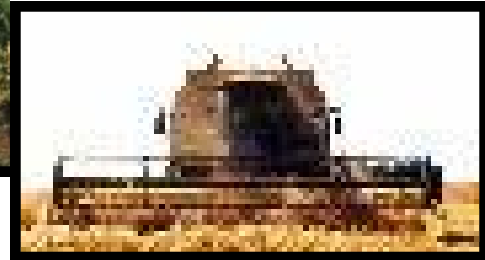
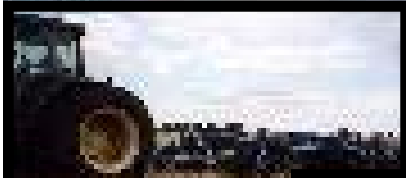




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2007 ESTIMATED MACHINERY COSTS
FOR SOUTH CAROLINA FARMS

2007 ESTIMATED MACHINERY COSTS FOR SOUTH CAROLINA FARMS

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The following machine costs are based on the same costs as those used in the Clemson enterprise budgets for South Carolina. These estimated costs can be used as guides for custom rate charges, however they do NOT include returns for risk, management OR operator's labor. To determine a custom rate the operator's labor must be added to the figures in Table 1 (as directed below), plus the addition of some "profit."

Machinery Cost

Machinery costs are typically divided into two major categories: fixed cost and variable cost. Fixed costs are those costs which do not vary with the usage during a production cycle, usually one year. Fixed costs include depreciation, interest, insurance and taxes. To estimate these items, many assumptions have to be made. All of the machinery performance assumptions come directly from the Agricultural Engineers Handbook. Table 2 presents some of the assumptions that will vary from farm to farm and machine to machine. These include:

- Average price (on which repair, depreciation, interest and taxes are based),
- Years owned and annual hours used (which determine per hour costs),
- Total hours of life (on which repairs are based), and
- Salvage value (which determines depreciation, interest, and insurance).

Other important assumptions are:

- The purchase price for equipment was calculated by discounting the dealer's price by 10%.
- An interest rate of 9.0%.
- An insurance rate of 0.6%.

Variable costs associated with the operation of machinery are those costs which vary directly with usage. These costs include repairs, fuel, and lubricants. There is no variable cost if the machine is not used. Repair costs are estimated by a formula which is based on the initial list price of the machine and hours used. Fuel cost is based on \$2.00 per gallon for diesel fuel.



Self-propelled Machinery

To determine the cost of using a self-propelled machine per timeover an acre, use the following formula and the appropriate data from table 1:

$$\begin{array}{l} \text{Fixed Cost} + \text{Variable Cost} \times \text{Hours Per Acre} = \text{Cost Per Timeover An Acre} \\ \text{Per Hour} \quad \quad \quad \text{Per Hour} \end{array}$$

Example: Tobacco Combine 2-Row (Table 1)

Fixed Cost Per Hour	\$49.54
Variable Cost Per Hour	<u>+ 20.80</u>
Total Cost Per Hour (less labor)	\$70.34
Hours Per Acre	<u>x 1.04</u>
Total Cost Per Timeover (less labor)	<u>\$73.15</u>

No labor costs have been included in table 1. For self-propelled machinery the hours per acre are multiplied by 1.10 to obtain the operator labor requirement per acre. This assumes slightly more labor is required than the machine is actually running (for refilling tank, operator maintenance, warm-up, etc.). The following formula and example will explain how labor requirements are computed:

$$\begin{array}{l} \text{Self-propelled Machinery} \\ \text{Hours Per Acre} \end{array} \quad \times \quad 1.10 \quad \begin{array}{l} \text{Self-propelled Labor Requirement} \\ \text{Per Timeover} \end{array}$$

$$1.04 \times 1.10 = 1.144 \text{ hours, Tobacco Combine 2-Row Labor Requirement per Timeover}$$

$$1.144 \text{ Hours of Labor} \times \$6.00 \text{ per hour} = \$6.86 \text{ (Cost of Labor) for Tobacco Combine 2-Row (Labor Wages)}$$

$$\text{Total Cost Per Timeover (labor included)} \$73.15 + \$6.86 = \$80.01.$$

Tractor Powered Machinery

To determine the total cost for a particular operation, the equipment must be attached to the proper power-unit (tractor). The cost of the power-unit and the equipment being used are combined. Hours for the power-unit are computed by using the same rate as the equipment rate (using table 1):

	<u>80 HP Tractor</u>	+	<u>4-Bottom Flip Plow</u>
Fixed Cost/Hour	\$ 6.83		\$ 3.17
Variable Cost/Hour	<u>+ 9.80</u>		<u>+ 3.96</u>
Total Cost/Hour (less labor)	\$16.63		\$ 7.13
Hours Per Acre	0.25		0.25
Cost Per Timeover	\$4.16		\$1.78
Total Cost Per Timeover (less labor)		\$5.94	

The next step is to compute operator labor requirements. For tractor operations, the tractor hours per acre are multiplied by 1.10 to obtain the labor requirements per acre. This assumes that slightly more labor is required than the hours the machine is actually running (for hook-up, refilling tanks/planters, maintenance, etc.).

Tractor Labor Requirement Per Timeover = Tractor Hours Per Acre x 1.10

Labor Requirement for the above example of a 4-bottom flip plow pulled by a 80 horse power tractor is as follows:

$0.25 \times 1.10 = 0.275$ hours,
80 HP Tractor Labor Requirement $0.275 \text{ hrs. of labor} \times \$6.00/\text{hr.} = \$1.65$ (Cost of Labor) Per Timeover.

Total Cost Per Timeover (labor included) $\$5.94 + \$1.65 = \$7.59$.

Tobacco Equipment

Several special purpose pieces of tobacco equipment are operated with workers other than the driver riding on the machine. The above procedure will accurately compute the labor requirements for the driver; however, additional labor must be added separately.

Table 3, Total Cost Per Timeover an Acre

Table 3 computes total cost per acre for self-propelled machinery and tractor powered equipment. In the case of the tractor powered equipment, it is assumed a specific power source is used and labor costs \$6.00 per hour. If the actual power source used is different from the one shown under the heading "Power Unit", then the figures may not apply. The column "Labor Costs" is obtained by multiplying the required operator labor hours by \$6.00 per hour. Also included is a column showing approximate fuel requirements for each operation.

