

AGRONOMIC CROP ENTERPRISE BUDGETS FOR SOUTH CAROLINA- 2009/2010

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AGRONOMIC CROP ENTERPRISE BUDGETS FOR SOUTH CAROLINA

Clemson's crop enterprise budgets are intended as guidelines in the estimation of the production costs and returns for South Carolina cash crops and assist producers in selecting enterprise combinations for the 2009/2010 season. These budgets should be used only as a guide for decision-making. It is important to remember these projections will not be the same as any individual farm business due to differences in management levels, soils, weather, prices received, prices paid, fertilization and cultural practices. The column "YOUR FARM" was exclusively designed for inclusion of data based on farm records to reflect current conditions.

YIELDS

Corn, cotton, and peanuts have multiple yield level budgets. The lower yield level budgets represent State averages under normal weather and management conditions and the higher yield represents a reasonably attainable yield with better soils, good management, or both.

PRICES

			2009
			S.C.
	Corn		Cash
Crop	Equivalents	Unit	Price Used
	(CEQ)		in Budget
Soybeans		(Bushels)	\$9.90
Wheat		(Bushels)	\$6.50
Cotton		(Pounds)	\$0.63
Cotton Seed		(Ton)	\$180.00
Corn	1	(Bushels)	\$4.00
Barley	0.78	(Bushels)	\$4.60
Oats	0.57	(Bushels)	\$3.50

Prices received for the various crops are estimates made a year in advance based on Clemson outlook projections and projected government program payments as applied to South Carolina. The prices used in the enterprise budgets are displayed as follow:

PRODUCTION COSTS

The estimates associated with producing each agronomic crop enterprise are explained in three different sections: fixed and variable costs, and other costs. An explanation of each category is shown as follow:

1. **Variable Costs:** they are incurred only if production takes place for that analyzed enterprise. Most of the costs involved in this section are dependent on yield level and the size of the farm operation.

a) *Seed:* seeding rates are established by South Carolina crop production specialist recommendations. A technology fee is included.

b) *Fertilizer and Lime:* fertilizer rates are estimated from Clemson Extension average soil test recommendations by crop specialists and do not imply improving current fertility levels. Fertilizer costs are calculated from individual components: Ammonium Nitrate (33.5%), Muriate of Potash (60%), and Super Phosphate (45%). 30% Nitrogen Solution is used for required liquid nitrogen applications. Lime applications range from one application per year (quantity is 1) to one application every three years (quantity is .33).

c) *Chemicals:* herbicides, insecticides, fungicides, fumigants, nematicides, sucker controllers, growth regulators, defoliant, and surfactants are based on recommendations of extension specialists. Chemical input levels generally agree with Clemson University recommendations as published in the 2008 South Carolina Agricultural Chemicals Handbook. The quantities and costs of each chemical are shown in the table “Chemical Use Assumptions”. The total number and months of applications are also presented within this table. For example, the expression “2X JUN/JUL” refers to two applications, one in June and one in July. The costs were obtained by surveying major chemical distributors in the state in December 2008 and an average of the prices surveyed was calculated. These distributors did not consent for Clemson Extension to advertise their prices and they should not be published in any specialized media.

d) *Hauling:* for hauling grains and soybeans, the average rate per bushel was obtained from Custom Farm Machinery Rates 2008.

e) *Tractor & Machinery:* machinery prices were obtained through a survey conducted in November 2008 with major agricultural equipment dealers across the state. An average price was calculated using the higher price and lower price surveyed with the discounts. Discounts, ranging from 5% to 10%, on the prices surveyed were used for estimating the cost of new pieces of equipment. Equipment variable costs consist of repair, fuel, and lubricant costs. These costs refer to the use of the equipment for planting and harvesting seasons, and also the maintenance. Each farmer has different tillage practices. So, these costs may also vary. A producer should not assume his machinery cost estimates are the same as those shown in this publication. He should estimate his own costs, using our costs as a basis from which to work. The formulas used for obtaining the costs are shown as follows:

REPAIR COST:

$$\text{Percent Life (PF)} = \frac{\text{Years of Life} * \text{Hours of Annual Use}}{\text{Total Hours Life}}$$
$$\text{Total Accumulated (TA)} = [(\text{Average Price} * \text{RC1}) * (\text{PF})^{\text{RC3}}]$$
$$\text{Cost Per Hour} = \text{TA} / (\text{Years of Life} * \text{Hours of Annual Use})$$

