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Custom Rates for Idaho Agricultural Operations — 1990-91

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Farming includes a great number of activities that require various types of skills and equipment. Unless a farm is quite large, the farm operator may not find it practical to own all of the necessary equipment. Some farmers solve this problem by trading equipment and labor with their neighbors. Hiring a custom operator to perform certain farm operations is more practical for most farmers. A custom operator may be one who specializes in custom operations or a neighbor who has the equipment and time to perform this function for a fee.

How much should be charged for custom operation? Specialized custom operators may charge to cover all costs plus profit. Those performing custom services for a neighbor may charge only enough to cover labor and variable machine costs. In areas where a considerable portion of farm work is done by custom operators, standard or traditional rates usually emerge, based on actual machine operating and ownership costs.

A problem arises, however, if no rates have been established or if established rates differ from reasonable costs. This publication is written to assist those who lack custom rate information. Rates published here are based on actual rates reported by farm custom operators in several areas of Idaho. These were actual rates charged, not estimates of costs. A procedure is suggested later for estimating fair custom rates where none have been established in the community.

Custom services can sometimes be hired at a lower cost than that incurred by owning the equipment. This is particularly true of small farms. For example, a grain combine may have an annual ownership cost of $8,000 or more. If operating costs are $8 per acre and custom costs are $24 per acre, about 500 acres of crop must be harvested before ownership becomes as economical as custom hiring. This can be calculated as follows:

Fig. 1 is based on this break-even calculation. It shows that the cost of owning and operating equipment is greater than custom hiring up to the break-even acreage. If the owner of the equipment uses it on more acres than the number needed to break even, the average cost per acre will be less than the amount required to hire a custom operator. These cost calculations are based on all costs, cash and non-cash. Non-cash costs include operator labor, depreciation for all equipment used and opportunity interest on the owner's equity. Cash costs are the more obvious ones such as fuel, repairs, hired labor, taxes and interest paid on equipment loans.

These costs are different for each farm or custom operator. They will vary by conditions under which the equip-

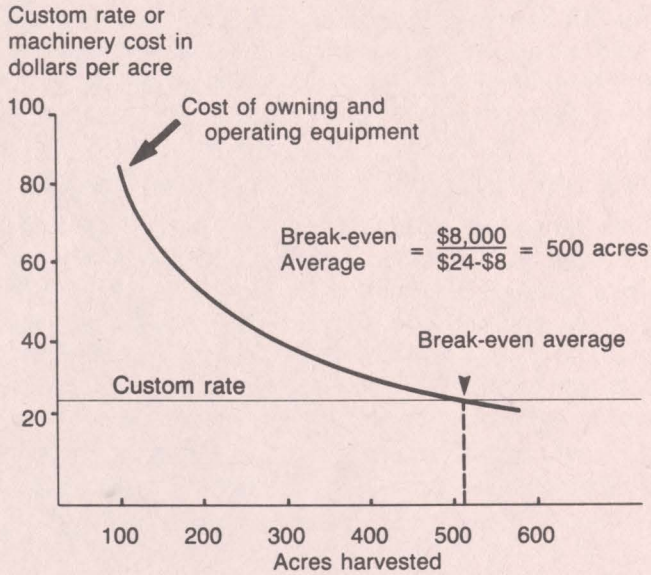


Fig. 1. Break-even average between ownership costs and custom hiring.

$$\text{Break-even acreage} = \frac{\text{Annual ownership costs}}{\text{Custom rate per acre} - \text{Operating cost per acre}}$$

Annual ownership cost = Annual depreciation, interest, taxes, insurance and housing (see Table 1)

Custom rate per acre = Rate charged in the area for that service

Operating cost per acre = Fuel, maintenance, labor and other necessary inputs

ment is used, whether it was purchased new or used, changes in replacement costs, interest rates paid, quality of service and care given the equipment by the operator, the volume or number of acres covered and other items affecting cost. Calculations for new or used machinery are the same. The results will be different, however, if the used equipment was purchased at less than market cost or the operator is unusually good at operating and maintaining machinery. This may lengthen the useful life of the equipment.

Another consideration in the custom rate vs. ownership question relates to the availability of custom operators and the amount of waiting time required to begin the custom operation. Crops may be lost if the custom operator cannot begin work at crucial times such as harvesting or seeding. Each individual needs to determine the risk associated with timeliness. This will vary by crop, location and financial strength of the farmer.

Whether you are performing custom operations for others or are hiring custom operators, some guidelines to determine the custom rate may be useful.

Source of Data

During the spring and summer of 1991, custom operators and farmers in the four districts of Idaho were contacted about custom rates charged or paid for various farm operations. Names of contacts were obtained from Extension agricultural agents, classified sections of newspapers and farm operators. Respondents were contacted by telephone, mail or in person. Most rates reported were for the 1991 crop year. Most rates for harvest and other activities done late in the year were for 1990, however.

Custom Rates for Idaho Agriculture

The geography of Idaho is such that there are wide differences in topography, climate, soils and other variables affecting agricultural production. This has resulted in the development of a diverse agriculture with a wide variety of enterprises. Because of this great variability, production costs differ from one area to another and sometimes even between adjacent farms or ranches.

Custom rates are reported here according to the four agricultural areas defined by the Idaho Crop and Livestock Reporting Service. This does not eliminate the variability but does reduce it to a manageable level. These areas are shown in Fig. 2.

Northern Idaho's crop-producing areas are interspersed with forests and mountainous terrain. Principal crops consist of grain, hay, peas, lentils, grass seed and specialty crops. Very little of this cropland is irrigated.