Custom Machine Operators

The publication 2002 Farm Machinery Custom Rates is a summary of a survey conducted by the University of Georgia to determine actual custom rate charges in the state of Georgia. The document has been posted by Clemson University on the following website: <http://cherokee.agecon.clemson.edu/machine.htm>. Please, refer to this publication for custom rate information.



Table 1. Estimated 2007 Machinery Fixed and Variable Costs Per Hour as Estimated for South Carolina Budgets

Machine Name	Variable Cost Per		Hours Per Acre
	Hour*	Fixed Cost Per Hour	
Power Units and Self-Propelled			
50-60 HP DIESEL TRACTOR	\$6.90	\$5.29	N/A
70-80 HP DIESEL TRACTOR	9.80	6.83	N/A
95-105 HP DIESEL TRACTOR	14.01	9.94	N/A
115-125 HP DIESEL TRACTOR	16.91	12.27	N/A
135-145 HP DIESEL TRACTOR	19.73	14.33	N/A
155-165 HP DIESEL TRACTOR	22.69	16.83	N/A
175-185 HP DIESEL TRACTOR	26.23	21.32	N/A
195-205 HP DIESEL TRACTOR	29.17	23.76	N/A
COMBINE	32.26	67.35	0.33
COMBINE LARGE	42.27	88.25	0.25
COMBINE LARGE W/ HEADER	48.83	101.95	0.25
COMBINE W/ HEADER	37.79	78.90	0.33
COTTON PICKER 2-ROW	55.53	61.74	0.76
COTTON PICKER 4-ROW	89.87	99.92	0.38
COTTON FINGER STRIPPER 4-ROW	52.83	58.74	0.23
HIBOY	28.82	59.38	0.06
TOBACCO COMBINE 1-ROW	15.25	36.33	1.56
TOBACCO COMBINE 2-ROW	20.80	49.54	1.04
VEGETABLE PICKER 4-ROW	42.99	89.76	0.25
VEGETABLE PICKER 1-ROW	9.11	14.26	0.79
EQUIPMENT			
4-BOTTOM FLIP PLOW	3.96	3.17	0.25
5-BOTTOM PLOW	6.31	5.05	0.20
BALE WAGON	1.99	4.64	0.17
CHISEL PLOW 12'	0.97	6.12	0.20
CHISEL PLOW 14'	1.13	7.13	0.17
CHISEL PLOW 18'	1.73	10.92	0.12
COTTON TRAILER	2.92	4.66	0.34
CULTIPACKER	0.32	3.87	0.20
CULTIVATOR 1-ROW	0.20	1.32	1.18
CULTIVATOR 2-ROW	0.44	2.82	0.56
CULTIVATOR 4-ROW	0.91	3.88	0.23
CULTIVATOR 6-ROW	1.46	4.14	0.17
CULTIVATOR W/ HERB. & INSECT 6-ROW	1.65	7.97	0.17
CULTIVATOR W/ HERBICIDE 6-ROW	1.50	7.25	0.17
CULTIVATOR W/ INSECTICIDE 6-ROW	1.50	7.25	0.17
CULTIVATOR W/ SPRAYER 6-ROW	1.50	7.25	0.17
DIGGER INVERTER - 2 ROW	5.06	9.01	0.92
DIGGER INVERTER - 6 ROW	12.27	21.86	0.34
DISK W/ SPRAYER 16'	2.17	13.65	0.15
DISK W/ SPRAYER 21'	2.66	16.78	0.12
FERTILIZER SPREADER	6.22	30.21	0.12
FUMIGATION UNIT	1.06	4.83	0.43
GRAIN DRILL 16'	5.78	17.62	0.13
GRAIN DRILL 8'	3.20	9.75	0.29
GRAIN DRILL 13' W/ CULTIPACKER	4.70	14.34	0.16
GRAIN DRILL 13' W/ FERTILIZER	4.65	14.17	0.16
GRANULAR APPLICATOR	0.77	4.99	0.56

*Does not include labor cost. Table 3 contains labor cost on a per acre basis.

Table 1. Estimated Machinery Fixed and Variable Costs Per Hour as Estimated for South Carolina Budgets
(Continued)

Machine Name	Variable Cost Per Hour*	Fixed Cost Per Hour	Hours Per Acre
EQUIPMENT			
HEAVY DISK 13'	1.81	11.40	0.17
HEAVY DISK 14'	2.02	12.74	0.15
HEAVY DISK 16'	2.46	15.51	0.12
HERBICIDE APPLICATOR 12'	1.17	3.47	0.15
HERBICIDE APPLICATOR 16'	1.85	4.42	0.11
LIGHT DISKING W/ HERBICIDE	4.62	11.72	0.15
LISTER	0.37	3.89	0.59
MOWER-CONDITIONER	6.47	22.20	0.36
MULCH BEDDER	8.55	14.61	0.52
MULCH LAYER	6.92	11.82	0.52
NO-TILL DRILL 12'	9.65	16.09	0.21
NO-TILL DRILL 16'	10.41	31.76	0.14
NURSE TANK ON PICK-UP	0.79	4.44	0.17
PEANUT COMBINE 2-ROW	8.33	38.16	1.10
PEANUT COMBINE 4-ROW	17.95	82.19	0.55
PEANUT PLANTER	4.65	18.71	0.21
PRECISION PLANTER 4-ROW	3.01	12.95	0.20
PLANTER 1-ROW	0.19	2.01	1.65
PLANTER 2-ROW	0.35	3.77	0.89
PLANTER 4-ROW	2.93	12.57	0.20
PLANTER 6-ROW	4.11	17.64	0.15
PLANTER 8-ROW	6.00	25.76	0.09
PLANTER NO-TILL 4-ROW	6.33	16.07	0.17
PLANTER NO-TILL 6-ROW	7.81	19.83	0.14
PLANTER NO-TILL 8-ROW	12.37	31.42	0.08
PLANTER NO-TILL W/ HERBICIDE 4-ROW	6.84	17.36	0.20
PLANTER NO-TILL W/ SPRAYER 4-ROW	6.84	17.36	0.20
PLANTER W/ FERTILIZER 6-ROW	4.64	19.94	0.17
PLANTER W/ HERBICIDE 6-ROW	4.64	19.94	0.17
PLANTER W/ SPRAYER 4-ROW	3.23	13.86	0.22
PLANTER W/ SPRAYER 6-ROW	4.64	19.94	0.17
POTATO DIGGER (SWEET)	0.89	17.50	0.79
POTATO HARVESTER	13.05	29.47	0.79
POTATO PLANTER	13.34	15.74	0.27
POTATO PLANTER (SWEET)	1.33	14.24	0.39
PRIME AID BULK BARN	11.16	18.46	0.69
PTO AIR BLAST SPRAYER (500)	16.11	26.30	0.20
PTO BALER	4.44	21.16	0.38
ROUND BALER	3.95	14.35	0.38
SMALL BALER	2.45	11.67	0.38
PULL TYPE SPRAYER	1.83	10.32	0.18
RAKE	0.80	5.00	0.25
ROLLING CULTIVATOR 6-ROW	1.57	4.46	0.17
ROTARY MOWER 7'	0.65	2.96	0.29
ROTOVATOR	1.30	4.68	1.41
SICKLE MOWER	3.33	6.31	0.26
SIDEDRESSER 2-ROW	0.36	2.34	0.56

