

VEGETABLE ENTERPRISE BUDGETS FOR SOUTH CAROLINA- 2008/2009

Department of Applied Economics and Statistics

Developed by:

Wilder N. Ferreira
Extension Associate – Budget Specialist

Extension Specialists

Richard L. Hassel Assistant Professor - Horticulture	J. Powell Smith Extension Entomologist
Anthony Melton County Extension Agent - Florence	Gilbert A. Miller Area Vegetable Specialist
W. Bryan Smith Area Extension Agent	

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TABLE OF CONTENTS

Introduction.....	03
Machinery Costs.....	11
Bell Peppers - On Plastic - Drip Irrigation.....	12
Cabbage Fall- Irrigated.....	14
Cabbage Spring - Irrigated.....	16
Cantaloupes - On Plastic - Drip Irrigation.....	18
Collards - Irrigated (Hand Harvest).....	20
Cucumber Fall - For Fresh Market - Irrigated.....	22
Cucumber Spring - For Fresh Market - Irrigated.....	24
Cucumbers For Pickles Fall- Irrigated.....	26
Cucumbers For Pickles Spring - Irrigated.....	28
Green Onions - Fresh Market- Irrigated.....	30
Greens - Spring (Hand Harvest) - Irrigated.....	32
Lima Beans - For Fresh Market (Contract Harvest) - Irrigated.....	34
Okra - For Fresh Market (Contract Harvest) - Irrigated.....	36
Snap Beans - For Fresh Market (Contract Harvest) - Irrigated.....	38
Southern Peas - For Fresh Market (Contract Harvest) - Irrigated.....	40
Sweet Corn - For Fresh Market - Irrigated.....	42
Sweet Corn - For Local or RoadSide Market - Irrigated.....	44
Sweet Potatoes - For Fresh Market - Irrigated.....	46
Tomatoes - On Plastic - Drip Irrigation.....	48
Watermelons - On Plastic - Drip Irrigation.....	50
Yellow Squash - For Fresh Market - Irrigated.....	52

VEGETABLE CROP ENTERPRISE BUDGETS FOR SOUTH CAROLINA

Clemson's vegetable 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 2008/2009 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 your farm's records.

YIELDS

Yield levels represent State averages under normal weather and management conditions and are expressed in marketable units on a per acre basis.

PRICES

Price and Yield Assumptions for the 2008/2009 Clemson Vegetable Enterprise Budgets		
ENTEPRISE	YIELD	PRICE
BELL PEPPERS	1500 CRTN	\$10.00
CABBAGE	600 BOX	\$6.00
CANTALOUPE	250 CWT	\$16.00
COLLARDS	600 BOX	\$7.50
CUCUMBER	285 CONT	\$11.02
CUCUMBERS FOR PICKELS	175 CWT	\$12.99
GREEN ONIONS	1100 BOX	\$10.00
GREENS - SPRING	400 BOX	\$7.00
LIMA BEANS	120 BU.	\$18.00
OKRA	720 1/2 BU.	\$14.50
SNAP BEANS	200 BU.	\$12.00
SOUTHERN PEAS	150 BU.	\$13.00
SWEET CORN - FOR FRESH MARKET	225 BOX	\$8.00
SWEET CORN - FOR LOCAL OR ROADSIDE MARKET	1000 DOZEN	\$2.25
SWEET POTATOES	530 CONT	\$10.98
TOMATOES	1500 BOX	\$12.00
WATERMELONS	350 CWT	\$7.00
YELLOW SQUASH	250 CONT	\$11.60

Prices received for the various enterprises are estimates made a year in advance - and reviewed at the budget preparation period - based on Clemson outlook. The prices used in the enterprise budgets are as follow:

PRODUCTION COSTS

The production cost estimates associated with each vegetable 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 Extension crop production specialist recommendations.

b) *Fertilizer and Lime:* fertilizer rates are estimated from average soil test recommendations by extension vegetable crop specialists and do not imply improving current fertility levels. Fertilizer costs are calculated from combined individual components in a single unit: Nitrogen (N) – Phosphorus (P) – Potassium (K). 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 and adjuvant are based on recommendations of extension specialists. Chemical input levels generally agree with Clemson University recommendations as published in the 2007 Vegetable Crop Guidelines for the Southeastern US, which can be found at the following Internet address: <http://www.clemson.edu/scg/ipm/veggies.html>. The quantities and costs of each chemical are shown in the table “Chemical Use Assumptions”. The costs were obtained by surveying major chemical distributors in the state and calculating an average of the prices reported.