Southwestern Idaho has a longer growing season than other parts of the state and produces a wider variety of crops. Most crops are grown using irrigation, but the area also has some dry farming and a considerable quantity of rangeland. Besides the typical field crops — grain, hay,

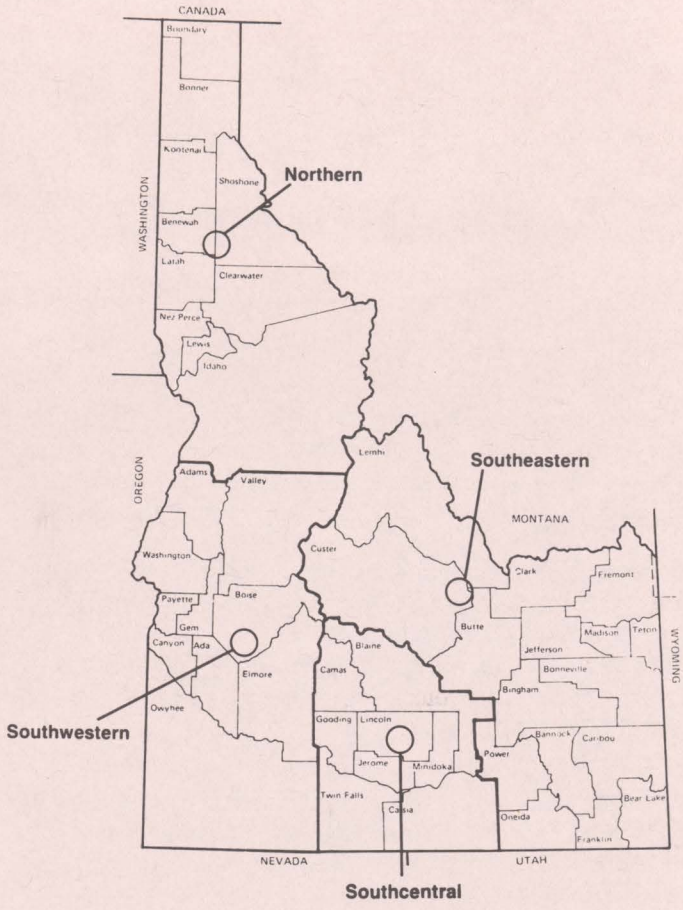


Fig. 2. Idaho crop reporting districts.

corn, potatoes, sugarbeets, onions — several fruits, vegetables, seed and other specialty crops are grown. Dairy and beef cattle production are both common to the area.

Southcentral Idaho is much like southwestern Idaho except that the growing season is shorter so fewer types of crops are grown. Mixed farming with crops and livestock is common with cash crops consisting of potatoes, sugarbeets, beans, corn, small grains and hay.

Southeastern Idaho has a still shorter growing season. Potatoes, grain and hay are the principal crops with livestock, mostly beef and dairy, also being prominent.

Because of the low rainfall in most parts of the Snake River Plain, irrigation is essential to agricultural production in each of the three southern areas. Farming practices, field size and shape and types of equipment used are all influenced by irrigation in these areas. Farming practices are comparable across the irrigated portions of southern Idaho, but northern Idaho is quite different. Northern Idaho does share some cultural practices and machinery types common to dryland grain-producing areas of eastern and southern Idaho.

Appendix Tables 1 through 4 summarize the custom rate information collected in the survey. Each table presents reported custom rates for production and harvesting operations for major crops. For most entries, a range and average rate are given. Rates vary because of different conditions, different types of equipment and differences in means of determining rates. Costs of materials such as chemicals, seed and fertilizer are not included in the custom rates quoted. When such supplies are provided by the custom operator, their cost should be added to the custom rate.

Custom rates quoted here should be used as guidelines for specific operations, not necessarily as the rate to charge. Prevailing conditions such as weather, field shape and size and other factors affecting ease or difficulty of operation should be considered. The user should also be aware that rates quoted may not be representative of the whole area.

Calculating Machine Operating Costs

Information about custom operations and rates is not always available. If this is the case in your area, you may need to calculate the approximate cost of performing a particular task. The costs involved include machinery ownership costs and operational costs. Ownership costs are:

- annual depreciation
- interest on the value of the investment in machinery and equipment
- property taxes on the machine (if applicable)
- insurance
- shelter costs

Operational costs are those expenses directly related to the operation of a machine. Costs include:

- fuel and lubrication
- maintenance and repairs
- supplies used in the operation
- labor expenses

Your own records on the machines are the best basis for estimating costs. If records are lacking, you can make a cost estimate with a few calculations as shown in Table 1. Using a moldboard plowing operation as the example, costs must be calculated on both the tractor and plow. Costs of the two pieces of equipment are calculated separately because they are used a different number of hours, have different cost factors and a different rate of depreciation. In this calculation the tractor's cost per hour is $18.48 and the plow cost per hour is $13.25. Total cost for the operation is $31.73, so if 2.5 acres are covered per hour, the cost per acre is about $12.70. While this is not an exact calculation, it may be useful where no custom rate figures are available and you need to estimate the value of a custom operation.

The costs used in Table 1 are for illustration and the table should only be used as a format for calculating costs. Note that the labor is charged only once because only one operator is needed for both pieces of equipment. Avoid double counting of labor or fuel. Also be sure to add the cost of materials such as chemicals, seed, twine and fertilizer that are supplied by the custom operator.