*Does not include labor cost. Table 3 contains labor cost on a per acre basis.

Table 1. Estimated Machinery Fixed and Variable Costs Per Hour as Estimated for South Carolina Budgets
(Continued)

Machine Name	Variable Cost Per		Hours Per Acre
	Hour*	Fixed Cost Per Hour	
EQUIPMENT			
SILAGE BLOWER	1.58	4.40	0.47
SILAGE CHOPPER	15.02	29.57	0.43
SILAGE CHOPPER & WAGON	18.81	53.82	0.57
SILAGE WAGON	2.68	10.82	0.57
SPIKE HARROW	0.09	1.43	0.24
SPRAYER, BLOWER	9.25	27.40	0.18
SPRING TOOTH	0.01	3.46	0.11
SUBSOILER-BEDDER 2-ROW	0.86	4.89	0.45
SUBSOILER-BEDDER 4-ROW	4.91	5.71	0.19
SUBSOILER-BEDDER 6-ROW	6.11	7.10	0.17
SUBSOILER-PLANTER W/ SPRAYER 4-ROW	10.71	27.20	0.20
SUBSOILER-PLANTER W/ SPRAYER 6-ROW	12.69	32.22	0.18
SUBSOILER-PLANTER 6-ROW	11.65	29.58	0.18
SUPER BEDDER	2.42	8.82	1.10
TOBACCO CULTIVATOR 1-ROW	0.49	1.14	0.71
TOBACCO HARVESTER LOW PROFILE	1.91	19.07	2.95
TOBACCO TOPPER 2-ROW	4.25	9.56	0.86
TOBACCO TRAILER	0.55	0.89	2.58
TOBACCO TRANSPLANTER 1-ROW	2.28	2.92	3.08
TOBACCO TRANSPLANTER 2-ROW	3.66	4.69	1.54
TOMATO TRANSPLANTER 3-ROW	1.64	14.61	2.06
TRACTOR MOUNTED SPRAYER	1.80	5.32	0.16
TRACTOR MOUNTED SPRAYER & FERT.	2.33	6.89	0.16
TRAILER 4W	1.25	7.09	0.14
TRANSPLANTER 1-ROW	0.39	3.51	2.75
TRANSPLANTER 2-ROW	0.64	5.66	2.29
TRANSPLANTER 4-ROW	2.55	14.32	1.38
TRUCK 1.5 TON	6.32	9.95	0.23
WHIRL SEEDER	0.26	1.46	0.10
WINDROWER	1.26	4.80	0.17
BROADCAST DEEP TILLAGE	5.23	13.29	0.24
COTTON MODULE BUILDER	7.34	10.76	0.11
TEDDER	1.38	8.56	0.25
STRIP TILL RIG	9.65	24.51	0.31
BUSHHOG 14'	2.16	9.87	0.15
FLAIL MOWER	0.93	4.27	0.49
PLANTER W/ SPRAYER 8-ROW	6.27	26.93	0.12
SUBSOILER-BEDDER 8-ROW	7.54	19.14	0.12
DO-ALL FIELD CONDITIONER 8-ROW	2.59	7.35	0.09
BOLL BUGGY	8.48	13.53	0.34
FARM WAGON	2.50	8.44	0.15
CULTIVATOR W/ HERBICIDE 8-ROW	1.94	9.36	0.10
FRONT-END LOADER	1.92	6.98	0.19

*Does not include labor cost. Table 3 contains labor cost on a per acre basis.