d) *Harvesting:* harvesting and hauling labors are combined in this category. The figures were derived from extension specialist estimates.

e) *Tractor & Machinery:* machinery prices were obtained through a survey conducted in October 2008 with major agricultural equipment dealers across the state. An average price was calculated using the higher price and lower price of reported equipment prices. Equipment variable costs consist of repair, fuel, and lubricant costs. These costs refer to the use of the equipment for planting and harvesting, and associated 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 or she should estimate his own costs. 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	\$2.40	0.068
LP	\$2.00	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

$$\text{Hours per Acre (HA)} = 1.0 / ((\text{Speed} * \text{Width} * \text{Field Efficiency}) / 8.25)$$

$$\text{Number of Hours Used (NHU)} = \text{Hours Per Acre} * \text{Times Over}$$

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 based on repair, energy, and labor costs. However, they appear as a single cost in the variable cost section. The energy cost was calculated by using the rate per KWH of \$0.08. 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>. Three different irrigation systems were designed for accommodating the entire group of enterprises:

- The first system designed was a 10 acre drip irrigation system with the following parameters: well water source, buried PVC pipelines and submains, 6 foot row spacing on center with a drive row every 6 rows, 62,228 feet of drip tape, 8 mil thick, 0.38 gpm/100 feet flow rate, and electric pump. Motor size and number of hours irrigated per week varied based on inches of water applied per week for each crop.
- The second system was a 10 acre cable tow system based on the following parameters: well water source, buried PVC pipe mainlines with hydrant risers, 105 gpm system flow rate, 63 psi pump pressure, 60 feet depth to water in well, and electric pump (10HP motor size). Time required to apply 1 inch of water is assumed to be 43 hours. Labor is charged \$6 per hour. Number of hours irrigated per week and labor hours to perform an irrigated acre will depend on how many inches of water are required per crop.
- The third system was a 30 acre hard hose system designed with the following parameters: well water source, buried PVC pipe mainlines with hydrant risers, 255 gpm system flow rate, 125 psi pump pressure, 60 feet depth to water in

well, and electric pump (30HP motor size). Time required to apply 1 inch of water is assumed to be 53 hours. Labor is charged \$6 per hour. Number of hours irrigated per week and labor hours to perform an irrigated acre will depend on how many inches of water are required per crop.

The costs and initial investments necessities for deploying an irrigation system for each crop is displayed below:

IRRIGATION COSTS PER ACRE FOR SOUTH CAROLINA VEGETABLE CROP ENTERPRISES 2006					
	IRRIGATION	TOTAL	TOTAL	FIXED	VARIABLE
ENTEPRISE	SYSTEM	ACRES	INVEST.	COSTS/AC	COSTS/AC
BELL PEPPERS	20" - DRIP IRRIGATION	10	\$8,680.00	\$96.63	\$195.04
FALL CABBAGE	10" - CABLE TOW	10	\$14,131.00	\$141.66	\$74.73
SPRING CABBAGE	8" - CABLE TOW	10	\$14,131.00	\$141.66	\$63.60
CANTALOUPE	11" - DRIP IRRIGATION	10	\$7,444.00	\$79.58	\$156.50
COLLARDS	10" - CABLE TOW	10	\$14,131.00	\$141.66	\$74.73
FALL CUCUMBER - FOR FRESH MARKET	17" - DRIP IRRIGATION	10	\$7,856.00	\$84.93	\$186.81
SPRING CUCUMBER - FOR FRESH MARKET	17" - DRIP IRRIGATION	10	\$7,856.00	\$84.93	\$186.81
GREEN ONIONS - FRESH MARKET	12" - CABLE TOW	10	\$14,131.00	\$141.66	\$85.86
GREENS - SPRING (HAND HARVEST)	8" - CABLE TOW	10	\$14,131.00	\$141.66	\$63.60
LIMA BEANS - FOR FRESH MARKET	6" - HARD HOSE	30	\$24,604.00	\$84.71	\$42.28
OKRA - FOR FRESH MARKET	12" - HARD HOSE	30	\$24,604.00	\$84.71	\$68.46
FALL CUCUMBERS FOR PICKELS	17" - DRIP IRRIGATION	10	\$7,856.00	\$84.93	\$186.81
SPRING CUCUMBERS FOR PICKELS	17" - DRIP IRRIGATION	10	\$7,856.00	\$84.93	\$186.81
SNAP BEANS - FOR FRESH MARKET	6" - HARD HOSE	30	\$24,604.00	\$84.71	\$42.28
SOUTHERN PEAS - FOR FRESH MARKET					
SWEET CORN - FOR FRESH MARKET	6" - HARD HOSE	30	\$24,604.00	\$84.71	\$42.28
SWEET CORN - FOR LOCAL OR ROADSIDE MARKET	6" - HARD HOSE	30	\$24,604.00	\$84.71	\$42.28
SWEET POTATOES - FOR FRESH MARKET	6" - HARD HOSE	30	\$24,604.00	\$84.71	\$42.28
TOMATOES - ON PLASTIC	17" - DRIP IRRIGATION	10	\$7,856.00	\$84.93	\$186.81
WATERMELONS - ON PLASTIC	11" - DRIP IRRIGATION	10	\$7,444.00	\$79.58	\$156.50
YELLOW SQUASH - FOR FRESH MARKET	16" - DRIP IRRIGATION	10	\$7,650.00	\$82.25	\$171.55