FUEL COST:

Self-Propelled Tractors

$$\text{Cost Per Hour} = \text{Horsepower (HP)} * \text{Fuel Consumption Multiplier} * \text{Price Per Gallon of Fuel}$$

Other Self-Propelled Items

$$\text{Cost Per Hour} = (\text{Average Price} / 1000) * \text{Fuel Consumption Multiplier} * \text{Price Per Gallon of Fuel}$$

LUBRICANT COST:

$$\text{Cost Per Hour} = \text{Fuel Cost per Hour} * \text{Lubrication Cost Percentage}$$

The formulas and standards (ratios RC1 and RC2, years of life, hours of annual use, total hours of life, and fuel consumption multiplier) were taken from the 1998 ASAE STANDARDS book. Costs for equipment not included in the ASAE standards were developed by Clemson agricultural engineers. This approach may cause differences in some of the parameters and the variable costs might not be exactly the same. These parameters will be revised from time to time and when new equipment is listed in the ASAE STANDARDS book. The fuel consumption multipliers and fuel prices are listed below:

	PRICE	MULTIPLIER
DIESEL	\$2.60	0.048
GAS	\$2.00	0.068
LP	\$2.40	0.080

Lubrication costs account for 15% of fuel cost per hour. Two other formulas are needed to calculate: machinery hours used per acre and number of hours used. Hours used per acre are not only used for calculating variable costs but also fixed costs. Total variable cost is the result of multiplying Total Variable Cost Per Hour (repair + fuel + lubricant) times Number of Hours Used. The parameters and the formulas are listed below:

HOURS PER ACRE

Speed = miles per hour

Width = number of feet covered by the implement

Field Efficiency = ratio of the actual capacity of a machine to its theoretical capacity

Times Over = number of times to perform a full operation per acre

Hours per Acre (HA) = 1.0 / ((Speed * Width * Field Efficiency) / 8.25)

Number of Hours Used (NHU) = Hours Per Acre * Times Over

f) *Labor*: labor is treated as a variable cost. It is assumed that most farm operations in South Carolina do not hire permanent labor for the entire year. It is also assumed that all estimated labor is hired or the family has an opportunity cost equivalent to hired labor. Since commodity budgets are designed to help farmers evaluate alternative crops for their farm business, labor should play a role in the farm planning only if an enterprise is selected for production. Two types of labor are calculated: labor for operation (such as machinery operation) and unallocated work (related to travel, maintenance and management). The formulas for both types are described below:

$$\text{Labor Hours Per Acre} = \text{Number of Hours Used (NHU)} * \text{Machinery Labor Multiplier}$$

$$\text{Unallocated Labor Per Acre} = \text{Labor Hours Per Acre} * \text{Unallocated Labor Hours Multiplier}$$

Machinery Labor Multiplier is 1.1 and Unallocated Labor Hours Multiplier is 1.25 for this publication. The general labor rate used here is \$6.50 per hour.

g) *Interest on Operating Capital*: this interest is calculated on variable costs (seed, fertilizer and lime, chemicals, machinery repairs, fuel and lubricants before selling the crop) for the operation period. It is assumed that all funds required for pre-harvest operations are borrowed through a credit source. The interest rate is assumed to be 9%.

h) *Irrigation, Machinery and Labor*: irrigation costs are developed similar to the tractor and machinery costs (repair + fuel + lubricant) and labor costs. However, they appear as a single cost in the variable cost section. The formulas used are based on UGA Extension Interactive Enterprise Budgets, which can be found at the following Internet address: <http://www.ces.uga.edu/Agriculture/agecon/interactive.htm>. The parameters were based on a low pressure center pivot system (open hole well) with end gun and a diesel-powered pump (60Hp) pumping from an existing well. Time required to apply 1 inch of water is assumed to be 70 hours and 6 inches of water assumed to be needed to cover an acre. Labor is charged \$6 per hour and 0.01 hours should be taken to perform one acre/inch. More information on irrigation systems can be found at the following Internet address: <http://virtual.clemson.edu/groups/irrig>.

