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**OHIO FARM MACHINERY
ECONOMIC COST ESTIMATES FOR 1995**

Revised and Adapted for Ohio*

by

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Ohio Farm Machinery Economic Cost Estimates for 1995

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The tables in this publication estimate farm machinery operations or function costs for 1994. The estimates use an economic engineering approach. The data represents an average farming industry cost for specified machines and operations.

Machine costs are separated into time and use-related categories. Overhead costs accrue to the owner whether or not a machine is used. Overhead includes time-related economic costs; depreciation, interest, insurance and housing. There are no personal property taxes in Ohio. Operating costs occur only when a machine is used. They include fuel, lubrication, use-related repairs and labor charges.

OVERHEAD COSTS: Time-related costs are prorated over a 10-year economic life. The 1993 American Society of Agricultural Engineer's (ASAE) Yearbook procedures are followed for estimating salvage values. Salvage values at 10 years of life now range from 16 to 30 percent. Producers are keeping machinery longer than in the past. Managers, striving for cost control, are sometimes buying a second item, often "twinned" to one now in use.

Purchase prices are discounted from manufacturer's list. A 10 percent discount off list price appears "normal." The tables include some adjustment for delivery and setup. An equivalent price adjustment for the income tax expensing option is not included. Interest rate is assumed to be 10 percent. Insurance is 0.85 percent of new cost. A housing charge of 33 cents per square foot of shelter space needed per year is made.

Formulas used to compute machinery overhead costs:

$$\text{Depreciation per year} = \frac{\text{purchase cost} - \text{salvage value}}{\text{years you will use machine}}$$

$$\text{Interest per year} = \frac{\text{purchase cost} + \text{salvage value}}{2} \times \text{interest rate}$$

$$\text{Insurance per year} = \frac{\text{purchase cost} + \text{salvage value}}{2} \times \text{rate}$$

$$\text{Housing per year} = \text{price per sq. foot} \times \text{sq. feet shelter space required}$$

OPERATING COSTS: Fuel cost is calculated by multiplying the fuel consumption by the price of fuel, with fuel consumption assumed to be 0.058 gallons of diesel fuel per horsepower hour. The price of on-farm-used diesel fuel is projected at 85 cents per gallon. All power units, tractors, combines, trucks, etc., are assumed to use diesel fuel. Lubrication cost is assumed to be 15 percent of fuel cost.

The formulas for repair and maintenance costs estimate total accumulated repair costs according to the accumulated hours of life-time use. Repair and maintenance calculations are also based on ASAE formula. The total cost is then divided to an average per hour cost estimate. The amount of annual use of a machine is an estimate of the number of hours a commercial farmer would use that particular machine in one year.

Labor is charged at an hourly wage rate, which includes 30 percent for benefits. Charge rates are \$9.00 per hour for unskilled labor and \$11.50 per hour for skilled labor. Labor per acre for an operation such as plowing and disking is calculated by using the work rate on

the implement. Less labor per acre is used in a disking operation that covers more acres per hour than in a plowing operation.

Several reduced and conservation tillage implements were added in 1995. Minimum tillage planters are included. This reflects the current interest in reduced tillage practices.

Average machine function cost per acre worked show some changes from previous years. Field speeds have increased in line with current practices. The new ASAE repair functions generally lower repair costs per acre and hour. Use lives are increasing, tending to lower overhead cost per year. Labor charges were increased. The assumption made about the number of acres of use has a major influence on the average overhead and the average total machine function cost per acre.

These estimates will not represent any given individual's cost. They can still be used to help plan the cropping operation if more specific data are not available. Differences in buying power, repair programs, average annual use and overall replacement programs should be considered when making adjustments.

Machinery costs are substantial; control of them is important. Custom charges are often based upon them. No one should do custom work unless the charge will cover operating costs plus a return for one's risk and time. Ideally all allocated per acre or hour overhead costs should also be covered by anyone offering to do custom work. The market for custom work usually does not cover all costs. The market is usually somewhere between the operating costs and the total of operating plus allocated per acre or hour overhead costs.

Tables 1-6 provide the 1995 machinery function costs broken down into several categories.