Table 2. Assumptions used in Estimating Machinery Costs

Machine Name	Average Price	Years Owned	Hours Used Annually	Total Hours of Life	Salvage Value
Power Units and Self-Propelled					
50-60 HP DIESEL TRACTOR	\$19,927.16	10	500	12000	\$5,886.17
70-80 HP DIESEL TRACTOR	25728.51	10	500	12000	7599.80
95-105 HP DIESEL TRACTOR	44970.49	10	600	12000	13283.57
115-125 HP DIESEL TRACTOR	55502.92	10	600	12000	16394.68
135-145 HP DIESEL TRACTOR	64833.67	10	600	12000	19150.84
155-165 HP DIESEL TRACTOR	76153.34	10	600	12000	22494.49
175-185 HP DIESEL TRACTOR	96438.52	10	600	12000	28486.41
195-205 HP DIESEL TRACTOR	107460.34	10	600	12000	31742.08
COMBINE	110583.73	10	225	2000	23340.04
COMBINE LARGE	144912.62	10	225	2000	30585.57
COMBINE LARGE W/ HEADER	167397.87	10	225	2000	35331.35
COMBINE W/ HEADER	129558.17	10	225	2000	27344.82
COTTON PICKER 2-ROW	121377.75	12	250	2500	14301.83
COTTON PICKER 4-ROW	196424.73	12	250	2500	23144.55
COTTON FINGER STRIPPER 4-ROW	115479.88	12	250	2500	13606.89
HIBOY	70446.44	12	150	2000	9757.30
TOBACCO COMBINE 1-ROW	57901.40	7	260	2000	16913.13
TOBACCO COMBINE 2-ROW	78956.45	7	260	2000	23063.36
VEGETABLE PICKER 4-ROW	147385.38	10	225	2000	31107.47
VEGETABLE PICKER 1-ROW	25266.06	15	200	3000	2425.70
EQUIPMENT					
4-BOTTOM FLIP PLOW	5016.37	12	200	2500	694.80
5-BOTTOM PLOW	7984.44	12	200	2500	1105.90
BALE WAGON	5094.70	10	150	2000	840.89
CHISEL PLOW 12'	5807.99	12	120	2500	804.44
CHISEL PLOW 14'	6767.45	12	120	2500	937.34
CHISEL PLOW 18'	10365.54	12	120	2500	1435.70
COTTON TRAILER	5538.47	12	150	1100	811.86
CULTIPACKER	2375.27	30	50	2500	36.49
CULTIVATOR 1-ROW	950.76	10	100	2000	168.13
CULTIVATOR 2-ROW	2035.14	10	100	2000	359.90
CULTIVATOR 4-ROW	3437.07	15	100	2500	329.98
CULTIVATOR 6-ROW	4579.30	15	125	2500	439.64
CULTIVATOR W/ HERB.& INSECT 6-ROW	5741.77	10	100	2000	1015.38
CULTIVATOR W/ HERBICIDE 6-ROW	5220.98	10	100	2000	923.29
CULTIVATOR W/ INSECTICIDE 6-ROW	5220.98	10	100	2000	923.29
CULTIVATOR W/ SPRAYER 6-ROW	5220.98	10	100	2000	923.29
DIGGER INVERTER 2-ROW	6526.01	10	100	1200	1250.24
DIGGER INVERTER 6-ROW	15835.97	10	100	1200	3033.83
DISK W/ SPRAYER 16'	12958.37	12	120	2500	1794.82
DISK W/ SPRAYER 21'	15926.41	12	120	2500	2205.91
FERTILIZER SPREADER	10833.08	10	50	1000	1788.02
FUMIGATION UNIT	1552.81	8	50	750	350.60
GRAIN DRILL 16'	10889.42	13	75	1200	1334.81
GRAIN DRILL 8'	6024.04	13	75	1200	738.42
GRAIN DRILL 13' W/ CULTIPACKER	8858.25	13	75	1200	1085.83
GRAIN DRILL 13' W/ FERTILIZER	8755.95	13	75	1200	1073.29
GRANULAR APPLICATOR	3592.33	10	100	2000	635.27
HEAVY DISK 13'	10818.77	12	120	2500	1498.47
HEAVY DISK 14'	12093.06	12	120	2500	1674.97
HEAVY DISK 16'	14717.54	12	120	2500	2038.48
HERBICIDE APPLICATOR 12'	2000.23	10	80	1000	353.72
HERBICIDE APPLICATOR 16'	2868.75	10	90	1000	507.31
LIGHT DISKING W/ HERBICIDE	9269.49	12	100	1440	1283.89
LISTER	1400.16	10	50	2000	247.61
MOWER-CONDITIONER	15919.95	10	100	2000	2627.62
MULCH BEDDER	5263.76	10	50	1000	930.85
MULCH LAYER	4258.38	10	50	1000	753.06

Table 2. Assumptions used in Estimating Machinery Costs (Continued)

Machine Name	Average Price	Years Owned	Hours Used	Total Hours of	Salvage Value
			Annually	Life	
EQUIPMENT					
NO-TILL DRILL 12'	\$13,258.11	13	100	1200	\$1,625.16
NO-TILL DRILL 16'	19625.65	13	75	1200	2405.68
NURSE TANK ON PICK-UP	\$1,968.81	15	50	1200	\$189.02
PEANUT COMBINE 2-ROW	27491.58	10	100	2000	4861.65
PEANUT COMBINE 4-ROW	\$59,215.51	10	100	2000	\$10,471.75
PEANUT PLANTER	11100.75	12	75	1440	1537.53
PRECISION PLANTER 4-ROW	\$10,240.64	12	100	2000	\$1,418.40
PLANTER 1-ROW	1087.30	10	75	2000	192.28
PLANTER 2-ROW	\$2,039.38	10	75	2000	\$360.65
PLANTER 4-ROW	9938.65	12	100	2000	1376.57
PLANTER 6-ROW	\$13,953.93	12	100	2000	\$1,932.71
PLANTER 8-ROW	20372.09	12	100	2000	2821.67
PLANTER NO-TILL 4-ROW	\$12,710.52	12	100	1440	\$1,760.49
PLANTER NO-TILL 6-ROW	15683.95	12	100	1440	2172.33
PLANTER NO-TILL 8-ROW	\$24,846.64	12	100	1440	\$3,441.42
PLANTER NO-TILL W/ HERBICIDE 4-ROW	13728.56	12	100	1440	1901.50
PLANTER NO-TILL W/ SPRAYER 4-ROW	\$13,728.56	12	100	1440	\$1,901.50
PLANTER W/ FERTILIZER 6-ROW	15771.75	12	100	2000	2184.49
PLANTER W/ HERBICIDE 6-ROW	\$15,771.75	12	100	2000	\$2,184.49
PLANTER W/ SPRAYER 4-ROW	10962.82	12	100	2000	1518.42
PLANTER W/ SPRAYER 6-ROW	\$15,771.75	12	100	2000	\$2,184.49
POTATO DIGGER (SWEET)	11247.61	8	100	2000	2539.56
POTATO HARVESTER	\$52,209.16	15	200	3000	\$5,012.42
POTATO PLANTER	20921.35	15	150	1500	2008.58
POTATO PLANTER (SWEET)	\$6,860.79	8	75	2000	\$1,549.07
PRIME AID BULK BARN	17896.80	8	150	1500	4247.96
PTO AIR BLAST SPRAYER (500)	\$18,950.60	10	100	1000	\$3,351.25
PTO BALER	13759.97	8	100	2000	2899.69
ROUND BALER	\$11,444.32	8	125	2000	\$2,411.71
SMALL BALER	\$7,590.00	8	100	2000	\$1,599.47
PULL TYPE SPRAYER	\$4,571.28	15	50	1200	\$438.87
RAKE	\$2,700.64	10	75	2000	\$477.58
ROLLING CULTIVATOR 6-ROW	\$4,938.71	15	125	2500	\$474.15
ROTARY MOWER 7'	\$2,134.78	10	100	2000	\$377.52
ROTOVATOR	\$1,684.40	10	50	1000	\$297.87
SICKLE MOWER	\$2,274.60	10	50	1000	\$402.24
SIDEDRESSER 2-ROW	\$1,684.40	10	100	2000	\$297.87
SILAGE BLOWER	\$3,158.26	10	100	1000	\$520.77
SILAGE CHOPPER	\$21,207.18	10	100	1500	\$3,500.29
SILAGE CHOPPER & WAGON	\$28,950.70	10	75	1500	\$4,778.37
SILAGE WAGON	\$7,764.05	10	100	2000	\$1,281.47
SPIKE HARROW	\$947.48	15	75	3000	\$90.96
SPRAYER, BLOWER	\$15,791.29	10	80	1000	\$2,792.55
SPRING TOOTH	\$2,301.84	15	75	15000	\$220.99
SUBSOILER-BEDDER 2-ROW	\$3,869.35	12	100	2500	\$535.93
SUBSOILER-BEDDER 4-ROW	\$6,776.76	12	150	2500	\$938.63
SUBSOILER-BEDDER 6-ROW	\$8,425.32	12	150	2500	\$1,166.96
SUBSOILER-PLANTER W/ SPRAYER 4-ROW	\$21,514.03	12	100	1440	\$2,979.84
SUBSOILER-PLANTER W/ SPRAYER 6-ROW	\$25,478.98	12	100	1440	\$3,529.01
SUBSOILER-PLANTER 6-ROW	\$23,395.84	12	100	1440	\$3,240.48
SUPER BEDDER	\$3,196.16	10	50	1000	\$612.31
TOBACCO CULTIVATOR 1-ROW	\$1,228.43	10	150	2000	\$217.24
TOBACCO HARVESTER LOW PROFILE	\$13,159.41	7	115	2000	\$3,357.30
TOBACCO TOPPER 2-ROW	\$3,105.62	8	50	1000	\$771.33
TOBACCO TRAILER	\$1,052.75	12	150	1100	\$154.32
TOBACCO TRANSPLANTER 1-ROW	\$3,052.98	10	145	1200	\$539.89
TOBACCO TRANSPLANTER 2-ROW	\$4,895.30	10	145	1200	\$865.69
TOMATO TRANSPLANTER 3-ROW	\$7,895.65	10	75	2000	\$1,396.28

