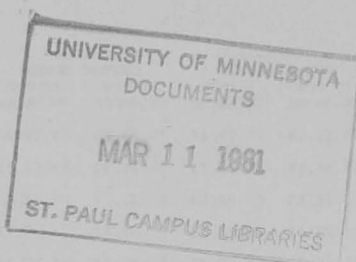


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1981 Custom Rate Estimates for Minnesota

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The suggested custom rates provided in the following tables have been calculated by formula from the most recent farm machinery, energy, and labor prices available. In times of stable price levels, surveys of market custom rates are a reasonable method for determining charges; however, in today's world of drastically changing costs, any survey is out of date before the summary is complete and made available. We feel that our method of estimating custom rates can provide reasonable estimates as a base for determining a negotiated rate between a purchaser and a supplier of custom services.

You can expect to pay somewhat higher custom rates again this year. Although the interest rate, fuel costs, and labor costs are the same as last year, there have been substantial increases in the cost of farm machinery that show up as increased use costs. New equipment prices were obtained from several regional sales offices of farm equipment manufacturers, and these prices were averaged for each tractor or implement.

The items listed in the tables include a description of the implement, the tractor or combine base used with the implement, and the cash operating, total, and suggested custom rate costs on a per acre and per hour basis. Also included on a per acre or per hour basis are the estimated costs of overhead, hours of labor, repairs, maintenance, fuel, and lubrication.

Machine and Tractor Identification: The name of the implement and the size of the tractor or combine base is provided in columns 1 and 2. A self-propelled implement such as a swather will have three dashes (---) indicating that no tractor is used. Combines are presented slightly differently. The head of the combine is identified in the first column, and the size of the base unit is given in the second column. For example, the "COMBINE SM GRAIN MED" describes a medium sized combine head used for harvesting small grains. The second column describes the base combine as a medium sized unit. The medium sized combine base is also used on the medium sized soybean head and the four-row corn heads.

Cash Operating Costs: These costs, provided on a per hour and per acre basis, are estimates of the costs of fuel (diesel), oil, and repairs for the tractor and the implement as used for the particular function described. Labor cost estimates are *not* included in this figure.

Total Costs: Total costs provide estimates of all costs associated with carrying out the particular function. These costs include cash operating costs, labor, and overhead costs for the tractor and implement. Labor is valued at \$5.20 per hour for unskilled labor and \$7.00 per hour for skilled labor.

Suggested Custom Rates: The suggested custom rate values include an additional 20 percent over the total cost figures. This margin provides a profit to the custom operator and a return for the risk and travel expenses involved. Many times a custom operator will cover more acres annually than a commercial farmer. Therefore, for popular custom services the overhead costs may be spread over more acres and hours, thereby reducing the total costs.

Overhead Cost/Acre: The overhead cost per acre is the total annual overhead cost of the tractor and implement on a per acre basis typical of a commercial farmer.

Labor Hours/Acre: This represents an estimate of the required hours of labor on one acre with a specific machine. It includes a measure for travel and set up time as well as direct use machine field time.

Repair and Maintenance/Acre: This is an estimate on a per acre basis for the average cost of repairs and maintenance of the tractor and implement as used on one acre.

Fuel and Lube/Acre: This is an estimate of fuel (diesel) and oil costs per acre where diesel fuel is estimated to cost \$1.25 per gallon and oil cost is calculated to be 10 percent of the fuel costs.

Custom rates will vary from area to area and are always a function of the demand for and the supply of those custom services. The charges for the services may be determined in different ways for different situations. For example, if two farmers are trading services they may price their services on a cash cost basis. This assumes that the value of their labor and machinery overhead would be approximately the same. Cash cost and labor expenses could only be expected to be recouped if they were being paid by an insurance settlement to replant a crop. The assumption here is that the ownership costs already are considered as a normal production cost.

If farmers trading machinery use consider their inputs, labor, and machinery overhead unequal, they should base their rates on a total cost or a suggested custom rate basis.

The following tables are the results of the projections for 1981.