Table 1. Estimating costs of operating farm machinery (example uses tractor and plow).

	Tractor	Implement (Plow)
Equipment		
1. Replacement cost[1]	$25,000	$8,800
2. Estimated life (years)[2]	12	8
3. Salvage value	$ 1,000	$ 0
4. Average value[3]	$13,000	$4,400
5. Annual hours of use	830	250
Annual ownership cost		
6. Depreciation[4]	$2,000	$1,100
7. Taxes, housing, interest and insurance (see Table 3)[5]	$1,742	$ 563
8. Annual ownership cost (6+7)	$3,742	$1,663
9. Ownership cost per hour (8/5)	$4.51	$6.65
Annual operating cost		
10. Repairs and maintenance per hour (Replacement cost/100 × factor in Table 2)	$3.00	$6.60
11. Fuel and lubrication[6]	$4.37	—
12. Labor[7]	$6.60	—
13. Materials needed (twine, etc.)[8]	—	—
14. Total operating cost per hour (10+11+12+13)	$13.97	$6.60
Total cost		
15. Total cost per hour (9+14)	$18.48	$13.25
16. Total cost of operation per hour	$31.73	
17. Total cost per acre ($31.73/acres per hour/2.5 acres)	$12.70	

[1]Replacement cost is the price of a new or used machine.

[2]Estimated life is related to annual use. Table 2 shows a life of 2,000 hours for the plow and 10,000 hours for the tractor. The tractor is used 830 hours per year and the plow 250 hours. These will vary with each operation.

[3]Average value is the new value plus the salvage divided by 2. It is the average value the machine has for its period of useful life.

[4]Depreciation for these calculations is straight – line: cost – salvage/useful life

[5]Use the Table 3 factor for this machine times the average value.

[6]Gallons used per hour times the price times 1.15. The extra 15 percent covers lubrication cost.

[7]Labor cost is total wages per hour including Social Security and fringe benefits. This is multiplied by 1.1 to cover extra labor time involved for maintenance, repair and adjustment.

[8]If supplies (baling twine, seed, etc.) are furnished by the custom operator, they should also be included here.

Two references dealing with estimating machinery costs are available through the University of Idaho Cooperative Extension System office in your county. They are PNW Extension Publication 346, *The Cost of Owning and Operating Farm Machinery in the Pacific Northwest*, by Robert L. Smathers and Gayle S. Willett, and MCUG 42, *MACHCOST, A Machinery Cost Analysis Program*, by Leroy Stodick and Robert L. Smathers.

Estimates by Smathers and Willett are based on new machinery costs and expected total hours of use during the life of the machine. The microcomputer cost analysis by Stodick and Smathers is designed to help estimate machinery costs based on figures supplied by the operator.

Table 2. Farm machinery field efficiency, field speed, estimated life and repair cost factors.

	Field efficiency		Field speed		Estimated life*	Total life repairs as % of list price	Repairs per hour per $100 list price
	Range	Typical	Range	Typical			
	(%)	(%)	(mph)	(mph)	(hr)		
Tractors							
2 wheel drive and stationary					10,000	120	.012
4 wheel drive and crawler					10,000	120	.012
Tillage							
Moldboard plow	70 to 90	80	3.0 to 6.0	4.5	2,000	150	.075
Heavy-duty disk	70 to 90	85	3.5 to 6.0	4.5	2,000	60	.03
Tandem disk harrow	70 to 90	80	3.0 to 6.0	4.0	2,000	60	.03
Chisel plow	70 to 90	85	4.0 to 6.5	4.5	2,000	100	.05
Field cultivator	70 to 90	85	3.0 to 8.0	5.5	2,000	80	.04
Spring tooth harrow	70 to 90	85	3.0 to 6.0	5.0	2,000	80	.04
Roller-packer	70 to 90	85	4.5 to 7.5	6.0	2,000	40	.02
Mulcher-packer	70 to 90	80	4.0 to 6.0	5.0	2,000	40	.02
Rotary hoe	70 to 85	80	5.0 to 10.0	7.0	2,000	60	.03
Row crop cultivator	70 to 90	80	2.5 to 5.0	3.5	2,000	100	.05
Rotary tiller	70 to 90	85	1.0 to 4.5	3.0	1,500	80	.053
Planting							
Row crop planter:							
No-till tillage	50 to 75	65	2.0 to 4.0	3.0	1,200	80	.067
Conventional tillage	50 to 75	60	3.0 to 7.0	4.5	1,200	80	.067
Grain drill	65 to 85	70	2.5 to 6.0	4.0	1,200	80	.067
Harvester							
Corn picker-sheller	60 to 75	65	2.0 to 4.0	2.5	2,000	70	.035
Combine:							
Pull-type	60 to 75	65	2.0 to 5.0	3.0	2,000	90	.045
Self-propelled	65 to 80	70	2.0 to 5.0	3.0	2,000	50	.025
Mower	75 to 85	80	4.0 to 7.0	5.0	2,000	150	.075
Mower-conditioner	55 to 80	75	3.0 to 6.0	4.5	2,000	80	.04
Side delivery rake	70 to 85	80	4.0 to 5.0	4.5	2,000	100	.05
Baler	60 to 85	75	2.5 to 5.0	3.5	2,000	80	.04
Big bale baler	55 to 75	65	3.0 to 5.0	3.5	2,000	80	.04
Long hay stacker	55 to 75	60	2.5 to 4.5	3.5	2,000	80	.04
Forage harvester:							
Pull-type	50 to 75	65	1.5 to 5.0	2.5	2,000	80	.04
Self-propelled	60 to 85	70	1.5 to 6.0	3.0	2,500	80	.04
Sugarbeet harvester	60 to 80	70	2.5 to 5.0	3.0	2,500	70	.028
Potato harvester	55 to 70	60	1.5 to 4.0	2.0	2,500	70	.028
Cotton picker or stripper	60 to 75	70	2.0 to 4.0	3.0	2,000	60	.024
Miscellaneous							
Fertilizer spreader	60 to 70	70	3.0 to 5.0	4.5	1,200	120	.01
Boom-type sprayer	50 to 80	65	3.0 to 7.0	6.5	1,500	70	.047
Air-carrier sprayer	55 to 70	60	2.0 to 5.0	3.0	2,000	60	.03
Bean puller-windrower	70 to 90	80	2.0 to 5.0	3.5	2,000	60	.03
Beet topper stalk chopper	60 to 80	70	2.0 to 3.0	2.5	2,000	60	.03
Forage blower					2,000	50	.025
Wagon					3,000	80	.027