Table 2. Assumptions used in Estimating Machinery Costs (Continued)

Machine Name	Average Price	Years Owned	Hours Used Annually	Total Hours of Life	Salvage Value
EQUIPMENT					
TRACTOR MOUNTED SPRAYER	\$3,067.80	10	80	1000	\$542.51
TRACTOR MOUNTED SPRAYER & FERT.	\$3,970.86	10	80	1000	\$702.21
TRAILER 4W	\$2,564.10	10	50	1000	\$479.89
TRANSPLANTER 1-ROW	\$1,894.95	10	75	2000	\$335.11
TRANSPLANTER 2-ROW	\$3,060.35	10	75	2000	\$541.20
TRANSPLANTER 4-ROW	\$10,316.98	10	100	2000	\$1,824.47
TRUCK 1.5 TON	\$31,582.58	8	500	4000	\$6,331.55
WHIRL SEEDER	\$526.38	10	50	1000	\$93.09
WINDROWER	\$2,447.12	8	80	1500	\$515.69
BROADCAST DEEP TILLAGE	\$10,509.77	12	100	1440	\$1,455.67
COTTON MODULE BUILDER	\$21,146.49	12	250	2500	\$2,491.67
TEDDER	\$4,625.58	10	75	2000	\$817.99
STRIP TILL RIG	\$19,387.14	12	100	1440	\$2,685.25
BUSHHOG 14'	\$7,109.37	10	100	2000	\$1,257.23
FLAIL MOWER	\$3,079.30	10	100	2000	\$544.55
PLANTER W/ SPRAYER 8-ROW	\$21,295.24	12	100	2000	\$2,949.53
SUBSOILER-BEDDER 8-ROW	\$15,136.64	12	100	1440	\$2,096.52
DO-ALL FIELD CONDITIONER 8-ROW	\$8,138.09	15	125	2500	\$781.31
BOLL BUGGY	\$16,087.40	12	150	1100	\$2,358.19
FARM WAGON	\$3,077.66	10	50	1000	\$644.50
CULTIVATOR W/ HERBICIDE 8-ROW	\$6,743.37	10	100	2000	\$1,192.51
FRONT-END LOADER	\$5,564.50	8	125	2000	\$1,172.63

*These number correspond to the acreage assumptions in the budgets which are specified for tobacco due to the allotments.

Table 3. Total Cost Per Timeover an Acre of Various Operations Assuming a Specific Power Source is Used and Machine Operator Labor Cost is \$6.00 per hour and Fuel Cost is \$2.00/gallon.*