TILLAGE EQUIPMENT

MACHINE	TRACTOR HP	CASH		TOTAL COSTS		SUGGESTED CUSTOM RATES		OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
		OPERATING PER HOUR	COSTS PER ACRE	PER HOUR	PER ACRE	PER HOUR	PER ACRE				
PLOW 2-16	40	4.56	3.93	15.56	13.41	18.52	15.96	4.91	.879	1.09	2.84
PLOW 3-16	60	6.83	3.91	20.47	11.73	24.32	13.93	4.78	.584	1.08	2.84
PLOW 4-16	75	9.40	4.04	28.13	12.10	33.17	14.26	5.77	.439	1.38	2.66
PLOW 5-16	100	12.85	4.42	36.41	12.53	42.97	14.79	6.28	.351	1.58	2.84
PLOW 6-16	120	15.27	4.37	40.85	11.70	47.98	13.74	5.81	.292	1.54	2.84
PLOW 7-16	140	17.62	4.33	45.81	11.25	53.96	13.25	5.62	.251	1.49	2.84
PLOW 8-16	160	20.60	4.43	51.74	11.12	60.95	13.10	5.55	.219	1.59	2.84
PLOW 9-18	225	28.80	4.89	72.92	12.38	85.47	14.51	6.59	.173	1.74	3.15
PLOW 10-18	225	28.55	4.36	72.04	11.01	85.09	13.00	5.84	.156	1.53	2.84
PLOW 12-18	275	35.18	4.48	88.15	11.22	105.30	13.41	6.07	.130	1.59	2.89
CHISEL PLOW 10 FT	140	15.33	3.51	37.88	8.68	43.81	10.04	3.95	.234	.87	2.65
CHISEL PLOW 15 FT	120	13.79	2.11	36.88	5.63	43.72	6.68	2.72	.156	.59	1.51
CHISEL PLOW 17 FT	140	15.84	2.14	40.81	5.50	48.32	6.51	2.65	.138	.58	1.56
CHISEL PLOW 20 FT	160	18.45	2.11	46.11	5.28	54.35	6.23	2.56	.117	.60	1.51
CHISEL PLOW WING 24	225	24.95	2.38	64.69	6.18	76.84	7.34	3.29	.097	.61	1.77
CHISEL PLOW WING 29	250	28.16	2.23	74.03	5.85	87.64	6.93	3.21	.081	.50	1.53
CHISEL PLOW WING 35	300	32.42	2.12	78.66	5.15	93.46	6.12	2.68	.067	.50	1.62
FIELD CULTIVATOR 12	75	8.26	1.36	23.28	3.84	26.87	4.43	1.60	.168	.34	1.02
FIELD CULTIVATOR 18	100	11.85	1.36	32.19	3.69	38.61	4.42	1.72	.117	.41	.95
FIELD CULTIVATOR 28	160	18.73	1.38	44.97	3.31	53.95	3.97	1.54	.075	.41	.97
FIELD CULTIVATOR 37	225	25.37	1.41	63.71	3.55	76.47	4.26	1.84	.057	.38	1.03
FIELD CULTIVATOR 50	250	30.88	1.27	82.93	3.42	108.85	4.49	1.93	.042	.42	.85
DISK 10 FT	60	7.16	1.48	23.28	4.80	27.94	5.76	2.23	.210	.46	1.02
DISK 16 FT	75	9.59	1.24	31.34	4.04	37.63	4.85	2.12	.131	.44	.80
DISK 17 FT	75	10.20	1.24	34.55	4.19	41.45	5.03	2.31	.124	.49	.75
DISK 20 FT	100	13.85	1.43	44.54	4.59	53.44	5.51	2.62	.105	.56	.85
DISK 21 FT	100	13.92	1.37	44.84	4.40	53.78	5.28	2.52	.100	.56	.81
DISK 24 FT	120	16.78	1.44	53.04	4.56	63.51	5.46	2.66	.088	.59	.85
DISK 28 FT	140	19.52	1.44	60.63	4.47	72.71	5.36	2.64	.075	.59	.85
DISK 32 FT	160	22.39	1.44	67.16	4.33	80.42	5.18	2.54	.066	.59	.85
DISK 40 FT	180	25.90	1.34	78.78	4.06	104.54	5.39	2.45	.053	.57	.77
DISK OFFSET 14 FT	140	17.36	2.84	48.89	8.00	58.69	9.61	4.29	.167	.95	1.89
DISK OFFSET 16 FT	160	19.61	2.81	52.21	7.48	62.60	8.97	3.91	.146	.92	1.89
DISK OFFSET 18 FT	180	21.78	2.77	56.58	7.20	67.78	8.63	3.75	.130	.88	1.89
DISK-WING OFFSET 21	225	26.28	2.87	71.97	7.85	86.27	9.41	4.41	.111	.84	2.03
DISK-WING OFFSET 23	225	27.14	2.70	76.66	7.64	91.82	9.15	4.41	.102	.85	1.85
LANDPLANE 45-12 FT	180	19.30	3.02	54.64	8.54	65.57	10.25	4.64	.169	.70	2.32
LANDPLANE 54-12 FT	225	23.46	3.66	73.67	11.51	88.41	13.81	6.97	.169	.76	2.90
LANDPLANE 54-15 FT	225	23.50	2.94	75.11	9.39	90.13	11.27	5.75	.135	.62	2.32
LANDPLANE 75-14 FT	225	23.60	3.16	77.31	10.35	92.77	12.42	6.44	.145	.67	2.49
SPRINGTOOTH DRAG 30	60	6.97	.44	38.87	2.43	46.64	2.92	1.64	.067	.13	.31
SPRINGTOOTH DRAG 48	75	9.35	.31	55.81	1.84	66.93	2.21	1.35	.036	.10	.20