2. **Fixed Costs**: those costs are incurred regardless of whether production occurs. Fixed costs include: depreciation, taxes, insurance, and interest on machinery investment and irrigation system. These costs are considered to be "fixed" because they generally remain the same within a production period and do not vary with output.

a) *Tractor & Machinery*: this category falls into the same assumptions as variable costs concerning new prices on equipment, average price, hours used per acre, and number of hours used. Total fixed cost is the result of multiplying Total Fixed Cost Per Hour (depreciation + interest + insurance + tax) times Number of Hours Used. The formulas used for each category are shown below:

DEPRECIATION:

$$\begin{aligned}\text{Salvage Value} &= \text{Average Price} * (\text{RFV1}) * [(\text{RFV2})^{(\text{YEARS OF LIFE})}] \\ \text{Cost Per Hour} &= (\text{Average Price} - \text{Salvage Value}) / \\ &\quad (\text{Hours of Annual Use} * \text{Years of Life})\end{aligned}$$

INTEREST:

$$\text{Cost Per Hour} = ((\text{Average Price} + \text{Salvage Value}) * \text{Interest Rate}) / (2.0 * \text{Hours of Annual Use})$$

INSURANCE:

$$\text{Cost Per Hour} = ((\text{Average Price} + \text{Salvage Value}) * \text{Insurance Rate}) / (2.0 * \text{Hours of Annual Use})$$

TAX:

$$\text{Cost Per Hour} = (\text{Average Price} * \text{Tax Rate}) / \text{Hours of Annual Use}$$

The ratios RFV1 and RFV2, years of life, and hours of annual use are found in the 1998 ASAE STANDARDS book. The rates used on this publication are: 9 percent for interest and \$6 for insurance. For the purpose of this budget, property taxes are considered to be zero. Net returns to risk and management must be adjusted to reflect personal property taxes.

b) *Irrigation*: the fixed portion of an irrigation system is associated with depreciation, interest, insurance and taxes on the irrigation equipment. The formulas used are based on UGA Extension Interactive Enterprise Budgets, which can be reached at the following Internet address: <http://www.ces.uga.edu/Agriculture/agecon/interactive.htm>. A 9 percent interest rate, 100 acres, and 1,050 foot long pivot were used as the parameters for the estimation. Prices were obtained from major dealers in the state, and discounts of 10% on the prices surveyed were used for estimating costs. At the end of this section the variable and fixed cost calculations are shown.

3. Other Costs

a) *Land Rent*: the land rent is an estimate of the cost of using the land resource; it is similar to a rent charge for the use of the land. This cost is allocated for all enterprise budgets to reflect the scarcity of land in the state of South Carolina. If an individual enterprise were to be produced at a competitive level, this cost of production would be incurred as an alternative to make that enterprise more profitable. The cost of renting one acre of cropland for most enterprises is assumed to average \$25, except for tobacco, \$50 and Peanuts, \$40 and \$50 (irrigated).

b) *General Overhead*: a general farm overhead cost of 9 percent of total variable costs is included. These are "catch-all" costs including telephone, utilities and contingencies.

CENTER PIVOT IRRIGATION (OPEN HOLE WELL)						
ACRES IN SYSTEM:	100	INTEREST RATE:		9.0%		
	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.	
SPRINKLER SYSTEM	29873	20	1494	1344	373	
GENERATOR	11237	12	936	506	140	
WELL	32963	20	1648	1483	412	
PUMP & GEARHEAD	15967	12	1331	718	200	
LAND CLEARING	0	20	0	0	0	
TOTAL INVESTMENT	90040		5409	4052	1125	
TOTAL ANNUAL FIXED COSTS					10586	
TOTAL ANNUAL FIXED COSTS PER ACRE					105.86	
OPERATING COSTS						
ENGINE HORSEPOWER		60				
FUEL PER GAL (DIESEL)		2.80				
FUEL COST PER HR.		11.20				
HOURS PER CIRCLE		70.00				
FUEL COSTS PER ACRE IN.					7.84	
OIL COSTS PER ACRE IN.					1.18	
REPAIRS PER ACRE IN.					0.90	
LABOR	0.01	HRS. @	6.00		0.06	
TOTAL OPERATING COSTS PER ACRE INCH					9.98	
NUMBER OF INCHES PER ACRE	6				TOTAL OPERATING COSTS PER ACRE	
					59.86	
*low pressure pivot						
*diesel generator						
* 615 gpm flow rate						