Table 1. Tractors, Combines (Without Heads) & Trucks Economic Cost for 1994

Tractor Com- bine or Truck Size	Net Cost of the New Power Unit	Annual Hours of Use	--- Overhead --- Cost per		--- Operating --- Expense per ^{3/}		--- Total Cost --- of Use		Maintenance & Repair Cost/Hr.	Diesel Use/Hr. Gallons
			Year	Hour	Hour	Year	per Year	per Hour		
40 Hp	16,900	500	2,234	4.47	2.66	1,332	3,566	7.13	0.59	2.1
60 Hp	21,400	500	2,825	5.65	3.86	1,929	4,753	9.51	0.75	3.2
75 Hp	26,900	500	3,546	7.09	4.83	2,416	5,962	11.92	0.94	4.0
100 Hp	40,100	550	5,271	9.58	6.72	3,699	8,969	16.31	1.54	5.3
120 Hp	55,200	550	7,241	13.16	8.34	4,588	11,829	21.51	2.13	6.4
140 Hp	58,500	550	7,694	13.99	9.51	5,228	12,922	23.49	2.25	7.4
160 Hp	63,800	600	8,385	13.98	10.97	6,581	14,966	24.94	2.68	8.5
180 Hp	71,600	600	9,402	15.67	12.33	7,400	16,802	28.00	3.01	9.5
190 Hp	74,100	600	9,731	16.22	12.96	7,773	17,505	29.17	3.11	10.1
225 Hp 4Wd	76,500	500	10,058	20.12	12.81	6,405	16,462	32.92	1.15	11.9
250 Hp 4Wd	82,500	500	10,840	21.68	14.19	7,095	17,935	35.87	1.24	13.3
275 Hp 4Wd	88,500	500	11,622	23.24	15.58	7,790	19,412	38.82	1.33	14.6
300 Hp 4Wd	94,000	500	12,340	24.68	16.95	8,476	20,816	41.63	1.41	15.9
320 Hp 4Wd	98,200	500	12,887	25.77	18.05	9,026	21,913	43.83	1.47	17.0
350 Hp 4Wd	111,300	500	14,595	29.19	19.80	9,901	24,496	48.99	1.67	18.5
Combine Sm	71,300	300	9,802	32.67	15.38	4,614	14,417	48.06	10.20	5.3
Combine Md	87,500	300	12,040	40.13	18.73	5,620	17,660	58.87	12.52	6.4
Combine Lg	103,200	300	14,210	47.37	22.28	6,684	20,894	69.65	14.76	7.7
Combine Jm	109,100	300	15,039	50.13	25.97	7,791	22,830	76.10	15.61	10.6
Pickup Truck	18,400	500	2,587	5.17	3.21	1,604	4,191	8.38	0.28	3.0
Medium Truck	45,000	500	6,265	12.53	4.59	2,293	8,557	17.11	0.68	4.0
Tandem Truck	51,600	500	7,188	14.38	5.37	2,684	9,872	19.74	0.77	4.7

* See footnotes at end of tables

Table 2. Tillage Equipment Economic Cost Structure for 1995

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Chisel Plow 10 ft	75	3,300	6.79	679	27.20	1.76	0.90	1.35	4.01	0.85	0.59
Chisel Plow 15 ft	120	5,000	10.18	1,018	39.67	2.11	0.88	0.90	3.90	0.96	0.62
Chisel Plow 17 ft	140	5,100	11.54	1,154	41.92	2.04	0.80	0.80	3.63	0.95	0.64
Chisel Plow 19 ft	160	6,000	12.90	1,290	44.50	1.93	0.80	0.71	3.45	0.98	0.66
Chisel Plow 25 ft	190	12,700	16.97	1,697	60.02	1.72	1.28	0.54	3.54	0.97	0.59
Chisel Plow 31 ft	250	16,200	21.04	2,104	72.73	1.70	1.32	0.44	3.46	0.89	0.63
Chisel Plow 39 ft	300	18,300	26.47	2,647	82.18	1.57	1.18	0.35	3.10	0.83	0.60
Moldboard Plow 2-16	40	1,700	1.23	148	18.91	5.78	2.10	7.44	15.33	2.63	1.72
Moldboard Plow 3-16	60	3,000	1.85	223	23.27	5.13	2.47	4.95	12.55	2.63	1.71
Moldboard Plow 4-16	75	7,500	2.47	297	32.40	4.82	4.57	3.71	13.11	2.99	1.61
Moldboard Plow 5-16	100	9,000	3.09	371	39.09	5.28	4.40	2.97	12.66	3.17	1.72
Moldboard Plow 6-16	120	10,700	3.71	482	46.18	5.80	4.18	2.47	12.45	3.30	1.71
Moldboard Plow 7-16	140	13,800	4.33	562	52.58	5.43	4.60	2.12	12.15	3.36	1.72
Moldboard Plow 8-16	160	15,600	4.94	643	56.60	5.05	4.55	1.86	11.45	3.37	1.72
Moldboard Plow 9-18	225	21,600	6.26	939	71.06	5.26	4.63	1.47	11.35	3.47	1.91
Moldboard Plow 10-18	225	23,700	6.95	1,043	73.86	4.73	4.57	1.32	10.62	3.25	1.72
Moldboard Plow 12-18	275	27,800	8.35	1,252	85.28	4.65	4.47	1.10	10.22	3.24	1.75
Field Cultivator 12 ft	75	3,100	9.02	1,082	26.03	1.32	0.55	1.02	2.89	0.64	0.44
Field Cultivator 18 ft	100	4,700	9.27	1,113	32.78	1.76	0.79	0.99	3.53	0.87	0.57
Field Cultivator 28 ft	160	11,300	14.42	1,731	51.15	1.73	1.18	0.64	3.55	0.99	0.59
Field Cultivator 37 ft	225	13,700	19.06	2,287	62.71	1.73	1.08	0.48	3.29	0.88	0.63
Field Cultivator 45 ft	250	19,600	32.45	3,895	74.25	1.11	0.90	0.28	2.29	0.61	0.41
Field Cultivator 50 ft	250	20,100	36.06	4,327	75.10	0.99	0.83	0.25	2.08	0.56	0.37
Field Cultivator 54 ft	300	35,900	38.95	4,673	103.65	1.07	1.36	0.24	2.66	0.71	0.41