Machine Name	Power Unit (diesel)	Labor Hours	Machine Hours	Cost of Fuel Required Per Hour	Cost of Fuel Required Per Timeover	Gallons of Fuel Required Per Timeover	Variable Cost Per Timeover	Fixed Cost Per Timeover	Labor Cost at \$6.00 Per Timeover	Total Cost (Fixed, Variable, and Labor)
Self-Propelled										
COMBINE	N/A	0.363	0.33	10.62	3.50	1.75	10.65	22.23	2.18	35.06
COMBINE LARGE	N/A	0.275	0.25	13.91	3.48	1.74	10.57	22.06	1.65	34.28
COMBINE LARGE W/ HEADER	N/A	0.275	0.25	16.07	4.02	2.01	12.21	25.49	1.65	39.35
COMBINE W/ HEADER	N/A	0.363	0.33	12.44	4.10	2.05	12.47	26.04	2.18	40.69
COTTON PICKER 2-ROW	N/A	0.836	0.76	11.65	8.86	4.43	42.20	46.92	5.02	94.14
COTTON PICKER 4-ROW	N/A	0.418	0.38	18.86	7.17	3.58	34.15	37.97	2.51	74.63
COTTON FINGER STRIPPER 4-ROW	N/A	0.253	0.23	11.09	2.55	1.27	12.15	13.51	1.52	27.18
HIBOY	N/A	0.066	0.06	6.76	0.41	0.20	1.73	3.56	0.40	5.69
TOBACCO COMBINE 1-ROW	N/A	1.716	1.56	5.56	8.67	4.34	23.79	56.67	10.30	90.76
TOBACCO COMBINE 2-ROW	N/A	1.144	1.04	7.58	7.88	3.94	21.63	51.52	6.86	80.01
VEGETABLE PICKER 4-ROW	N/A	0.275	0.25	14.15	3.54	0.66	10.75	22.44	1.65	34.84
VEGETABLE PICKER 1-ROW	N/A	0.869	0.79	2.43	1.92	2.84	7.20	11.27	5.21	23.68
EQUIPMENT										
4-BOTTOM FLIP PLOW	70-80 HP (2)	0.275	0.25	7.20	1.80	0.90	3.44	2.50	1.65	7.59
5-BOTTOM PLOW	95-105 HP (3)	0.220	0.20	9.60	1.92	0.96	4.06	3.00	1.32	8.38
BALE WAGON	50-60 HP (1)	0.187	0.17	5.28	0.90	0.45	1.51	1.69	1.12	4.32
CHISEL PLOW 12'	95-105 HP (3)	0.220	0.20	9.60	1.92	0.96	3.00	3.21	1.32	7.53
CHISEL PLOW 14'	95-105 HP (3)	0.187	0.17	9.60	1.63	0.82	2.57	2.90	1.12	6.59
CHISEL PLOW 18'	115-125 HP (4)	0.132	0.12	11.52	1.38	0.69	2.24	2.78	0.79	5.81
COTTON TRAILER	50-60 HP (1)	0.374	0.34	5.28	1.80	0.90	3.34	3.38	2.24	8.96
CULTIPACKER	70-80 HP (2)	0.220	0.20	7.20	1.44	0.72	2.02	2.14	1.32	5.48
CULTIVATOR 1-ROW	50-60 HP (1)	1.298	1.18	5.28	6.23	3.12	8.38	7.79	3.70	23.97
CULTIVATOR 2-ROW	50-60 HP (1)	0.616	0.56	5.28	2.96	1.48	4.11	4.54	3.70	12.35
CULTIVATOR 4-ROW	70-80 HP (2)	0.253	0.23	7.20	1.66	0.83	2.46	2.46	1.52	6.44
CULTIVATOR 6-ROW	70-80 HP (2)	0.187	0.17	7.20	1.22	0.61	1.91	1.86	1.12	4.89
CULTIVATOR W/ HERB. & INSECT 6-ROW	70-80 HP (2)	0.187	0.17	7.20	1.22	0.61	1.95	2.52	1.12	5.59
CULTIVATOR W/ HERBICIDE 6-ROW	70-80 HP (2)	0.187	0.17	7.20	1.22	0.61	1.92	2.39	1.12	5.43
CULTIVATOR W/ INSECTICIDE 6-ROW	70-80 HP (2)	0.187	0.17	7.20	1.22	0.61	1.92	2.39	1.12	5.43
CULTIVATOR W/ SPRAYER 6-ROW	70-80 HP (2)	0.187	0.17	7.20	1.22	0.61	1.92	2.39	1.12	5.43
DIGGER INVERTER 2-ROW	95-105 HP (3)	1.012	0.92	9.60	8.83	4.42	17.54	17.43	6.07	41.04
DIGGER INVERTER 6-ROW	135-145 HP (5)	0.374	0.34	13.44	4.57	2.28	10.88	12.30	2.24	25.42
DISK W/ SPRAYER 16'	95-105 HP (3)	0.165	0.15	9.60	1.44	0.72	2.43	3.54	0.99	6.96
DISK W/ SPRAYER 21'	115-125 HP (4)	0.132	0.12	11.52	1.38	0.69	2.35	3.49	0.79	6.63
FERTILIZER SPREADER	50-60 HP (1)	0.132	0.12	5.28	0.63	0.32	1.57	4.26	0.79	6.62
FUMIGATION UNIT	50-60 HP (1)	0.473	0.43	5.28	2.27	1.14	3.42	4.35	2.84	10.61
GRAIN DRILL 16'	95-105 HP (3)	0.143	0.13	9.60	1.25	0.62	2.57	3.58	0.86	7.01
GRAIN DRILL 8'	70-80 HP (2)	0.319	0.29	7.20	2.09	1.04	3.77	4.81	1.91	10.49
GRAIN DRILL 13' W/ CULTIPACKER	95-105 HP (3)	0.176	0.16	9.60	1.54	0.77	2.99	3.88	1.06	7.93
GRAIN DRILL 13' W/ FERTILIZER	115-125 HP (4)	0.176	0.16	11.52	1.84	0.92	3.45	4.23	1.06	8.74
GRANULAR APPLICATOR	50-60 HP (1)	0.616	0.56	5.28	2.96	1.48	4.30	5.76	3.70	13.76
HEAVY DISK 13'	135-145 HP (5)	0.187	0.17	13.44	2.28	1.14	3.66	4.37	1.12	9.15
HEAVY DISK 14'	135-145 HP (5)	0.165	0.15	13.44	2.02	1.01	3.26	4.06	0.99	8.31
HEAVY DISK 16'	155-165 HP (6)	0.132	0.12	15.36	1.84	0.92	3.02	3.88	0.79	7.69
HERBICIDE APPLICATOR 12'	70-80 HP (2)	0.165	0.15	7.20	1.08	0.54	1.65	1.55	0.99	4.19
HERBICIDE APPLICATOR 16'	70-80 HP (2)	0.121	0.11	7.20	0.79	0.40	1.28	1.24	0.73	3.25
LIGHT DISKING W/ HERBICIDE	95-105 HP (3)	0.165	0.15	9.60	1.44	0.72	2.79	3.25	0.99	7.03
LISTER	70-80 HP (2)	0.649	0.59	7.20	4.25	2.12	6.00	6.32	3.89	16.21
MOWER-CONDITIONER	50-60 HP (1)	0.396	0.36	5.28	1.90	0.95	4.81	9.90	2.38	17.09
MULCH BEDDER	50-60 HP (1)	0.572	0.52	5.28	2.75	1.37	8.03	10.35	3.43	21.81
MULCH LAYER	50-60 HP (1)	0.572	0.52	5.28	2.75	1.37	7.19	8.90	3.43	19.52

*Cost for equipment applies only if specified power unit is used.