RETURNS

At this point, the budgets should provide the final result of expenses and costs. When a negative result is shown either on Income Above Variable Costs or on Net Returns to Risk and Management, it does not mean that the analyzed enterprise is not profitable. The returns obtained in the budgets are directly related to the selected resources allocated for that particular enterprise. Allocation of resources will vary among location, size of operation, adoption of technology, financial condition, and enterprises. For that reason, each farm operation should focus on the best combination that applies to its current situation and a negative result may not be applied to it.

a) *Income Above Variable Costs (IAVC)*: the total variable costs are subtracted from the gross receipts. This figure indicates the income above operating cost and is normally used to determine the number of acres of each crop to plant.

b) *Net Returns to Risk and Management*: this is the normal stopping point in the construction of these budgets. Purchased inputs and owned resources have paid their share. This figure is sometimes referred to as profit; however, it is more correct to call it a return above all resource costs except management. If the figure is positive, the producer is rewarded for his management efforts and risk taken. This is the figure that should be used to compare alternatives. It is displayed below the returns of each enterprise:

COSTS AND RETURNS PER ACRE FOR SOUTH CAROLINA AGRONOMIC CROP ENTERPRISES 2009/2010						
#	ENTERPRISE	TOTAL	VARIABLE		TOTAL	NET
		RETURNS	COSTS	IAVC	COSTS	RETURN
1	BARLEY FOR GRAIN - 52 BUSHELS	\$368.00	\$345.91	\$22.09	\$461.99	-\$93.99
2	CORN FOR GRAIN - CONVENTIONAL TILLAGE - 120 BUSHELS	\$480.00	\$490.13	-\$10.13	\$613.87	-\$133.87
3	CORN FOR GRAIN - CONSERVATION TILLAGE - 120 BUSHELS	\$480.00	\$473.06	\$6.94	\$584.51	-\$104.51
4	CORN FOR GRAIN - CONSERVATION TILLAGE (ROUNDUP READY) - 120 BUSHELS	\$480.00	\$485.55	-\$5.55	\$596.80	-\$116.80
5	CORN FOR GRAIN - IRRIGATED - 160 BUSHELS	\$640.00	\$635.19	\$4.81	\$865.90	-\$225.90
6	CORN FOR GRAIN - IRRIGATED - CONSERVATION TILLAGE (ROUNDUP READY) - 160 BUSHELS	\$640.00	\$641.16	-\$1.16	\$865.78	-\$225.78
7	OATS FOR GRAIN - 80 BUSHELS	\$280.00	\$358.20	-\$78.20	\$475.39	-\$195.39
8	PEANUTS - 3000 LBS	\$750.00	\$628.22	\$121.78	\$845.45	-\$95.45