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Table 2. Tillage Equipment Economic Cost Structure for 1995 (Continued)

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Disk Chisel H.D. 8 ft	140	8,800	4.65	465	47.60	5.05	3.21	1.97	10.23	2.57	1.59
Disk Chisel H.D. 13 ft	190	13,000	7.56	456	60.36	3.86	2.91	1.21	7.98	2.19	1.33
Disk Chisel H.D. 16 ft	250	14,700	9.31	931	69.99	3.85	2.68	0.99	7.52	1.97	1.42
Disk Chisel H.D. 18 ft	300	20,900	10.47	1,047	86.17	3.98	3.38	0.88	8.23	2.18	1.52
Disk Chisel 9 ft	100	6,600	5.41	541	36.03	3.01	1.95	1.70	6.66	1.46	0.98
Disk Chisel 11 ft	140	9,600	6.40	640	49.02	3.67	2.55	1.43	7.66	1.91	1.16
Disk Chisel 16 ft	190	13,400	9.31	931	61.12	3.13	2.45	0.99	6.57	1.79	1.08
Disk Chisel 18 ft	250	19,800	10.47	1,047	78.43	3.43	3.19	0.88	7.49	1.88	1.27
Disk Chisel 21 ft	300	20,600	12.22	1,222	85.60	3.41	2.85	0.75	7.01	1.86	1.30
Offset Disk 14 ft sta	140	8,200	6.49	649	46.06	3.62	2.06	1.41	7.10	1.69	1.14
Offset Disk 16 ft	160	9,600	7.42	742	49.77	3.36	2.11	1.24	6.71	1.71	1.14
Offset Disk 18 ft	180	10,200	8.35	835	53.86	3.36	2.00	1.10	6.45	1.70	1.14
Offset Disk Wing 21 ft	225	12,600	9.74	974	62.33	3.38	2.08	0.94	6.40	1.55	1.23
Offset Disk Wing 23 ft	225	16,800	10.66	1,066	68.83	3.09	2.51	0.86	6.45	1.48	1.12
Heavy Duty Disk 18 ft	160	14,500	8.35	835	57.22	2.99	2.77	1.10	6.86	1.63	1.02
Heavy Duty Disk 24 ft	190	17,700	11.13	1,113	66.40	2.62	2.52	0.82	5.97	1.45	0.90
Heavy Duty Disk 27 ft	250	20,500	12.52	1,252	77.60	2.87	2.60	0.73	6.20	1.43	1.06
Heavy Duty Disk 33 ft	300	25,200	15.30	1,530	90.79	2.72	2.61	0.60	5.93	1.40	1.04
Tandem Disk 10 ft star	60	5,200	5.15	515	27.11	1.85	1.64	1.78	5.26	0.93	0.62
Tandem Disk 16 ft	75	10,700	8.24	824	38.27	1.45	2.08	1.11	4.64	0.82	0.48
Finish Tdm Disk 18 ft	75	13,600	9.27	927	42.74	1.29	2.33	0.99	4.61	0.79	0.43
Finish Tdm Disk 21 ft	100	16,900	10.82	1,082	52.33	1.51	2.48	0.85	4.84	0.90	0.49
Finish Tdm Disk 27 ft	140	21,200	13.91	1,391	66.34	1.69	2.42	0.66	4.77	0.96	0.53
Finish Tdm Disk 33 ft	160	24,500	17.00	1,700	73.09	1.47	2.29	0.54	4.30	0.90	0.50