Table 3. Total Cost Per Timeover an Acre of Various Operations Assuming a Specific Power Source is Used and Machine Operator Labor Cost is \$6.00 per hour and Fuel Cost is \$2.00/gallon.* (Continued)

Machine Name	Power Unit	Labor Hours	Machine Hours	Cost of Fuel Required Per Hour	Cost of Fuel Required Per Timeover	Gallons of Fuel Required Per Timeover	Variable Cost Per Timeover	Fixed Cost Per Timeover	Labor Cost at \$6.00 Per Timeover	Total Cost (Fixed, Variable, and Labor)
EQUIPMENT										
NO-TILL DRILL 12'	95-105 HP (3)	0.231	0.21	9.60	2.02	1.01	4.97	5.47	1.39	11.83
NO-TILL DRILL 16'	115-125 HP (4)	0.154	0.14	11.52	1.61	0.81	3.82	6.16	0.92	10.90
NURSE TANK ON PICK-UP	50-60 HP (1)	0.187	0.17	5.28	0.90	0.45	1.31	1.65	1.12	4.08
PEANUT COMBINE 2-ROW	95-105 HP (3)	1.210	1.10	9.60	10.56	5.28	24.57	52.91	7.26	84.74
PEANUT COMBINE 4-ROW	115-125 HP (4)	0.605	0.55	11.52	6.34	3.17	19.17	51.95	3.63	74.75
PEANUT PLANTER	95-105 HP (3)	0.231	0.21	9.60	2.02	1.01	3.92	6.02	1.39	11.33
PRECISION PLANTER 4-ROW	95-105 HP (3)	0.220	0.20	9.60	1.92	0.96	3.40	4.58	1.32	9.30
PLANTER 1-ROW	50-60 HP (1)	1.815	1.65	5.28	8.71	4.36	11.70	12.05	10.89	34.64
PLANTER 2-ROW	50-60 HP (1)	0.979	0.89	5.28	4.70	2.35	6.45	8.06	5.87	20.38
PLANTER 4-ROW	95-105 HP (3)	0.220	0.20	9.60	1.92	0.96	3.39	4.50	1.32	9.21
PLANTER 6-ROW	115-125 HP (4)	0.165	0.15	11.52	1.73	0.86	3.15	4.49	0.99	8.63
PLANTER 8-ROW	135-145 HP (5)	0.099	0.09	13.44	1.21	0.60	2.32	3.61	0.59	6.52
PLANTER NO-TILL 4-ROW	135-145 HP (5)	0.187	0.17	13.44	2.28	1.14	4.43	5.17	1.12	10.72
PLANTER NO-TILL 6-ROW	155-165 HP (6)	0.154	0.14	15.36	2.15	1.08	4.27	5.13	0.92	10.32
PLANTER NO-TILL 8-ROW	175-185 HP (7)	0.088	0.08	17.28	1.38	0.69	3.09	4.22	0.53	7.84
PLANTER NO-TILL W/ HERB. 4-ROW	135-145 HP (5)	0.220	0.20	13.44	2.69	1.34	5.31	6.34	1.32	12.97
PLANTER NO-TILL W/ SPRAYER 4-ROW	135-145 HP (5)	0.220	0.20	13.44	2.69	1.34	5.31	6.34	1.32	12.97
PLANTER W/ FERTILIZER 6-ROW	115-125 HP (4)	0.187	0.17	11.52	1.96	0.98	3.66	5.48	1.12	10.26
PLANTER W/ HERBICIDE 6-ROW	115-125 HP (4)	0.187	0.17	11.52	1.96	0.98	3.66	5.48	1.12	10.26
PLANTER W/ SPRAYER 4-ROW	95-105 HP (3)	0.242	0.22	9.60	2.11	1.06	3.79	5.24	1.45	10.48
PLANTER W/ SPRAYER 6-ROW	115-125 HP (4)	0.187	0.17	11.52	1.96	0.98	3.66	5.48	1.12	10.26
POTATO DIGGER (SWEET)	70-80 HP (2)	0.869	0.79	7.20	5.69	2.84	8.45	19.22	5.21	32.88
POTATO HARVESTER	115-125 HP (4)	0.869	0.79	11.52	9.10	4.55	23.67	32.97	5.21	61.85
POTATO PLANTER	95-105 HP (3)	0.297	0.27	9.60	2.59	1.30	7.38	6.93	1.78	16.09
POTATO PLANTER (SWEET)	70-80 HP (2)	0.429	0.39	7.20	2.81	1.40	4.34	8.22	2.57	15.13
PRIME AID BULK BARN	50-60 HP (1)	0.759	0.69	5.28	3.64	1.82	12.46	16.39	4.55	33.40
PTO AIR BLAST SPRAYER (500)	95-105 HP (3)	0.220	0.20	9.60	1.92	0.96	6.02	7.25	1.32	14.59
PTO BALER	95-105 HP (3)	0.418	0.38	9.60	3.65	1.82	7.01	11.82	2.51	21.34
ROUND BALER	95-105 HP (3)	0.418	0.38	9.60	3.65	1.82	6.82	9.23	2.51	18.56
SMALL BALER	95-105 HP (3)	0.418	0.38	9.60	3.65	1.82	6.25	8.21	2.51	16.97
PULL TYPE SPRAYER	50-60 HP (1)	0.198	0.18	5.28	0.95	0.48	1.57	2.81	1.19	5.57
RAKE	50-60 HP (1)	0.275	0.25	5.28	1.32	0.66	1.93	2.57	1.65	6.15
ROLLING CULTIVATOR 6-ROW	70-80 HP (2)	0.187	0.17	7.20	1.22	0.61	1.93	1.92	1.12	4.97
ROTARY MOWER 7'	50-60 HP (1)	0.319	0.29	5.28	1.53	0.77	2.19	2.39	1.91	6.49
ROTOVATOR	50-60 HP (1)	1.551	1.41	5.28	7.44	3.72	11.56	14.06	9.31	34.93
SICKLE MOWER	50-60 HP (1)	0.286	0.26	5.28	1.37	0.69	2.66	3.02	1.72	7.40
SIDEDRESSER 2-ROW	70-80 HP (2)	0.616	0.56	7.20	4.03	2.02	5.69	5.14	3.70	14.53
SILAGE BLOWER	50-60 HP (1)	0.517	0.47	5.28	2.48	1.24	3.99	4.55	3.10	11.64
SILAGE CHOPPER	115-125 HP (4)	0.473	0.43	11.52	4.95	2.48	13.73	17.99	2.84	34.56
SILAGE CHOPPER & WAGON	115-125 HP (4)	0.627	0.57	11.52	6.57	3.28	20.36	37.67	3.76	61.79
SILAGE WAGON	95-105 HP (3)	0.627	0.57	9.60	5.47	2.74	9.51	11.83	3.76	25.10
SPIKE HARROW	50-60 HP (1)	0.264	0.24	5.28	1.27	0.63	1.68	1.61	1.58	4.87
SPRAYER, BLOWER	50-60 HP (1)	0.198	0.18	5.28	0.95	0.48	2.91	5.88	1.19	9.98
SPRING TOOTH	50-60 HP (1)	0.121	0.11	5.28	0.58	0.29	0.76	0.96	0.73	2.45
SUBSOILER-BEDDER 2-ROW	70-80 HP (2)	0.495	0.45	7.20	3.24	1.62	4.80	5.27	2.97	13.04
SUBSOILER-BEDDER 4-ROW	95-105 HP (3)	0.209	0.19	9.60	1.82	0.91	3.59	2.97	1.25	7.81
SUBSOILER-BEDDER 6-ROW	115-125 HP (4)	0.187	0.17	11.52	1.96	0.98	3.91	3.29	1.12	8.32
SUBSOILER-PLANTER W/ SPRAYER 4-ROW	135-145 HP (5)	0.220	0.20	13.44	2.69	1.34	6.09	8.31	1.32	15.72
SUBSOILER-PLANTER W/ SPRAYER 6-ROW	155-165 HP (6)	0.198	0.18	15.36	2.76	1.38	6.37	8.83	1.19	16.39
SUBSOILER-PLANTER 6-ROW	155-165 HP (6)	0.198	0.18	15.36	2.76	1.38	6.18	8.35	1.19	15.72