9	PEANUTS - 3000 LBS - STRIP TILL	\$750.00	\$624.66	\$125.34	\$834.18	-\$84.18
10	PEANUTS - 4000 LBS - IRRIGATED	\$1,000.00	\$742.17	\$257.83	\$1,088.52	-\$88.52
11	PEANUTS - 4000 LBS - STRIP TILL - IRRIGATED	\$1,000.00	\$738.61	\$261.39	\$1,077.24	-\$77.24
12	SOYBEANS - FULL SEASON, CONVENTIONAL TILLAGE, 30" ROWS - 35 BUSHELS	\$346.50	\$312.50	\$34.00	\$429.48	-\$82.98
13	SOYBEANS - FULL SEASON, CONSERVATION TILLAGE, 7-10" ROWS - 35 BUSHELS	\$346.50	\$317.29	\$29.21	\$429.34	-\$82.84
14	SOYBEANS - FULL SEASON, CONVENTIONAL TILLAGE (ROUND-UP READY), 30" ROWS - 35 BUSHELS	\$346.50	\$330.11	\$16.39	\$446.69	-\$100.19
15	SOYBEANS - FULL SEASON, CONSERVATION TILLAGE (ROUND-UP READY), 7-10" ROWS - 35 BUSHELS	\$346.50	\$335.04	\$11.46	\$448.68	-\$102.18
16	SOYBEANS - FOLLOWING WHEAT, CONSERVATION TILLAGE, 7-10" ROWS - 35 & 65 BUSHELS	\$719.50	\$553.44	\$166.06	\$728.29	-\$8.79
17	SOYBEANS - FOLLOWING WHEAT, CONSERVATION TILLAGE (ROUND-UP READY), 7-10" ROWS - 35 & 65 BUSHELS	\$719.50	\$600.13	\$119.37	\$784.79	-\$65.29
18	TOBACCO - MULTI-PASS, HAND HARVEST, BULK BARN - 2200 LBS (CONTRACT)	\$4,296.00	\$3,654.71	\$641.29	\$4,694.80	-\$398.80
19	TOBACCO - MULTI-PASS, MACHINE HARVEST, BULK BARN - 2200 LBS (CONTRACT)	\$4,296.00	\$3,409.72	\$886.28	\$4,599.52	-\$303.52
20	WHEAT FOR GRAIN - 65 BUSHELS	\$422.50	\$384.47	\$38.03	\$504.02	-\$81.52
21	WHEAT FOR GRAIN - CONSERVATION TILLAGE - 65 BUSHELS	\$422.50	\$391.26	\$31.24	\$513.84	-\$91.34
22	COTTON - CONVENTIONAL TILLAGE, IRRIGATED - 1000 LBS	\$780.30	\$737.56	\$42.74	\$1,026.38	-\$246.08
23	COTTON - CONVENTIONAL TILLAGE - 750 LBS	\$585.27	\$617.79	-\$32.52	\$790.17	-\$204.90
24	COTTON - ROUND-UP READY - 750 LBS	\$625.15	\$664.38	-\$39.23	\$840.45	-\$215.30
25	BT COTTON - 750 LBS	\$585.27	\$696.50	-\$111.23	\$875.72	-\$290.45
26	COTTON - STACKED (ROUND-UP READY AND BT) - 750 LBS	\$585.27	\$656.54	-\$71.27	\$831.91	-\$246.64
27	COTTON - CONSERVATION TILLAGE - 750 LBS	\$585.27	\$614.37	-\$29.10	\$775.68	-\$190.41
28	COTTON - STRIP-TILL - 750 LBS	\$585.27	\$620.36	-\$35.09	\$787.58	-\$202.31
29	COTTON - STACKED (ROUND-UP READY AND BT)- CONSERVATION TILLAGE - 750 LBS	\$625.15	\$651.69	-\$26.54	\$816.36	-\$191.21
30	COTTON - STACKED (ROUND-UP READY AND BT) - STRIP-TILL - 750 LBS	\$585.27	\$657.68	-\$72.41	\$828.26	-\$242.99