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Table 2. Tillage Equipment Economic Cost Structure for 1995 (Continued)

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{2/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
V-Ripper 25" OC 10 ft	140	6,800	6.18	618	44.30	3.80	1.88	1.48	7.17	1.83	1.20
V-Ripper 25" OC 14 ft	190	9,200	8.65	865	54.05	3.37	1.81	1.06	6.24	1.78	1.16
V-Ripper 25" OC 18 ft	250	13,600	11.13	1,113	68.14	3.22	2.08	0.82	6.12	1.61	1.19
V-Ripper 25" OC 22 ft	300	16,500	13.60	1,360	79.02	3.06	2.07	0.67	5.81	1.57	1.17
V-Ripper 30" OC 12 ft	140	6,900	7.42	742	44.57	3.17	1.60	1.24	6.01	1.53	1.00
V-Ripper 30" OC 17 ft	190	9,200	10.51	1,051	54.21	2.78	1.51	0.87	5.16	1.47	0.96
V-Ripper 30" OC 22 ft	250	13,600	13.60	1,360	68.51	2.64	1.72	0.67	5.04	1.31	0.97
Comb Fld Cult Incorp 16	140	19,700	11.54	1,154	65.76	2.04	2.87	0.80	5.70	1.28	0.64
Comb Fld Cult Incorp 23	190	25,000	16.59	1,659	80.31	1.76	2.53	0.55	4.84	1.19	0.61
Comb Fld Cult Incorp 26	250	27,100	18.03	1,803	90.58	1.99	2.53	0.51	5.02	1.19	0.73
Comb Fld Cult Incorp 33	300	34,400	23.80	2,380	108.62	1.75	2.43	0.39	4.56	1.10	0.67
Comb Disk & V-Ripper 12	190	17,200	6.44	644	65.46	4.53	4.21	1.43	10.17	2.49	1.56
Comb Disk & V-Ripper 17	250	22,000	9.02	902	79.95	3.98	3.87	1.02	8.87	2.01	1.47
Dsk, Fld Cult Finish 19	140	16,000	9.79	979	58.34	2.40	2.62	0.94	5.96	1.27	0.76
Dsk, Fld Cult Finish 24	190	18,600	12.36	1,236	68.26	2.36	2.42	0.74	5.52	1.32	0.81
Dsk, Fld Cult Finish 30	250	24,600	15.45	1,545	84.60	2.32	2.56	0.59	5.47	1.20	0.86
Springtooth Drag 30 ft	60	7,800	21.64	649	56.69	0.44	1.73	0.45	2.62	0.23	0.15
Springtooth Drag 48 ft	75	9,800	29.67	1,039	63.42	0.40	1.41	0.33	2.14	0.22	0.13
Springtooth Drag 58 ft	100	11,800	35.85	3,585	45.36	0.45	0.56	0.25	1.27	0.28	0.15