Source: American Society of Agricultural Engineers Standards. ASAE Data: ASAE D230.4 p. 160. St. Joseph, MO, 1984.

*Estimated life and repairs are estimated for the total life of the machine. If used equipment is being considered, the hours of use expended at the time of purchase should be subtracted to get the remaining expected life.

Acres covered per hour can be estimated by timing your own operation or by using the following formula:

$$\text{Acres per hour} = \frac{\text{machine width} \times \text{miles per hour} \times \text{field efficiency (\%)}}{825}$$

For example, if a machine 16 feet wide travels at 4 miles per hour and field efficiency is 70 percent the calculation is:

$$\frac{16 \times 4 \times 70\%}{825} = 5.4 \text{ acres per hour}$$

Typical field efficiencies are shown in Table 2. Field efficiency is less than 100 percent because of overlap, turning time, time required to adjust and service machinery, to fill hoppers, etc.

Custom Rate Index

Custom rates change when costs associated with ownership and operation of farm machinery and equipment change. Four cost components were used to develop an index of custom rates from 1972 through 1990 (Table 4). This composite index was compiled from index numbers

Table 3. Percentage of average machine investment charged for property taxes, housing, interest and insurance (THII) for selected machines.

Machinery	Cost item				
	Taxes	Housing	Interest	Insurance	Total
	%				
Wheel tractor	1.2	0.3	11.0	0.9	13.4
Crawler tractor	1.2	0.2	11.0	0.9	13.3
Combine	1.2	0.5	11.0	2.1	14.8
Potato harvester	1.2	1.4	11.0	0.6	14.2
Bean cutter	1.2	1.1	11.0	0.6	13.9
Self-propelled forage harvester	1.2	1.3	11.0	2.1	15.6
Pull-type forage harvester	1.2	1.3	11.0	2.6	16.1
Self-propelled windrower	1.2	1.1	11.0	2.1	15.4
Bean windrower	1.2	1.1	11.0	0.6	13.9
Hay rake	1.2	—	11.0	0.6	12.8
Hay baler	1.2	1.9	11.0	0.6	14.7
Self-propelled bale wagon	1.2	1.0	11.0	2.1	15.3
Pull bale wagon	1.2	1.0	11.0	0.6	13.8
Self unloading forage wagon	1.2	—	11.0	0.6	12.8
Drills, planters	1.2	2.4	11.0	0.6	15.2
Tillage equipment	1.2	—	11.0	0.6	12.8
Sprayer	1.2	—	11.0	0.6	12.8
Pickup	1.2	1.2	11.0	5.2	18.6
Truck	1.2	1.2	11.0	8.5	21.9

Source: The Costs of Owning and Operating Farm Machinery in the Pacific Northwest, by Smathers and Willett; Pacific Northwest Extension Publication No. 346, September 1989. Tax and interest figures are adjusted.

Table 4. Index of farm input prices and custom rates, U.S., 1972 to 1990.

Year	Machinery	Fuel	Wages	Interest	Custom rate index	Percent change in custom rate index
	(1977 = 100 percent)					
1972	54	54	63	47	56	
1973	58	57	69	55	60	0.07
1974	66	79	79	65	70	0.17
1975	81	88	85	77	83	0.19
1976	91	93	93	88	92	0.11
1977	100	100	100	100	100	0.09
1978	108	105	107	117	108	0.08
1979	120	137	117	143	124	0.15
1980	134	188	127	174	144	0.16
1981	149	213	138	211	160	0.11
1982	163	210	144	242	173	0.08
1983	173	202	148	250	179	0.03
1984	181	201	151	248	184	0.03
1985	180	201	154	228	183	-0.01
1986	179	162	159	211	175	-0.04
1987	180	161	166	189	175	0.00
1988	194	166	171	182	183	0.05
1989	200	181	185	177	191	0.04
1990	209	204	192	174	200	0.05

[1]Machinery index is a composite of tractors, self-propelled and other machinery.

[2]The custom rate index is estimated by weighting machinery at 50 percent, fuel 15 percent, wages 25 percent and interest 10 percent.

Source: SRS, USDA Agricultural Prices, Annual Summary 1982, 1985 and 1986. Washington, D.C., June 1983, June 1986 and June 1987.

for machinery ownership cost, wage rates, fuel prices and interest rates weighted according to percentages of total cost. The custom rate index increased rapidly from 1974 through 1981. Since then increases have been modest and even negative for 1986. Figures for 1986 were 4 percent below those of 1985. The index increased again after 1987 by 4 or 5 percent per year.