c) *Cost Per Unit of Production*: breakeven prices and breakeven yields are shown on all budgets where they are possible. This table will help analyze the responsiveness of yields and prices using IAVC (Total Variable Costs) and Net Returns (Total Costs) as comparative units. Breakeven price is cost/yield. Breakeven yield is cost/unit price.

d) *Net Returns Above Variable Costs at Different Yields and Prices*: this table at the second page allows the producer to gain a better understanding about potential returns when prices and yields are adjusted higher and lower than the assumed figures. This information will help the producer to evaluate the risk involved in producing each crop.

SELF-PROPELLED AND DRAWN IMPLEMENTS GENERAL SPECIFICATIONS

MACHINE	ESTIMATED COST	TVG/ HOUR	TFC/ HOUR	TC/ HOUR	HRS/ AC	----- EXCLUDING TRACTOR -----				----- INCLUDING TRACTOR -----		
						TVG/ AC	TFC/ AC	TC/ AC	TVG/ AC	TFC/ AC	TC/ AC	
SELF-PROPELLED ITEMS												
1.0 COMBINE	117869.20	38.29	71.78	110.07	0.33	-	-	-	-	12.64	23.69	36.33
2.0 COMBINE LARGE	154608.62	50.22	94.16	144.38	0.25	-	-	-	-	12.56	23.54	36.10
3.0 COMBINE LARGE W/ HEADER	178600.14	58.01	108.77	166.78	0.25	-	-	-	-	14.50	27.19	41.69
4.0 COMBINE W/ HEADER	138134.47	44.87	84.12	128.99	0.33	-	-	-	-	14.81	27.76	42.57
5.0 COTTON PICKER 2-ROW	129319.10	63.95	123.23	189.25	0.26	-	-	-	-	43.22	49.99	74.21
6.0 COTTON PICKER 4-ROW	209317.02	102.70	106.48	209.18	0.38	-	-	-	-	39.03	40.46	79.49
6.1 COTTON FINGER STRIPPER 4-ROW	122981.31	60.34	62.56	122.90	0.23	-	-	-	-	13.88	14.39	28.27
7.0 HIBOY	75061.40	33.20	63.27	96.47	0.06	-	-	-	-	1.99	3.80	5.79
9.0 TOBACCO COMBINE 1-ROW	61712.90	18.36	36.72	55.02	1.56	-	-	-	-	26.55	60.40	86.95
9.0 TOBACCO COMBINE 2-ROW	84153.96	24.95	52.81	77.76	1.04	-	-	-	-	25.95	54.92	80.87
10.0 TRACTOR 50.60 HP (1)	21229.32	8.78	5.63	14.41	-	-	-	-	-	-	-	-
11.0 TRACTOR 70.80 HP (2)	27419.82	12.39	7.27	19.66	-	-	-	-	-	-	-	-
12.0 TRACTOR 95.105 HP (3)	47993.04	17.52	10.61	28.13	-	-	-	-	-	-	-	-
13.0 TRACTOR 115.125 HP (4)	59161.76	21.13	13.08	34.21	-	-	-	-	-	-	-	-
14.0 TRACTOR 135.145 HP (5)	69099.68	24.65	15.28	39.93	-	-	-	-	-	-	-	-
15.0 TRACTOR 155.165 HP (6)	81230.99	28.32	17.96	46.28	-	-	-	-	-	-	-	-
16.0 TRACTOR 175.185 HP (7)	102845.70	35.62	21.74	53.46	-	-	-	-	-	-	-	-
17.0 TRACTOR 195.205 HP (8)	114612.56	36.27	25.34	61.61	-	-	-	-	-	-	-	-
17.1 VEGETABLE PICKER 4-ROW	157087.39	51.03	95.67	146.70	0.25	-	-	-	-	12.76	23.92	36.68
17.2 VEGETABLE PICKER 1-ROW	26929.27	10.60	15.20	25.80	0.79	-	-	-	-	8.37	12.01	20.38
DRAWN IMPLEMENTS												
18.0 4-BOTTOM FLIP PLOW	5354.51	4.23	3.39	7.62	0.25	1.06	0.85	1.91	4.16	2.67	6.83	
19.0 5-BOTTOM PLOW	8471.43	6.69	5.36	12.05	0.20	1.34	1.07	2.41	4.84	3.19	8.03	
20.0 BALE WAGON	5421.45	2.11	4.93	7.04	0.17	0.35	0.84	1.20	1.55	1.80	3.55	