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 1998 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>. An 8 percent interest rate was used along with a variety of acreages and systems. The systems which had fixed costs estimated were:

- Drip irrigation (11", 16", 17", and 20" of water applied)
- Cable tow (8", 10", and 12" of water applied)
- Hard hose (6" and 12" of water applied)

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.

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.

RETURNS

At this point, the budgets should provide an estimate of the enterprise results. 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 budget estimates may vary from your estimates because the budget returns 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 VEGETABLE CROP ENTERPRISES 2008/2009					
	TOTAL	VARIABLE		TOTAL	NET
ENTPRISE	RETURNS	COSTS	IAVC	COSTS	RETURN
BELL PEPPERS - ON PLASTIC - DRIP IRRIGATION	\$15,000.00	\$13,322.51	\$1,677.49	\$14,740.40	\$259.60
FALL CABBAGE - IRRIGATED	\$3,600.00	\$3,208.26	\$391.74	\$3,761.17	-\$161.17
SPRING CABBAGE - IRRIGATED	\$5,250.00	\$3,442.69	\$1,807.31	\$4,003.99	\$1,246.01
CANTALOUPES - ON PLASTIC - DRIP IRRIGATION	\$4,000.00	\$3,471.76	\$528.24	\$3,948.55	\$51.45
COLLARDS - IRRIGATED (HAND HARVEST)	\$4,500.00	\$3,213.74	\$1,286.26	\$3,768.64	\$731.36
FALL CUCUMBER - FOR FRESH MARKET - IRRIGATED	\$3,570.00	\$1,969.07	\$1,600.93	\$2,348.97	\$1,221.03
SPRING CUCUMBER - FOR FRESH MARKET - IRRIGATED	\$3,789.00	\$1,887.14	\$1,901.86	\$2,213.85	\$1,575.15
GREEN ONIONS - FRESH MARKET - IRRIGATED	\$11,000.00	\$8,312.96	\$2,687.04	\$9,352.68	\$1,647.32
GREENS - SPRING (HAND HARVEST) - IRRIGATED	\$2,800.00	\$2,160.53	\$639.47	\$2,601.29	\$198.71
LIMA BEANS - FOR FRESH MARKET (CONTRACT HARVEST) - IRRIGATED	\$2,160.00	\$1,267.97	\$892.03	\$1,558.83	\$601.17
OKRA - FOR FRESH MARKET (CONTRACT HARVEST) - IRRIGATED	\$10,440.00	\$7,882.63	\$2,557.37	\$8,757.95	\$1,682.05
FALL CUCUMBERS FOR PICKELS - IRRIGATED	\$2,274.00	\$1,548.64	\$725.36	\$1,890.70	\$383.30
SPRING CUCUMBERS FOR PICKELS - IRRIGATED	\$2,274.00	\$1,406.71	\$867.29	\$1,690.18	\$583.82
SNAP BEANS - FOR FRESH MARKET (CONTRACT HARVEST) - IRRIGATED	\$2,400.00	\$2,005.15	\$394.85	\$2,353.04	\$46.96
SOUTHERN PEAS - FOR FRESH MARKET (CONTRACT HARVEST) - IRRIGATED	\$1,950.00	\$1,209.21	\$740.79	\$1,408.33	\$541.67
SWEET CORN - FOR FRESH MARKET - IRRIGATED	\$1,800.00	\$1,360.15	\$439.85	\$1,687.52	\$112.48
SWEET CORN - FOR LOCAL OR ROADSIDE MARKET - IRRIGATED	\$2,250.00	\$1,979.02	\$270.98	\$2,338.80	-\$88.80
SWEET POTATOES - FOR FRESH MARKET - IRRIGATED	\$5,820.00	\$3,535.26	\$2,284.74	\$4,163.52	\$1,656.48
TOMATOES - ON PLASTIC - DRIP IRRIGATION	\$18,000.00	\$11,596.40	\$6,403.60	\$12,883.51	\$5,116.49
WATERMELONS - ON PLASTIC - DRIP IRRIGATION - SEEDLESS	\$2,450.00	\$2,758.72	-\$308.72	\$3,187.44	-\$737.44
YELLOW SQUASH - FOR FRESH MARKET - IRRIGATED	\$2,900.00	\$2,197.52	\$702.48	\$2,573.65	\$326.35