* See footnotes at end of tables

Table 3. Planting Equipment Economic Cost Structure for 1995

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Row Crop Planter 4-36	40	9,100	5.60	392	40.72	1.27	3.62	2.38	7.27	0.79	0.38
Row Crop Planter 6-36	60	12,900	8.40	588	51.40	1.13	3.40	1.59	6.12	0.76	0.38
Row Crop Planter 6-30	60	12,000	7.00	490	49.42	1.36	3.80	1.91	7.06	0.88	0.45
Row Crop Planter 8-30	75	16,100	9.33	653	60.79	1.28	3.81	1.43	6.51	0.85	0.43
Row Crop Planter 12-30	100	23,200	14.00	980	80.89	1.16	3.66	0.95	5.78	0.80	0.38
Min-Til Planter 4-36	60	15,000	5.09	356	55.77	1.87	6.47	2.62	10.96	1.33	0.62
Min-Til Planter 6-36	75	20,000	7.64	535	69.07	1.56	5.74	1.75	9.04	1.14	0.52
Min-Til Planter 8-36	100	25,300	10.18	713	84.93	1.60	5.43	1.31	8.34	1.14	0.52
Min-Til Planter 6-30	75	19,200	6.36	509	62.76	1.87	5.89	2.10	9.86	1.38	0.63
Min-Til Planter 8-30	100	24,400	8.48	594	83.00	1.92	6.29	1.57	9.78	1.35	0.62
Min-Til Planter 12-30	160	45,400	12.73	1,273	111.60	1.96	5.76	1.05	8.77	1.68	0.67
Min-Til Planter 16-30	190	58,700	12.73	1,655	120.54	2.29	6.13	1.05	9.47	2.22	0.79
Potato Planter Filler		10,300	5.75	322	28.30	0.00	4.93	0.00	4.93	0.38	0.02
Potato Row Marker 4 row	120	9,000	4.98	214	65.32	4.32	5.94	2.86	13.12	1.78	1.28
Potato Row Marker 6 row	140	13,800	7.47	321	83.09	3.15	6.07	1.91	11.12	1.38	0.99
Potato Row Marker 8 row	160	18,400	10.79	464	99.74	2.31	5.61	1.32	9.24	1.12	0.79
Potato Planter 4 row	120	28,300	3.83	214	121.30	5.61	19.42	6.64	31.67	3.47	1.66
Potato Planter 6 row	140	39,700	5.75	322	153.30	4.09	18.17	4.42	26.68	2.86	1.29
Potato Planter 8 row	140	52,000	8.30	465	185.73	2.83	16.48	3.06	22.37	2.24	0.89
Beet Planter 12 row	100	23,900	4.67	280	90.18	3.49	12.77	3.06	19.32	2.37	1.14
Grain Drill 25 ft	120	24,900	10.61	848	82.92	2.03	4.59	1.20	7.82	1.27	0.60
Grain Drill 30 ft	140	27,500	12.73	1,018	89.95	1.85	4.22	1.00	7.07	1.19	0.58
Grain Drill 35 ft	140	28,600	14.85	1,188	92.12	1.58	3.76	0.86	6.20	1.01	0.50

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Table 3. Planting Equipment Economic Cost Structure for 1995 (Continued)

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Presswheel Drill 12 ft	75	13,200	5.09	382	51.93	2.34	5.35	2.51	10.20	1.47	0.78
Presswheel Drill 16 ft	100	17,200	6.79	509	64.55	2.40	5.23	1.88	9.51	1.50	0.78
Presswheel Drill 20 ft	120	20,900	8.48	636	77.39	2.53	5.08	1.50	9.12	1.48	0.75
Presswheel Drill 24 ft	140	25,800	10.18	764	89.45	2.31	5.22	1.25	8.79	1.44	0.73
Presswheel Drill 30 ft	160	32,400	12.73	1,018	100.79	1.96	4.96	1.00	7.92	1.39	0.67
Presswheel Drill 40 ft	180	41,100	16.97	1,358	120.68	1.65	4.71	0.75	7.11	1.23	0.56
Air Seeder Drill 28 ft	180	43,100	11.88	950	124.31	2.36	7.03	1.07	10.46	1.79	0.80
Air Seeder Drill 36 ft	250	52,000	15.27	1,222	149.40	2.35	6.60	0.84	9.78	1.63	0.87
No-Till Drill 15 ft	140	31,800	6.36	509	97.86	3.69	9.68	2.01	15.38	2.53	1.17
No-Till Drill 21 ft	180	35,000	8.91	713	108.66	3.14	7.62	1.43	12.20	2.20	1.07
No-Till Drill 30 ft	190	38,500	12.73	1,018	116.71	2.29	5.87	1.00	9.17	1.64	0.79