21.0 CHISEL PLOW 12'	6193.95	1.04	6.53	7.57	0.20	0.21	1.31	1.52	3.71	3.43	7.14	
22.0 CHISEL PLOW 14'	7221.36	1.21	7.61	8.82	0.17	0.21	1.29	1.50	3.18	3.10	6.28	
23.0 CHISEL PLOW 18'	11053.38	1.85	11.65	13.50	0.12	0.22	1.40	1.62	2.76	2.97	5.73	
24.0 COTTON GIN	5909.49	0.11	4.14	8.58	0.04	0.04	0.06	0.04	0.06	0.04	0.04	
25.0 CULTIPACKER	2521.72	0.34	4.11	4.45	0.20	0.07	0.82	0.89	2.55	2.28	4.83	
26.0 CULTIVATOR 1-ROW	1008.40	0.22	1.40	1.62	1.18	0.26	1.65	1.91	10.22	8.30	18.92	
27.0 CULTIVATOR 2-ROW	2165.60	0.46	3.01	3.47	0.56	0.26	1.69	1.98	5.17	4.84	10.01	
28.0 CULTIVATOR 4-ROW	3659.61	0.97	4.13	4.40	0.23	0.23	0.95	1.17	2.62	2.62	5.89	
29.0 CULTIVATOR 6-ROW	4869.11	1.55	4.40	5.95	0.17	0.26	0.75	1.01	2.37	1.98	4.35	
30.0 CULTIVATOR W/ HERB 3INSECT 6-ROW	6105.38	1.75	8.47	10.22	0.17	0.30	1.44	1.74	2.40	2.68	5.08	
31.0 CULTIVATOR W/ HERBICIDE 6-ROW	5549.82	1.59	7.70	9.29	0.17	0.27	1.31	1.59	2.38	2.54	4.92	
32.0 CULTIVATOR W/ INSECTICIDE 6-ROW	5549.82	1.59	7.70	9.29	0.17	0.27	1.31	1.59	2.38	2.54	4.92	
33.0 CULTIVATOR W/ SPRAYER 6-ROW	5549.82	1.59	7.70	9.29	0.17	0.27	1.31	1.59	2.38	2.54	4.92	
34.0 DIGGER INVERTER 2-ROW	8965.61	5.39	9.60	14.99	0.92	4.96	8.83	13.79	21.08	18.59	39.67	
34.1 DIGGER INVERTER 4-ROW	16870.58	10.07	18.39	30.86	0.34	4.44	8.32	12.82	23.22	13.11	29.93	
35.0 DISK W/ SPRAYER 16'	13773.27	2.30	14.51	16.81	0.15	0.35	2.18	2.53	2.97	3.77	6.74	
36.0 DISK W/ SPRAYER 21'	16933.02	2.83	17.84	20.67	0.12	0.34	2.14	2.48	2.88	3.71	6.59	
37.0 FERTILIZER SPREADER	11561.76	6.63	32.21	38.84	0.12	0.80	3.87	4.67	1.85	4.54	6.39	
38.0 FUMIGANT APPLICATOR	1655.03	1.11	6.23	6.13	0.45	0.21	2.70	2.15	5.15	4.54	9.40	
39.0 GRAIN DRILL 16'	11616.14	6.16	18.80	24.96	0.13	0.80	2.44	3.24	3.08	3.82	6.90	
40.0 GRAIN DRILL 8'	6409.20	3.40	10.37	13.77	0.29	0.99	3.01	4.00	4.58	5.12	9.70	
41.0 GRAIN DRILL 13' W/ CULTIPACKER	9428.10	5.00	15.26	20.26	0.16	0.80	2.44	3.24	3.60	4.14	7.74	
42.0 GRAIN DRILL 13' W/ FERTILIZER	9344.71	4.96	15.12	20.08	0.16	0.79	2.42	3.21	3.17	4.51	8.68	
43.0 GRANULAR APPLICATOR	3831.71	0.82	5.32	6.14	0.56	0.46	2.98	3.44	5.38	6.13	11.51	
44.0 HEAVY DISK 13'	11536.66	1.93	12.16	14.09	0.17	0.33	2.07	2.40	4.52	4.66	9.18	
45.0 HEAVY DISK 14'	12896.36	2.16	13.59	15.75	0.15	0.32	2.04	2.36	4.02	4.33	8.35	
46.0 HEAVY DISK 16'	15700.78	2.63	16.54	19.17	0.12	0.32	1.98	2.30	3.71	3.84	7.55	
47.0 HERBICIDE APPLICATOR 12'	2131.90	1.25	3.70	4.95	0.15	0.19	0.56	0.75	2.05	1.65	3.70	
48.0 HERBICIDE APPLICATOR 16'	3057.59	1.97	4.72	6.69	0.11	0.22	0.52	0.74	1.58	1.32	2.90	
49.0 LIGHT DISKING W/ HERBICIDE	9879.67	4.92	12.49	17.41	0.15	0.74	1.87	2.61	3.37	3.47	6.84	
50.0 LISTER	1492.33	0.59	4.14	4.53	0.59	0.23	2.44	2.67	3.64	3.17	6.81	
51.0 MOWER-CONDITIONER	17015.80	6.91	23.72	30.63	0.36	2.49	8.54	11.03	5.65	10.57	16.22	