This custom rate index is based on national cost and price data. Values for Idaho may be slightly different. This index should be a reasonable guide for making rough estimates of custom rate changes from year to year in the absence of actual cost data.

The custom rate index reflects costs for those operators using new equipment. Actual custom rates may lag the index somewhat because many custom operators use machinery and equipment purchased in previous years. Those using the index as a guide should also be aware that amounts of inputs used in different operations may vary considerably, and different weights for machinery, fuels, etc., may be appropriate.

In actual practice, rates will also vary depending on conditions prevailing when the work is done. Cost of machine operation will vary considerably between clean and weedy fields, dry or wet soil, different weather factors, topography and various crop conditions.

Summary

Custom help for farm operations provides a reasonable way for farm operators to get work done when they don't have adequate machinery. Custom work also provides a way for machine owners to make more efficient use of their assets by spreading the costs over more units without acquiring more land.

Idaho farmers and custom operators were surveyed during 1991 to get approximate custom rates. These rates are shown in Appendix Tables 1 through 4.

Custom rates have increased rather consistently in recent years along with other farm production costs. Year-to-year increases fluctuated between 0 and 19 percent between 1972 and 1990. Production costs have shown more modest increases since 1980 and have changed very little since 1982. Modest increases have occurred in the past three years.

Appendix

Appendix Table 1. Northern Idaho custom rates, 1990-91.

Operation	Unit	Respondents	Rate range	Average rate
Fencing (labor only)				
Barbed-wire[1]				
(4-strand)	foot	3	$0.95-2.00	$1.57
Cedar (3 rail)	foot	5	$0.80-1.75	$1.28
(2 rail)	foot	2	$0.75-1.25	$1.00
Pole fence	foot	4	$0.75-2.25	$1.56
PVC rail[2]	foot	1		$9.85
Fertilizer application and equipment rental				
Dry				
Broadcast	acre	4	$4.50-5.50	$5.03
Air machine	acre	3	$4.25-5.00	$4.63
Shank-in	acre	2	$1.50-2.00	$1.75
Spreader rental	acre	7	$1.25-1.50	$1.44
	day	2	$60.00-65.00	$62.50
Aerial (100 lb)	acre	4	$4.25-5.50	$4.96
Liquid				
Injection	acre	3	$5.50-6.00	$5.82
Drill-in	acre	3	$4.00-6.00	$4.75
Anhydrous (rental)	acre	2	$1.25-1.50	$1.38
Chemical application				
Aerial				
5 gallon	acre	8	$3.50-5.25	$4.41
5 to 7 gallon	acre	8	$4.00-6.25	$5.03
> 7 gallon	acre	8	$4.25-7.00	$5.69
Ground				
Tractor	acre	2	$2.00-2.50	$2.25
Floater	acre	4	$4.00-4.25	$4.06
Pickup	acre	4	$3.75-5.50	$4.31
Sprayer rental	acre	4	$1.35-1.50	$1.43
Land preparation				
Moldboard plow				
Sod	acre	4	$12.00-20.00	$14.75
Stubble	acre	4	$10.00-12.00	$10.50
Chisel plow	acre	2	$10.00-15.00	$12.50
Disk				
Tandem	acre	4	$4.50-5.25	$4.88
Offset	acre	2	$7.50-8.00	$7.75
Harrow				
Spike	acre	5	$1.50-3.75	$2.69
Springtooth	acre	3	$3.50-4.50	$4.17
Land preparation (cont'd)				
Cultiweed	acre	4	$1.50-3.00	$2.41
Cultipack	acre	1		$3.00
Planting and seeding				
No-till air				
Small grains	acre	3	$18.00-25.00	$21.67
Peas	acre	3	$15.00-22.00	$18.33
Alfalfa/grass	acre	3	$12.00-20.00	$16.67
Conventional drilling				
Small grains	acre	4	$4.50-10.00	$6.25
	hour	1		$55.00
Peas and lentils	acre	2	$4.50-5.00	$4.75
Harvesting				
Hay				
Swath	acre	2	$12.00-15.00	$13.50
Bale				
2-string	bale	2	$0.28-0.32	$0.30
Round	bale	1		$7.00
Haul	ton	1		$15.00
Combining (usually includes short haul)				
Small grains	acre	7	$22.00-40.00	$33.35
Legumes	acre	3	$25.00-27.50	$25.83
(Swath)	acre	1		$15.00
Bluegrass seed	acre	1		$65.00
Pasture rental	AUM	4	$8.00-11.00	$9.75
Equipment rental				
Tractors[3]	hp/hr	2	$0.13-0.15	$0.14
Combine				
(1st 50 hours)	hour	3	$40.00-65.00	$49.17
Large capacity				
22' to 25' header	hour	1		$135.00
Chisel plow	acre	2	$4.00-6.00	$5.00
Rod weeder	acre	2	$3.50-6.00	$4.75
Disk (offset)	acre	2	$4.00-6.00	$5.00
Grain drill	acre	2	$4.00-6.00	$5.00
Moldboard plow	acre	2	$6.00	$6.00
Cultivator	acre	2	$3.50-6.00	$4.75

[1]Barbed wire fencing techniques vary within and among regions. Rates vary with terrain, type of posts used and soil type.
[2]Includes materials.
[3]160 hp × .14 = $22.40 per hour. Renter pays operating costs.