* See footnotes at end of tables

Table 4. Crop Maintenance Equipment Economic Cost Structure for 1995

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Cultivator 4-36	40	3,100	6.18	618	21.54	1.15	0.82	1.51	3.48	0.52	0.34
Cultivator 6-36	60	4,700	9.27	927	26.51	1.03	0.82	1.01	2.86	0.50	0.34
Cultivator 6-30	60	3,700	7.73	773	24.89	1.23	0.78	1.21	3.22	0.58	0.41
Cultivator 8-30	75	6,400	10.30	1,030	31.58	1.16	1.00	0.91	3.07	0.57	0.39
Cultivator 12-30	140	8,800	15.45	1,545	46.85	1.52	0.91	0.61	3.03	0.71	0.48
Ridge-Cultivator 4-36	75	5,400	6.18	618	29.96	1.93	1.39	1.53	4.85	0.93	0.64
Ridge-Cultivator 6-36	100	7,500	9.27	927	37.70	1.76	1.29	1.02	4.07	0.86	0.57
Ridge-Cultivator 8-36	100	11,200	12.36	1,236	43.44	1.32	1.43	0.76	3.51	0.70	0.43
Ridge-Cultivator 6-30	100	7,100	7.73	773	36.91	2.11	1.46	1.21	4.78	1.03	0.69
Ridge-Cultivator 8-30	100	9,700	10.30	1,030	40.98	1.58	1.49	0.91	3.98	0.81	0.51
Ridge-Cultivator 12-30	160	16,500	15.45	1,545	61.61	1.61	1.67	0.70	3.99	0.89	0.55
Rotary Hoe 15 ft	75	3,500	18.55	1,855	27.20	0.64	0.32	0.50	1.47	0.30	0.21
Rotary Hoe 21 ft	100	6,400	25.96	2,596	36.39	0.63	0.41	0.36	1.40	0.32	0.20
Rotary Hoe 30 ft	140	8,400	37.09	3,709	46.87	0.63	0.38	0.25	1.26	0.31	0.20
Potato Cultivator 4 row	75	3,800	5.36	778	25.97	2.22	0.87	1.75	4.84	1.09	0.74
Potato Cultivator 6 row	75	5,800	8.04	1,126	28.66	1.48	0.92	1.16	3.56	0.79	0.49
Sugar Beef Cult. 12 row	100	8,500	5.60	336	46.62	2.91	3.74	1.67	8.32	1.34	0.95
S-P Boom Sprayer 47 ft		48,000	25.92	2,592	100.59	0.00	3.33	0.55	3.88	0.76	0.00
S-P Boom Sprayer 60 ft		49,800	33.09	3,309	103.87	0.00	2.70	0.43	3.14	0.62	0.00
Sprayer 30 ft	40	3,700	15.36	1,229	29.85	0.46	0.54	0.94	1.94	0.26	0.14
Boom Sprayer 50 ft	60	4,700	25.61	2,561	32.90	0.37	0.35	0.56	1.28	0.23	0.12
Sprayer Hi Pres 50 ft	60	19,800	23.64	2,364	59.73	0.40	1.52	0.61	2.53	0.51	0.12
Anhydrous Appl. 30 ft	160	15,400	12.73	509	97.73	1.96	4.78	0.94	7.68	1.41	0.67
Fert. Sprd. 4 T./40 ft	60	8,000	23.76	713	62.09	0.40	1.71	0.50	2.61	0.30	0.13
Corn Stalk Chopper 12 F	60	7,100	4.65	465	31.40	2.04	2.58	2.13	6.75	1.26	0.68
Rock Picker 6 ft	75	11,800	1.42	85	56.26	8.41	23.65	7.62	39.67	7.51	2.81