52.0 MULCH BEDDER-LAYER	5610.26	9.11	15.57	24.68	0.52	4.74	8.10	12.84	9.30	11.02	20.32	
53.0 MULCH LAYER	4538.70	7.37	12.60	19.97	0.52	3.83	6.55	10.38	8.40	9.48	17.88	
54.0 NO-TILL DRILL 12'	14140.76	10.29	17.15	27.45	0.21	2.16	3.60	5.76	5.84	6.83	13.67	
55.0 NO-TILL DRILL 16'	20969.54	11.13	33.94	45.07	0.14	1.58	4.75	6.31	4.52	6.58	11.10	
56.0 NURSE TANK ON PICK-UP	2094.20	0.84	4.73	5.57	0.17	0.14	0.80	0.94	1.64	1.76	3.40	
57.0 PEANUT COMBINE 2-ROW	29301.29	8.88	40.67	49.55	1.10	9.77	44.74	54.51	29.04	56.41	85.45	
57.1 PEANUT COMBINE 4-ROW	63116.27	16.93	106.17	130.74	0.52	12.13	48.22	59.52	37.32	74.01	109.37	
58.0 PEANUT PLANTER	11831.49	4.96	19.95	24.91	0.21	1.04	4.19	5.23	4.72	6.42	11.14	
59.0 PRECISION PLANTER 4-ROW	10902.88	3.21	13.79	17.00	0.20	0.64	2.76	3.40	4.15	4.88	9.03	
60.0 PLANTER 1-ROW	1162.34	0.20	2.15	2.35	1.65	0.33	3.55	3.88	14.82	12.84	27.66	
61.0 PLANTER 2-ROW	2170.15	0.42	4.02	4.32	0.89	0.38	3.88	4.34	8.33	8.93	18.27	
62.0 PLANTER 4-ROW	10607.74	3.12	13.41	16.53	0.20	0.62	2.68	3.30	4.13	4.80	8.93	
63.0 PLANTER 6-ROW	14904.66	4.39	18.85	23.24	0.15	0.66	2.83	3.49	3.83	4.79	8.62	
64.0 PLANTER 8-ROW	21747.53	6.40	27.50	33.90	0.09	0.58	2.48	3.06	2.79	3.85	6.64	
65.0 PLANTER NO-TILL 4-ROW	19561.33	6.75	17.15	23.90	0.17	1.15	2.92	4.07	6.34	5.81	10.85	
66.0 PLANTER NO-TILL 6-ROW	16746.83	8.34	21.17	29.51	0.14	1.17	2.96	4.13	5.13	5.48	10.61	
67.0 PLANTER NO-TILL 8-ROW	26519.36	13.21	33.53	46.74	0.08	1.06	2.68	3.74	3.67	4.50	8.17	
68.0 PLANTER NO-TILL W/ SPRAYER 4-ROW	14687.13	7.29	18.52	25.81	0.20	1.39	3.70	5.16	6.39	6.76	13.15	
69.0 PLANTER NO-TILL W/ SPRAYER 4-ROW	14647.13	7.29	18.52	25.81	0.20	1.46	3.70	5.16	6.39	6.76	13.15	
70.0 PLANTER W/ FERTILIZER 6-ROW	16851.30	4.96	21.31	26.27	0.17	0.84	3.62	4.46	4.44	5.85	10.29	
71.0 PLANTER W/ HERBICIDE 6-ROW	16851.30	4.96	21.31	26.27	0.17	0.84	3.62	4.46	4.44	5.85	10.29	
72.0 PLANTER W/ SPRAYER 4-ROW	11700.13	4.61	14.79	18.43	0.17	0.64	3.25	4.61	14.78	15.98	20.20	
73.0 PLANTER W/ SPRAYER 6-ROW	16851.30	4.96	21.31	26.27	0.17	0.84	3.62	4.46	4.44	5.85	10.29	
74.0 POTATO DIGGER (SWEET)	11988.01	0.95	18.68	19.61	0.79	0.75	14.74	15.49	10.54	20.48	31.02	
75.0 POTATO HARVESTER	55645.96	13.91	31.41	45.32	0.79	10.99	24.81	35.80	27.68	35.15	62.83	
76.0 POTATO PLANTER	22238.56	10.22	22.53	31.00	0.27	3.84	8.57	8.57	7.40	15.97		
77.0 POTATO PLANTER (SWEET)	7312.42	1.42	15.17	16.59	0.39	0.55	5.92	6.47	5.39	8.75	14.14	
78.0 PRIME AID BULK BARN	19074.90	11.89	19.68	31.57	0.69	8.20	13.58	21.78	14.26	17.46	31.72	
79.0 PTO AIR BALD SPRAYER (500)	20198.07	17.17	28.04	45.21	0.20	3.43	5.61	9.04	6.94	7.73	14.67	
80.0 PTO BALER	14850.79	4.73	22.53	27.26	0.38	1.80	8.56	10.36	8.56	12.59	21.05	
81.0 ROUND BALER	12202.85	4.21	15.30	19.51	0.38	1.60	5.81	7.41	8.26	9.85	18.11	
82.0 SMALL BALER	8090.42	2.61	12.44									