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														
Back to Menu		Submit						----- EXCLUDING TRACTOR -----				----- INCLUDING TRACTOR -----		
MACHINE		ESTIMATED COST	TVG/ HOUR	TFG/ HOUR	TC/ HOUR	HRS/ AC	TVG/ AC	TFG/ AC	TC/ AC	TVG/ AC	TFG/ AC	TC/ AC		
SELF-PROPELLED ITEMS														
1.0	COMBINE	112793.49	36.64	68.69	105.33	0.33	-	-	-	12.09	22.67	34.76		
2.0	COMBINE LARGE	147950.83	48.06	90.10	138.16	0.25	-	-	-	12.02	22.53	34.55		
3.0	COMBINE LARGE W/ HEADER	170909.22	55.52	104.08	159.60	0.25	-	-	-	13.88	26.02	39.90		
4.0	COMBINE W/ HEADER	132186.10	42.94	80.50	123.44	0.33	-	-	-	14.17	26.57	40.74		
5.0	COTTON PICKER 2-ROW	12372.34	60.72	63.25	123.67	0.16	-	-	-	46.15	47.84	93.99		
6.0	COTTON PICKER 4-ROW	200303.37	98.27	101.89	200.16	0.38	-	-	-	37.34	38.72	76.06		
6.1	COTTON FINGER STRIPPER 4-ROW	117685.46	57.74	59.86	117.60	0.23	-	-	-	13.28	13.77	27.05		
7.0	HIBOY	71829.09	31.77	60.55	92.32	0.06	-	-	-	1.91	3.63	5.54		
8.0	TOBACCO COMBINE 1-ROW	59095.41	11.51	37.72	61.57	1.56	-	-	-	27.32	57.61	85.13		
9.0	TOBACCO COMBINE 2-ROW	80530.10	23.88	50.53	74.41	1.04	-	-	-	24.84	52.55	77.39		
10.0	TRACTOR 50-60 HP (1)	20315.14	8.74	5.39	14.13	-	-	-	-	-	-	-		
11.0	TRACTOR 70-80 HP (2)	26239.06	12.32	6.96	19.28	-	-	-	-	-	-	-		
12.0	TRACTOR 95-105 HP (3)	45428.07	11.98	5.15	27.53	-	-	-	-	-	-	-		
13.0	TRACTOR 115-125 HP (4)	56614.13	20.96	12.52	33.48	-	-	-	-	-	-	-		
14.0	TRACTOR 135-145 HP (5)	66124.10	24.46	14.62	39.08	-	-	-	-	-	-	-		
15.0	TRACTOR 155-165 HP (6)	77733.00	28.09	17.18	45.27	-	-	-	-	-	-	-		
16.0	TRACTOR 175-185 HP (7)	95416.94	33.33	21.76	54.09	-	-	-	-	-	-	-		
17.0	TRACTOR 195-205 HP (8)	109677.10	35.94	24.25	60.19	-	-	-	-	-	-	-		
17.1	VEGETABLE PICKER 4-ROW	150322.86	48.83	91.55	140.38	0.25	-	-	-	12.21	22.89	35.10		
17.2	VEGETABLE PICKER 1-ROW	25769.63	10.14	14.54	24.68	0.79	-	-	-	8.01	11.49	19.50		
DRAWN IMPLEMENTS														
18.0	4-BOTTOM FLIP PLOW	5123.93	4.05	3.24	7.29	0.25	1.01	0.81	1.82	4.09	2.55	6.64		
19.0	5-BOTTOM PLOW	8106.63	6.41	5.12	11.53	0.20	1.28	1.02	2.30	4.76	3.05	7.81		
20.0	SALE WAGON	2187.99	2.02	4.72	6.74	0.17	0.34	0.60	1.14	1.83	1.72	3.55		