* See footnotes at end of tables

Table 5. Harvesting Equipment Economic Cost Structure for 1995

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{2/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Mower-Conditioner 9 ft	40	8,700	4.36	349	33.48	1.63	3.77	2.27	7.67	0.86	0.49
Rotary Hay Mower 6 ft	40	4,300	2.91	291	24.09	2.45	2.74	3.09	8.28	1.57	0.73
Rotary Mow/Cond. 9 ft	75	10,800	4.36	349	41.60	2.73	4.64	2.17	9.53	1.42	0.91
Hay Rake (Hyd) 9 ft	40	3,300	3.49	698	19.36	2.04	0.92	2.58	5.55	0.99	0.61
Hay Swather-Cond 12 ft		33,500	5.82	465	82.80	0.00	12.69	1.55	14.23	2.70	0.48
Swather-Cond. 15 ft		36,800	7.27	582	90.24	0.00	11.17	1.24	12.41	2.37	0.43
Grain Swather 12 ft		22,900	5.82	465	60.10	0.00	8.78	1.55	10.33	1.91	0.40
Grain Swather 15 ft		25,100	7.27	582	65.42	0.00	7.76	1.24	9.00	1.71	0.38
Grain Swather 18 ft		27,700	8.73	698	71.08	0.00	7.11	1.03	8.14	1.54	0.32
Grain Swather 20 ft		28,100	9.70	776	72.36	0.00	6.53	0.93	7.46	1.43	0.32
Hay Baler Pto Twine	40	9,300	3.78	756	30.47	1.89	2.80	3.38	8.06	1.73	0.56
Round Baler 1000 lb	60	11,300	3.01	603	36.21	3.15	5.55	3.31	12.02	4.20	1.06
Round Baler 1500 lb	60	13,300	4.64	927	39.17	2.05	4.24	2.15	8.45	3.06	0.69
Rd Baler/Wrap. 1000 lb	60	14,600	3.01	603	41.05	3.15	7.15	3.31	13.62	5.05	1.06
Rd Baler Wrapper Silage	60	10,900	2.48	372	35.25	3.83	6.75	3.63	14.20	4.23	1.28
Bale Wrapper Dry Hay	40	5,100	2.48	372	24.04	2.87	3.19	3.63	9.69	2.32	0.85
Forage Harvester 1 row	60	12,700	0.95	95	41.97	10.06	20.83	13.50	44.39	6.09	3.36
Forage Harvester 2 row	100	16,600	1.65	165	54.83	9.86	15.57	7.72	33.14	5.57	3.20
Forage SP Harvstr 2 row		84,900	2.04	305	99.73	0.00	42.71	6.27	48.98	4.27	2.41
Forage SO Harvstr 3 row		114,300	3.05	458	129.54	0.00	38.23	4.18	42.41	3.74	2.06
Large Forage Blower	60	4,200	1.00	50	30.78	9.51	12.27	9.00	30.78	4.39	3.18
Corn Picker 2-36 row	40	20,200	1.42	213	43.53	5.03	16.66	9.00	30.69	5.34	1.49
Picker-Sheller 2-36 row	60	18,100	1.24	186	43.48	7.66	17.09	10.29	35.04	6.65	2.56

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Table 5. Harvesting Equipment Economic Cost Structure for 1995 (Continued)

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Combine Sm Grain Sm Head		7,900	4.41	882	67.02	10.89	1.40	2.89	15.19	3.65	1.20
Combine Sm Grain Md Head		8,600	5.09	1,018	78.38	11.56	1.33	2.51	15.40	3.83	1.25
Combine Sm Grain Lg Head		10,600	6.79	1,358	90.72	10.26	1.22	1.88	13.37	3.42	1.13
Soybean Combine Sm Head		10,400	3.86	772	68.96	12.45	2.11	3.31	17.86	4.22	1.37
Soybean Combine Md Head		12,200	4.45	891	81.15	13.22	2.14	2.87	18.22	4.45	1.43
Soybean Combine Lg Head		13,800	5.35	1,069	93.21	13.03	2.02	2.39	17.44	4.40	1.44
Corn Combine 3-30		10,400	2.23	445	68.95	21.58	3.65	5.73	30.96	7.32	2.38
Corn Combine 2-38		6,600	1.87	374	66.01	25.69	2.77	6.82	35.28	8.54	2.83
Corn Combine 3-38		11,900	2.82	564	70.11	17.03	3.29	4.52	24.85	5.83	1.88
Corn Combine 4-36 Md Size		14,000	3.36	672	82.58	17.52	3.26	3.80	24.58	5.95	1.89
Corn Combine 4-30 Md Size		17,300	2.80	560	85.08	21.02	4.80	4.56	30.39	7.24	2.27
Corn Combine 6-30 Lg Size		23,500	4.20	840	100.70	16.58	4.35	3.04	23.98	5.81	1.83
Corn Combine 8-30 Lg Size		25,700	5.09	1,018	102.46	13.68	3.94	2.51	20.13	4.83	1.51
Corn Combine 12-30 JB Size		38,700	7.64	1,527	118.92	9.97	3.94	1.67	15.57	3.85	1.39
Potato Windrower 2 row	75	24,100	1.49	149	59.84	7.98	25.57	6.51	40.06	6.30	2.66
Potato Windrower 4 row	75	55,000	2.99	299	107.96	3.99	28.89	3.25	36.13	5.12	1.33
Potato Harvester Seed 2R	120	54,900	1.38	295	108.48	15.60	36.33	26.74	78.67	16.74	4.61
Potato Harvester Seed 4R	120	80,100	2.76	590	131.35	7.80	26.46	13.37	47.63	10.83	2.31
Potato Harvester 2 row	120	43,800	1.84	294	106.49	11.70	26.17	20.06	57.92	10.14	3.46
Disk Bean Top Cutter 6R	100	11,300	6.40	512	50.72	2.55	3.38	1.99	7.93	1.35	0.83
Sugar Beet Lifter 4 row	100	41,200	3.47	277	122.37	4.71	26.92	3.68	35.31	8.43	1.53
Sugar Beet Lifter 6 row	120	52,200	5.20	416	152.55	4.14	22.75	2.45	29.34	7.08	1.22
Sugar Beet Topper 6 row	75	17,100	5.33	427	57.54	2.24	6.40	2.16	10.79	1.71	0.75
Sugar Beet Topper 12 row	140	32,400	10.67	853	99.53	2.20	6.05	1.08	9.33	1.66	0.70

