of reports for a given machine in a particular area may not be representative. In this case, it is particularly important to check rates in other areas or state-wide where a larger number of reports are found.

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