Table 2. Southwestern Idaho custom rates, 1990-91.

Operation	Unit	Respon-dents	Rate range	Average rate
Concrete ditch construction				
12 inch	foot	1		$4.15
14 inch	foot	2	$4.25	$4.25
16 inch	foot	2	$4.35-4.50	$4.43
18 inch	foot	1		$4.75
Fencing (labor only)[1]				
39″ netting + 1-strand live (wood posts)	foot	2	$2.59-3.50	$3.05
High tensile				
3 strand	foot	2	$.35-.40	$0.38
5 strand	foot	2	$.45-.55	$0.50
Pole fence				
4 pole	foot	2	$3.50-4.00	$3.75
Post hole drilling	hole	4	$1.50-3.00	$2.38
Fertilizer application and equipment rental				
Dry				
Broadcast	acre	6	$6.00-9.50	$7.50
Air machine	acre	6	$6.00-10.00	$8.67
Spreader rental	acre	4	$1.00-1.50	$1.21
Aerial (100 lb)	acre	7	$5.00-10.00	$7.86
Liquid				
Injection (Mark-out, cross, incorp. w/disk)	acre	6	$7.50-12.00	$9.10
Sidedress	acre	5	$8.00-12.75	$10.35
Chemical application				
Aerial				
5 gallon	acre	7	$5.00-6.50	$5.64
5 to 7 gallon	acre	7	$5.00-8.00	$6.34
> 7 gallon	acre	4	$7.00-10.00	$8.25
Ground				
Tractor	acre	2	$5.50-7.00	$6.25
Triple-K	acre	3	$6.00-8.00	$7.17
Pickup	acre	5	$5.50-6.50	$5.90
Manure hauling	ton	2	$2.50-3.00	$2.75
Land preparation				
Moldboard plow				
Sod	acre	7	$18.50-27.00	$21.58
Stubble	acre	8	$15.00-22.50	$18.58
Disk				
Tandem	acre	8	$7.50-10.00	$7.93
Harrow				
Springtooth	acre	1		$6.00
Roller	acre	3	$6.50-8.00	$7.17
Rotovate	hour	2	$35.00	$35.00
Land plane	acre	4	$8.00-15.00	$11.38
Corrugating	acre	1		$8.50
Bedding up	acre	2	$10.00-10.50	$10.25
Planting and seeding				
Small grains	acre	3	$7.00-10.00	$8.33
Corn	acre	3	$7.00-12.00	$9.67
Alfalfa/clover	acre	6	$7.50-10.00	$8.68
Planting and seeding (cont'd)				
Beans	acre	1		$11.00
Sugarbeets	acre	3	$11.00-12.50	$11.83
Cultivation				
Hand labor				
De-tassel corn	acre	2	$150.00-500.00	$325.00
Sugarbeets				
Thinning	acre	4	$35.00-45.00	$39.50
Hoeing	acre	4	$35.00-40.00	$37.75
Machine cultivation	acre	2	$10.00	$10.00
Sugarbeets				
Thinning	acre	2	$38.00-40.00	$39.00
Irrigation labor				
Gravity flow	hour	3	$4.50-6.00	$5.17
Hand lines	hour	2	$4.25	$4.25
(1/4 mile)	line	2	$1.75-2.50	$2.00
Wheel lines	hour	1		$4.25
Harvesting				
Hay (alfalfa)				
Swath	acre	12	$7.00-12.00	$9.82
Bale				
2-string	bale	14	$.22-.50	$0.31
3-string	bale	7	$.35-.50	$0.42
Round	bale	4	$8.00-10.00	$8.50
Square (ton)	bale	2	$10.00-12.50	$11.25
Haul	ton	1		$3.50
Stacking	ton	4	$6.50-8.00	$7.13
Swath, bale and stack	ton	2	$25.00	$25.00
Silage				
Alfalfa/grass				
Chop, haul and pack	ton	1		$10.00
Corn				
Chop, haul and pack	ton	3	$10.00-12.00	$7.33
Cutting	acre	2	$10.00	$10.00
Combining (usually includes short haul)				
Small grains	acre	12	$25.00-32.00	$27.67
Legumes	acre	1		$40.00
Corn for grain	acre	12	$25.00-40.00	$32.25
Alfalfa seed	acre	3	$38.00-50.00	$46.00
Beans	acre	2	$40.00	$40.00
(swath, windrow)	acre	1		$28.00
Sugarbeets				
Top, dig and load	ton	3	$3.30-4.00	$3.60
Haul	ton	2	$2.00	$2.00
Top, dig, load and haul	ton	1		$6.00
Equipment rental				
Tractors	hp/hr[2]	3	$0.12-0.15	$0.13
Combine (grains)	hour	2	$30.00-60.00	$45.00
Combine (alfalfa seed)	acre	1		$48.00

[1]Fencing techniques vary within and among regions. Rates vary with terrain, type of posts used and soil type.

[2]160 hp × .14 = $22.40 per hour. Renter pays operating costs.

Table 3. Southcentral Idaho custom rates, 1990-91.