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Table 5. Harvesting Equipment Economic Cost Structure for 1995 (Continued)

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Sugar Beet Wagon 8 Ton	75	8,700	3.47	277	38.06	3.44	4.95	2.60	10.98	1.84	1.15
Manure Spreader 150 Bu	75	3,900	3.49	349	29.09	3.42	2.29	2.63	8.33	2.09	1.14
Manure Spreader 225 Bu	100	5,500	3.49	349	36.73	4.67	3.22	2.63	10.52	2.92	1.52
Manure Spreader 400 Bu	100	10,000	4.65	465	45.80	3.50	4.36	1.97	9.84	2.80	1.14
Gravity Grain Box 185 Bu	60	1,600	1.65	215	21.03	5.75	1.52	5.44	12.71	2.53	1.92
Gravity Grain Box 240 Bu	75	2,100	1.65	215	24.10	7.21	1.92	5.44	14.56	3.18	2.41
Belt Botton V Box 24 ft		13,900	1.65	215	46.75	11.93	10.89	5.44	28.26	4.97	2.84
Baled Hay Wagon	40	2,100	3.78	945	27.07	1.89	0.51	4.76	7.16	0.84	0.56
Forage Wagon 14 ft	40	6,100	1.65	215	24.20	4.31	4.88	5.44	14.63	2.30	1.28
Forage Wagon 16 ft	40	7,800	1.65	215	26.18	4.31	6.07	5.44	15.82	2.49	1.28
1 Ton Hay Stack	60	15,000	4.15	829	39.09	2.29	4.06	3.08	9.43	2.44	0.77
3 Ton Hay Stack	75	22,200	4.84	1,064	48.92	2.47	5.01	2.64	10.12	3.08	0.82
6 Ton Hay Stack	100	35,800	5.53	1,548	66.95	2.95	6.85	2.31	12.11	4.83	0.96

* See footnotes at end of tables

Table 6. Specialty Equipment Economic Cost Structure for 1995

Machine	Tractor Size (HP)	Net Cost of the New Implement	-- Estimated --		Total Cost / Hour ^{1/}	----- Total Cost / Acre ^{2/} -----				Operating Expense / Acre ^{3/}	Diesel Fuel Gal/Ac
			Work Performed Ac/hr	Ac/yr		Equipment Tractor	+Machine	Labor +Charge	Total = Dollars		
Spec Crop Planter 1 row	40	2,400	1.58	110	21.57	4.53	3.45	5.71	13.69	2.01	1.35
Spc Crop Cult. 1 row	40	1,400	1.58	110	19.40	4.53	2.07	5.71	12.31	1.88	1.35
Transplanter 1 row	40	2,300	1.58	110	21.35	4.53	3.31	5.71	13.55	2.00	1.35
Transplanter 2 row	40	3,600	2.36	165	24.40	3.02	3.50	3.81	10.32	1.45	0.90
Transplanter 4 row	60	6,700	1.64	245	28.47	5.81	6.09	5.50	17.40	4.45	1.94
Precision Seeder 4 Unit	160	9,300	1.31	262	47.15	19.05	10.09	6.87	36.02	13.42	6.48
Landplane 45 by 12 ft	180	8,500	6.40	480	57.60	4.38	3.11	1.52	9.00	2.24	1.49
Landplane 55 by 14 ft	225	18,300	8.00	600	83.89	4.12	5.16	1.21	10.49	2.14	1.49
Landplane 70 by 14 ft	225	19,500	8.00	600	86.36	4.12	5.46	1.21	10.79	2.18	1.49

- 1) Total cost per hour is calculated as yearly depreciation, interest, insurance, housing and repairs, divided by hours used per year. Implement and power unit costs are summed. Fuel lubricants, and labor are added to the total.
- 2) Total Cost per acre is total cost per hour divided by acres/hour. Includes operating expenses, labor and overhead costs.
- 3) Fuel, lubricants, repairs and maintenance, but not labor. Labor is listed separately.