PLANTING EQUIPMENT

MACHINE	TRACTOR HP	CASH		TOTAL COSTS		SUGGESTED CUSTOM RATES		OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
		OPERATING PER HOUR	COSTS PER ACRE	PER HOUR	PER ACRE	PER HOUR	PER ACRE				
CORN PLANTER 4-38	40	8.45	1.75	39.88	8.25	47.86	9.90	4.82	.240	1.07	.68
CORN PLANTER 6-38	60	12.34	1.70	53.61	7.39	63.98	8.82	4.57	.160	1.02	.68
CORN PLANTER 6-30	60	12.50	2.18	54.42	9.50	64.68	11.29	5.90	.203	1.32	.86
CORN PLANTER 8-30	75	17.28	2.26	74.57	9.77	89.28	11.69	6.44	.152	1.45	.81
MIN-TIL PLANTER 8-38	75	16.90	2.28	72.56	9.77	92.68	12.48	6.40	.156	1.44	.83
MIN-TIL PLANTER 12-3	120	27.21	3.05	110.32	12.38	158.24	17.76	8.42	.130	1.94	1.11
MIN-TIL PLANTER 4-38	40	9.15	2.43	43.52	11.58	49.61	13.20	6.98	.309	1.56	.88
MIN-TIL PLANTER 6-38	60	14.70	2.60	65.99	11.69	77.70	13.77	7.65	.206	1.73	.88
MIN-TIL PLANTER 6-30	60	13.74	3.09	60.93	13.68	68.70	15.42	8.77	.260	1.97	1.11
MIN-TIL PLANTER 8-30	75	18.32	3.09	80.03	13.47	89.86	15.13	9.02	.195	2.04	1.04
POTATO PLANTER 4 ROW	120	21.24	5.55	81.05	21.16	97.10	25.35	11.67	.647	2.96	2.58
BEEF PLANTER 12 ROW	100	14.40	3.09	50.23	10.76	60.27	12.92	5.82	.266	1.32	1.77
GRAIN DRILL PW 14 FT	40	7.97	1.43	31.23	5.60	37.35	6.70	2.78	.199	.84	.59
GRAIN DRILL PW 16 FT	60	14.64	2.30	52.81	8.29	63.35	9.94	4.77	.174	1.52	.78
GRAIN DRILL PW 20 FT	75	16.83	2.11	58.34	7.33	69.86	8.77	4.24	.139	1.34	.78
GRAIN DRILL PW 24 FT	75	19.81	2.07	69.92	7.32	83.60	8.75	4.43	.116	1.43	.65
GRAIN DRILL PW 28 FT	100	24.31	2.18	82.03	7.36	98.00	8.79	4.48	.100	1.44	.74

MISCELLANEOUS EQUIPMENT

	TRACTOR HP	CASH		TOTAL COSTS		SUGGESTED CUSTOM RATES		OVERHEAD COST/HOUR	REPAIR+MAINT. /HOUR	FUEL+LUBE /HOUR
		OPERATING PER HOUR	COSTS PER ACRE	PER HOUR	PER ACRE	PER HOUR	PER ACRE			
LIGHT TRUCK	---	10.73		20.07		25.81		4.14	5.23	5.50
MEDIUM TRUCK	---	17.03		29.12		37.81		6.89	8.78	8.24
HEAVY TRUCK	---	34.37		55.53		73.27		15.95	20.62	13.74
MANURE SPREADER 150	75	7.79		24.72		30.67		11.54	.32	6.19
MANURE SPREADER 225	100	10.99		34.25		42.72		17.97	.52	8.25
MANURE SPREADER 400	100	11.32		39.73		56.55		23.07	.86	8.25
WAGON	40	4.37		20.21		24.35		5.45	.30	3.30
FORAGE WAGON 14 FT	40	4.66		20.53		26.22		10.68	.59	3.29
FORAGE WAGON 16 FT	40	4.75		21.44		27.50		11.49	.68	3.29