Operation	Unit	Respon-dents	Rate range	Average rate
Concrete ditch construction				
12 inch	foot	1		$4.30
14 inch	foot	1		$4.40
16 inch	foot	1		$4.50
Fencing (labor only)				
36″ netting + 2-strand barbed[1]	foot	2	$0.27-0.29	$0.28
Cedar (3 rail)	foot	2	$1.50-1.75	$1.63
Pole fence	foot	2	$1.50-1.75	$1.63
Fertilizer application and equipment rental				
Dry				
Broadcast	acre	5	$5.00-6.50	$5.60
Air machine	acre	8	$3.75-9.00	$5.32
Spreader rental	acre	6	$0.50-1.00	$0.87
Aerial (100 lb)	acre	5	$4.00-6.70	$5.88
Liquid				
Injection				
(Mark-out)	acre	2	$12.50	$12.50
Topdress	acre	2	$4.00-4.50	$4.25
Chemical application				
Aerial				
5 gallon	acre	6	$4.50-5.85	$5.14
5 to 7 gallon	acre	6	$5.50-7.00	$6.00
> 7 gallon	acre	6	$6.00-8.00	$6.75
Ground				
Tractor	acre	3	$3.75-7.75	$5.17
Floater	acre	2	$4.50-5.00	$4.75
In-row	acre	1		$4.50
Pickup	acre	3	$5.00-5.65	$5.38
Spray coup	acre	4	$3.00-6.00	$4.38
Sprayer rental	acre	1		$1.50
Manure hauling (up to 5 miles)				
Spreader truck	ton	2	$1.80-3.00	$2.40
Land preparation				
Moldboard plow				
Sod	acre	10	$14.00-24.00	$19.05
Stubble	acre	10	$10.00-20.00	$15.45
Chisel plow	acre	5	$9.00-12.50	$10.00
Disk				
Tandem	acre	7	$5.00-12.50	$9.10
Offset	acre	5	$12.50-20.00	$15.00
Harrow				
Spike	acre	3	$3.50-5.00	$4.33
Springtooth	acre	1		$5.50
Roller	acre	5	$5.00-10.00	$6.70
Rotovate	acre	2	$10.00-12.00	$11.00
	hour	1		$30.00
Land plane	acre	6	$8.50-12.00	$10.08
Planting and seeding				
Small grains	acre	7	$7.50-14.00	$9.93
Corn	acre	4	$7.00-10.00	$9.25
Alfalfa/grass	acre	5	$7.50-12.00	$10.20
Beans	acre	4	$8.00-12.00	$10.50
Cultivation				
Hand labor				
Sugarbeets				
Thinning	acre	3	$38.00-40.00	$38.67
Hoeing	acre	3	$28.00-35.00	$31.00
Machine cultivation				
Beans	acre	2	$10.00	$10.00
Sugarbeets				
Thinning	acre	3	$30.00-35.00	$31.67

Operation	Unit	Respon-dents	Rate range	Average rate
Irrigation labor				
Gravity flow	hour	4	$4.25-5.00	$4.44
Hand lines	hour	2	$4.25	$4.25
Harvesting				
Hay (alfalfa)				
Swath	acre	17	$6.00-12.00	$9.51
Rake	acre	2	$4.50-6.00	$5.25
Bale				
2-string	bale	11	$.25-.50	$0.35
3-string	ton	3	$10.00-11.50	$10.50
Round	bale	8	$7.50-10.00	$8.96
Square (ton)	bale	5	$10.00-15.00	$12.70
Haul and stack				
2-string	ton	6	$5.00-8.50	$7.17
	bale	18	$.20-.35	$0.29
3-string	ton	2	$7.00	$7.00
	bale	5	$.30-.32	$0.31
Round	bale	3	$7.50-8.00	$7.33
Swath, bale and stack	ton	3	$22.00-28.00	$25.00
Field chop	ton	7	$4.00-8.00	$6.29
Ag bagging	ton	3	$11.00-12.00	$11.33
Silage				
Alfalfa/grass				
Chop, haul and pack	ton	4	$7.00-10.00	$8.98
Corn				
Chop, haul and pack	ton	6	$6.50-10.00	$7.92
Cutting	ton	4	$4.50-8.00	$5.63
Combining (usually includes short haul)				
Small grains	acre	10	$24.00-29.00	$26.85
Grain corn	acre	7	$24.00-30.00	$26.57
Alfalfa seed	acre	3	$38.00-45.00	$40.75
Clover seed	acre	3	$38.00-45.00	$40.75
Beans	cwt	1		$1.50
Hauling (up to 5 miles)				
Small grains	cwt	6	$.22-.35	$0.27
Grain corn	cwt	6	$.22-.35	$0.28
Silage	ton	4	$2.00-5.00	$2.88
Potatoes				
Roll vines	acre	2	$10.00-12.00	$11.00
Dig and load	acre	1		$180.00
	cwt	2	$0.38-0.40	$0.39
Haul up to 5 miles	ton	1		$5.00
Sugarbeets				
Top	acre	1		$25.00
Top, dig and load	ton	3	$3.25-4.50	$3.75
Truck	ton	3	$2.00-2.50	$2.17
Pasture rental	AUM	2	$10.00-15.00	$12.50
Equipment rental				
Tractors				
New	hp/hr[2]	5	$0.15-0.22	$0.17
Used	hp/hr	5	$0.12-0.13	$0.12
Combine	acre	1		$15.00
Chisel plow	acre	2	$4.50-5.00	$4.75
Rotary hoe	acre	2	$4.50-10.00	$7.25
Milk testing				
Standard fat, protein, SCC				
Tank	sample	2	$1.50-3.00	$2.25
per cow	sample	2	$0.48-0.50	$0.49
Culture	sample	1		$5.50
Antibiotics test	sample	1		$14.00

[1]Barbed wire fencing techniques vary within and among regions. Rates vary with terrain, type of posts used and soil type.