*Cost for equipment applies only if specified power unit is used.

Table 3. Total Cost Per Timeover an Acre of Various Operations Assuming a Specific Power Source is Used and Machine Operator Labor Cost is \$6.00 per hour and Fuel Cost is \$2.00/gallon.* (Continued)

Machine Name	Power Unit	Labor Hours	Machine Hours	Cost of Fuel Required Per Hour	Cost of Fuel Required Per Timeover	Gallons of Fuel Required Per Timeover	Variable Cost Per Timeover	Fixed Cost Per Timeover	Labor Cost at \$6.00 Per Timeover	Total Cost (Fixed, Variable, and Labor)
EQUIPMENT										
SUPER BEDDER	70-80 HP (2)	1.210	1.10	7.20	7.92	3.96	13.44	17.22	7.26	37.92
TOBACCO CULTIVATOR 1-ROW	50-60 HP (1)	0.781	0.71	5.28	3.75	1.87	5.25	4.57	4.69	14.51
TOBACCO HARVESTER LOW PROFILE	50-60 HP (1)	3.245	2.95	5.28	15.58	7.79	25.99	71.86	19.47	117.32
TOBACCO TOPPER 2-ROW	50-60 HP (1)	0.946	0.86	5.28	4.54	2.27	9.59	12.77	5.68	28.04
TOBACCO TRAILER	50-60 HP (1)	2.838	2.58	5.28	13.62	6.81	19.22	15.94	17.03	52.19
TOBACCO TRANSPLANTER 1-ROW	70-80 HP (2)	3.388	3.08	7.20	22.18	11.09	37.21	30.03	20.33	87.57
TOBACCO TRANSPLANTER 2-ROW	95-105 HP (3)	1.694	1.54	9.60	14.78	7.39	27.21	22.53	10.16	59.90
TOMATO TRANSPLANTER 3-ROW	70-80 HP (2)	2.266	2.06	7.20	14.83	7.42	23.57	44.17	13.60	81.34
TRACTOR MOUNTED SPRAYER	50-60 HP (1)	0.176	0.16	5.28	0.84	0.42	1.39	1.70	1.06	4.15
TRACTOR MOUNTED SPRAYER & FERT.	50-60 HP (1)	0.176	0.16	5.28	0.84	0.42	1.48	1.95	1.06	4.49
TRAILER 4W	50-60 HP (1)	0.154	0.14	5.28	0.74	0.37	1.14	1.73	0.92	3.79
TRANSPLANTER 1-ROW	50-60 HP (1)	3.025	2.75	5.28	14.52	7.26	20.05	24.20	18.15	62.40
TRANSPLANTER 2-ROW	50-60 HP (1)	2.519	2.29	5.28	12.09	6.05	17.27	25.08	15.11	57.46
TRANSPLANTER 4-ROW	70-80 HP (2)	1.518	1.38	7.20	9.94	4.97	17.04	29.19	9.11	55.34
WHIRL SEEDER	50-60 HP (1)	0.110	0.10	5.28	0.53	0.26	0.72	0.68	0.66	2.06
WINDROWER	50-60 HP (1)	0.187	0.17	5.28	0.90	0.45	1.39	1.72	1.12	4.23
BROADCAST DEEP TILLAGE	175-185 HP (7)	0.264	0.24	17.28	4.15	2.07	7.55	8.31	1.58	17.44
COTTON MODULE BUILDER	95-105 HP (3)	0.121	0.11	9.60	1.06	0.53	2.35	2.28	0.73	5.36
TEDDER	50-60 HP (1)	0.275	0.25	5.28	1.32	0.66	2.07	3.46	1.65	7.18
STRIP TILL RIG	50-60 HP (1)	0.341	0.31	5.28	1.64	0.82	5.13	9.24	2.05	16.42
BUSHHOG 14'	50-60 HP (1)	0.165	0.15	5.28	0.79	0.40	1.36	2.27	0.99	4.62
FLAIL MOWER	50-60 HP (1)	0.539	0.49	5.28	2.59	1.29	3.84	4.68	3.23	11.75
PLANTER W/ SPRAYER 8-ROW	135-145 HP (5)	0.132	0.12	13.44	1.61	0.81	3.12	4.95	0.79	8.86
SUBSOILER-BEDDER 8-ROW	195-205 HP (8)	0.132	0.12	19.20	2.30	1.15	4.41	5.15	0.79	10.35
DO-ALL FIELD CONDITIONER 8-ROW	135-145 HP (5)	0.099	0.09	13.44	1.21	0.60	2.01	1.95	0.59	4.55
BOLL BUGGY	50-60 HP (1)	0.374	0.34	5.28	1.80	0.90	5.23	6.40	2.24	13.87
FARM WAGON	70-80 HP (2)	0.165	0.15	7.20	1.08	0.54	1.85	2.29	0.99	5.13
CULTIVATOR W/ HERBICIDE 8-ROW	95-105 HP (3)	0.110	0.10	9.60	0.96	0.48	1.60	1.93	0.66	4.19
FRONT-END LOADER	50-60 HP (1)	0.209	0.19	5.28	1.00	0.50	1.68	2.33	1.25	5.26

*Cost for equipment applies only if specified power unit is used.