MAINTENANCE EQUIPMENT

MACHINE	TRACTOR HP	CASH		TOTAL COSTS		SUGGESTED CUSTOM RATES		OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
		OPERATING PER HOUR	COSTS PER ACRE	PER HOUR	PER ACRE	PER HOUR	PER ACRE				
CULTIVATOR 4-38	40	4.82	.98	17.71	3.61	21.18	4.31	1.52	.212	.31	.67
CULTIVATOR 6-38	60	7.09	.96	23.02	3.12	27.60	3.75	1.43	.141	.29	.67
CULTIVATOR 6-30	60	6.96	1.20	22.25	3.82	26.63	4.58	1.70	.179	.35	.85
CULTIVATOR 8-30	75	8.73	1.13	26.65	3.44	31.95	4.12	1.61	.134	.33	.80
CULTIVATOR 12-30	140	16.44	1.41	43.82	3.77	57.90	4.98	1.89	.089	.42	.99
ROTARY HOE 16	40	4.75	.44	24.80	2.28	29.59	2.72	1.37	.092	.13	.30
POTATO CULT. 4 ROW	75	8.79	1.43	24.87	4.06	29.83	4.87	1.74	.170	.42	1.01
BEEF CULT. 12 ROW	100	12.19	2.03	42.87	7.14	51.44	8.57	4.21	.173	.66	1.38
BEEF THINNER 6 ROW	100	15.49	7.37	55.14	26.26	66.17	31.51	15.42	.495	3.45	3.93
BEEF THINNER 12 ROW	120	22.04	5.25	83.35	19.85	100.02	23.81	12.87	.248	2.89	2.36
SPRAYER 30 FT	40	6.60	.47	27.05	1.91	32.41	2.29	.82	.088	.23	.23
SPRAYER 50 FT	60	8.83	.37	29.42	1.24	35.28	1.49	.50	.053	.16	.21
SPRAYER HI PRES 50FT	60	9.71	.41	32.12	1.36	38.52	1.63	.58	.053	.20	.21
ANHYDROUS APPLICATOR	120	14.92	1.67	49.56	5.56	57.27	6.43	3.11	.149	.56	1.11
FERTILIZER SPRDR 40	60	6.94	.18	39.94	1.03	113.57	2.93	.67	.034	.05	.13
SHREDDER 12 FT	60	7.35	1.68	27.63	6.33	33.06	7.58	3.46	.229	.55	1.13