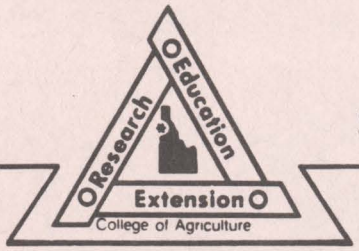
[2]160 hp × .14 = $22.40 per hour. Renter pays operating costs.

Table 4. Southeastern Idaho custom rates, 1990-91.

Operation	Unit	Respon-dents	Rate range	Average rate
Fencing (labor only)				
4-strand barbed[1]	foot	4	$.50-3.00	$1.75
Split rail (3 rail)	foot	3	$1.35-1.50	$1.45
Pole fence	foot	5	$1.25-2.50	$1.70
Fertilizer application and equipment rental				
Dry				
Broadcast				
Spinner	acre	8	$3.50-4.00	$3.71
Barber machine	acre	5	$3.75-5.00	$4.52
Air machine	acre	6	$4.50-6.00	$5.08
Spreader rental	acre	8	$1.00-1.50	$1.26
Aerial (100 lb)	acre	5	$3.75-4.20	$3.94
Liquid				
Tool bar rental (for anhydrous)	acre	3	$1.50-2.00	$1.67
Shank-in (w/cultivator)	acre	2	$8.50	$8.50
Chemical application				
Aerial				
5 gallon	acre	5	$3.50-5.00	$4.12
5 to 7 gallon	acre	5	$4.00-5.50	$4.70
> 7 gallon	acre	5	$4.50-6.00	$5.17
Ground				
Tractor	acre	5	$2.50-5.00	$3.31
Floater	acre	3	$4.00-6.00	$5.33
Pickup	acre	4	$4.50-5.85	$5.09
Spray coup	acre	3	$3.50-4.50	$4.17
Sprayer rental	acre	2	$1.50-2.00	$1.75
Manure hauling (with truck spreader) (capacity 10 ton)	load	3	$18.00-20.00	$18.83
Land preparation				
Moldboard plow				
Sod	acre	9	$10.00-25.00	$16.78
Stubble	acre	9	$8.00-20.00	$11.89
Chisel plow	acre	3	$6.50-12.00	$9.50
Disk				
Tandem	acre	3	$5.00-10.00	$8.33
Offset	acre	4	$5.50-15.00	$10.63
Harrow				
Spike	acre	3	$2.50-3.00	$2.67
Springtooth	acre	4	$4.50-5.25	$4.73
Roller	acre	2	$5.00	$5.00
Rotovate	hour	1		$40.00
Land plane	hour	3	$35.00-42.00	$39.00
Roto-tilling	hour	2	$15.00-18.00	$16.50
Planting and seeding				
Small grains	acre	5	$3.50-12.00	$7.40
Corn	acre	3	$8.00-11.00	$9.67
Alfalfa	acre	5	$3.00-12.00	$7.60
w/grain	acre	4	$3.50-12.00	$8.38
Cultivation				
Field cultivator	acre	2	$10.00-15.00	$12.50
Corn	acre	1		$10.00

Operation	Unit	Respon-dents	Rate range	Average rate
Irrigation labor				
Hand lines	pipe	5	$.10-.17	$0.13
	line	2	$1.50-3.25	$2.38
Wheel lines	line	3	$2.00-2.50	$2.33
Gravity flow	hour	5	$4.35-5.50	$4.77
Harvesting				
Hay (alfalfa)				
Swath	acre	20	$8.00-12.00	$9.72
Rake	acre	4	$2.50-2.65	$2.54
Bale				
2-string	bale	10	$.25-.35	$0.30
3-string	bale	8	$.35-.40	$0.37
Round	bale	7	$7.50-15.00	$11.58
Square (ton)	bale	4	$8.00-12.00	$10.00
Haul and stack				
2-string	bale	9	$.23-.30	$0.27
3-string	bale	3	$.30-.38	$0.35
Round	ton	1		$2.00
Square ton	ton	2	$1.50-2.00	$1.75
Swath, bale and stack	ton	5	$25.00-35.00	$27.60
Field chop	ton	2	$10.00-12.00	$11.00
Ag bagging	ton	2	$12.00-15.00	$13.50
Silage				
Alfalfa/grass				
Chop, haul and pack	ton	1		$10.00
Corn				
Chop, haul and pack	ton	2	$8.00-10.00	$9.00
Combining (usually includes short haul)				
Small grains	acre	10	$16.00-25.00	$21.55
Beans	cwt	2	$1.35-1.50	$1.43
Hauling (up to 5 miles)				
Small grains	ton/mile	3	$1.25-1.50	$1.42
Silage	ton	1		$2.00
Potatoes				
Roll vines	acre	4	$8.00-10.00	$8.75
Dig and load	acre	8	$120.00-200.00	$158.33
	cwt	1		$1.50
Truck	cwt	2	$0.25	$0.25
Pasture rental	AUM	3	$10.00-12.00	$10.67
Equipment rental				
Tractors				
New	hp/hr[2]	2	$0.15-0.20	$0.18
Used	hp/hr	2	$0.15	$0.15
Combine	acre	1		$23.00
	hour	1		$55.00
Disk harrow				
14 foot	acre	1		$6.50
17 foot	acre	1		$7.50
Baler	day	1		$70.00

[1]Barbed wire fencing techniques vary within and among regions. Rates vary with terrain, type of posts used and soil type.
[2]160 hp × .14 = $22.40 per hour. Renter pays operating costs.



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