HARVESTING EQUIPMENT

MACHINE	TRACTOR HP	CASH		TOTAL COSTS		SUGGESTED CUSTOM RATES		OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
		OPERATING PER HOUR	COSTS PER ACRE	PER HOUR	PER ACRE	PER HOUR	PER ACRE				
SWATHER-COND. 12 FT	---	7.86	1.44	43.50	7.98	51.90	9.52	5.58	.183	.69	.76
SWATHER-COND. 15 FT	---	8.65	1.27	50.71	7.44	60.48	8.87	5.41	.147	.66	.60
SWATHER 12 FT	---	8.24	1.42	46.87	8.06	55.86	9.60	5.75	.172	.71	.71
SWATHER 15 FT	---	8.55	1.18	49.85	6.85	59.22	8.14	4.96	.138	.61	.57
SWATHER 18 FT	---	8.63	.99	50.78	5.82	60.82	6.97	4.23	.115	.52	.47
SWATHER 20 FT	---	8.80	.91	52.45	5.41	62.69	6.46	3.97	.103	.48	.43
1 TON STACKER	60	9.16	2.21	28.87	6.96	33.94	8.19	2.88	.268	1.02	1.19
3 TON STACKER	75	13.76	2.85	39.38	8.14	46.01	9.51	3.69	.230	1.57	1.28
6 TON STACKER	100	19.61	3.55	48.88	8.84	57.38	10.38	3.89	.201	2.05	1.49
BALER PTO TWINE	40	6.26	1.65	24.24	6.41	27.42	7.25	2.70	.294	.78	.87
ROUND BALER	60	9.09	1.96	28.88	6.23	33.70	7.27	3.02	.239	.99	1.07
ROTARY MOW	70	4.65	1.70	15.86	5.81	18.96	6.95	2.20	.367	.49	1.21
RAKE (HYD)	40	5.05	1.45	16.50	4.73	22.61	6.48	1.79	.286	.50	.95
FORAGE HARV. 1 ROW	60	8.19	8.66	33.25	35.17	39.11	41.37	18.28	1.174	3.43	5.24
FORAGE HARV. 2 ROW	100	14.50	8.76	53.79	32.51	62.43	37.73	19.05	.671	3.78	4.99
FOR HARV 2 ROW SP	---	23.67	11.62	85.65	42.06	97.94	48.09	26.62	.545	6.63	5.00
FOR HAR 3 ROW SP	---	25.89	8.47	90.82	29.73	103.24	33.80	18.71	.363	4.65	3.83
FORAGE BLOWER LG	60	6.56	6.56	25.02	25.02	22.09	22.09	13.26	1.000	1.61	4.95
CORN PICKER 2-38	40	8.95	6.01	35.59	23.90	44.81	30.09	12.68	.745	3.79	2.22
PICKER-SHELLER 2-ROW	60	10.13	6.80	35.95	24.14	44.93	30.17	12.12	.745	3.48	3.32
COMBINE SM GRAIN SML	SML	23.79	5.81	56.90	13.89	67.21	16.40	6.18	.271	3.79	2.01
COMBINE SM GRAIN MED	MED	29.50	6.24	69.09	14.61	81.75	17.29	6.73	.235	4.15	2.09
COMBINE SM GRAIN LGE	LRG	36.77	5.83	84.78	13.45	101.21	16.06	6.38	.176	3.94	1.90
COMBINE SOYBEANS SML	SML	24.43	6.81	59.26	16.53	69.48	19.38	7.55	.310	4.51	2.30
COMBINE SOYBEANS MED	MED	30.14	7.29	71.44	17.27	84.06	20.32	8.11	.268	4.89	2.39
COMBINE SOYBEANS LGE	LRG	37.50	7.55	87.47	17.62	103.45	20.84	8.50	.224	5.14	2.41
COMBINE CORN 3-30 SM	SML	26.67	15.04	63.07	35.58	73.43	41.42	16.15	.626	10.39	4.65
COMBINE CORN 2-38 SM	SML	24.93	16.74	58.54	39.31	68.93	46.29	17.35	.745	11.20	5.54
COMBINE CORN 3-38 SM	SML	26.49	11.80	62.61	27.88	74.48	33.17	12.62	.494	8.12	3.67
COMBINE CORN 4-38 MD	MED	33.29	11.12	77.45	25.88	92.12	30.78	12.16	.371	7.82	3.31
COMBINE CORN 4-30 MD	MED	33.14	12.75	77.03	29.63	91.56	35.21	13.89	.427	8.94	3.81
COMBINE CORN 6-30 LG	LRG	41.91	10.75	96.28	24.69	114.40	29.33	11.95	.285	7.68	3.07
COMBINE CORN 8-30 LG	LRG	44.04	9.32	101.88	21.55	120.79	25.55	10.59	.235	6.79	2.53
COMBINE CORN 12-30 J	JMB	59.83	8.44	128.29	18.09	162.28	22.89	9.55	.016	6.11	2.33
POTATO HRVSTR. 2 ROW	120	17.67	7.10	77.96	31.31	93.40	37.52	16.46	1.338	3.12	3.98
BEEF LIFTER 3 ROW	100	15.65	6.02	84.76	32.60	101.12	38.89	23.59	.427	2.85	3.17
BEEF LIFTER 4 ROW	100	15.79	4.56	86.38	24.93	103.02	29.73	18.13	.320	2.18	2.38
BEEF LIFTER 6 ROW	120	17.92	3.45	91.79	17.65	109.52	21.06	12.71	.213	1.54	1.90
BEEF TOPPER 3 ROW	60	8.22	2.57	36.93	11.54	44.01	13.75	6.78	.313	1.02	1.55
BEEF TOPPER 4 ROW	75	10.10	2.37	43.09	10.10	51.11	11.99	6.09	.234	.92	1.45
BEEF TOPPER 6 ROW	100	13.38	2.09	51.79	8.09	61.74	9.65	4.91	.156	.80	1.29
BEEF WAGON 8 TON	75	8.10	2.34	33.77	9.75	40.36	11.65	5.91	.289	.55	1.79