21.0	CHISEL PLOW 12'	5927.23	0.99	6.25	7.24	0.20	0.20	1.25	1.45	3.67	3.28	6.95		
22.0	CHISEL PLOW 14'	6910.39	1.16	7.28	8.44	0.17	0.20	1.24	1.44	3.15	2.96	6.11		
23.0	CHISEL PLOW 18'	10577.40	1.77	11.15	12.92	0.12	0.21	1.34	1.55	2.73	2.84	5.57		
24.0	COTTON FINGER STRIPPER	6655.01	6.98	4.76	7.74	0.24	0.11	0.74	0.99	3.45	4.45	7.74		
25.0	CULTIPACKER	2413.13	0.32	3.94	4.26	0.20	0.06	0.79	0.85	2.53	2.18	4.71		
26.0	CULTIVATOR 1-ROW	964.98	0.21	1.34	1.55	1.18	0.25	1.58	1.83	10.56	7.94	18.50		
27.0	CULTIVATOR 2-ROW	2072.35	0.44	2.88	3.32	0.56	0.25	1.61	1.86	5.34	4.63	9.77		
28.0	CULTIVATOR 4-ROW	3502.02	0.93	3.96	4.26	0.51	0.21	0.81	0.95	5.05	5.11	5.66		
29.0	CULTIVATOR 6-ROW	4659.44	1.48	4.21	5.69	0.17	0.25	0.72	0.97	2.35	1.90	4.25		
30.0	CULTIVATOR W/ HERB & INSEC. 6-ROW	5842.47	1.68	8.11	9.79	0.17	0.29	1.38	1.67	2.38	2.56	4.94		
31.0	CULTIVATOR W/ HERBICIDE 6-ROW	5310.83	1.53	7.37	8.90	0.17	0.26	1.34	1.57	2.35	2.44	4.79		
32.0	CULTIVATOR W/ INSECTICIDE 6-ROW	5310.83	1.53	7.37	8.90	0.17	0.26	1.25	1.57	2.35	2.44	4.79		
33.0	CULTIVATOR W/ SPRAYER 6-ROW	5310.83	1.53	7.37	8.90	0.17	0.26	1.25	1.51	2.35	2.44	4.79		
34.0	DIGGER INVERTER 2-ROW	6656.08	1.56	9.19	14.35	0.92	4.75	8.45	13.20	20.74	17.79	38.53		
34.144	DIGGER INVERTER 6-ROW	16144.08	12.51	22.25	34.72	0.25	0.44	2.25	11.83	12.57	12.55	23.12		
35.0	DISK W/ SPRAYER 16'	13180.16	2.20	13.89	16.09	0.15	0.33	2.08	2.41	2.94	3.61	6.55		
36.0	DISK W/ SPRAYER 21'	16203.85	2.71	17.07	19.78	0.12	0.33	2.05	2.38	2.84	3.55	6.39		
37.0	FERTILIZER SPREADER	11054.32	6.35	30.82	37.17	0.12	0.76	3.70	4.46	1.81	4.35	6.16		
38.0	FUMIGANT UNIT	1583.76	1.05	4.93	5.92	0.17	0.27	2.12	2.59	0.73	4.44	4.79		
39.0	GRAIN DRILL 16'	11115.93	5.90	17.99	23.89	0.13	0.77	2.34	3.11	3.03	3.66	6.69		
40.0	GRAIN DRILL 8'	6133.21	3.25	9.93	13.18	0.29	0.94	2.88	3.82	4.52	4.90	9.42		
41.0	GRAIN DRILL 13' W/ CULTIPACKER	9022.10	4.79	14.60	19.39	0.16	0.77	2.34	3.11	3.55	3.96	7.42		
42.0	GRAIN DRILL 13' W/ FERTILIZER	8942.31	4.74	14.47	19.21	0.16	0.76	2.32	3.08	4.11	4.32	8.43		
43.0	GRANULAR APPLICATOR	3666.70	0.79	5.09	5.88	0.56	0.44	2.85	3.29	5.34	5.87	11.21		
44.0	HEAVY DISK 13'	11039.86	1.85	11.63	13.48	0.17	0.31	1.98	2.29	4.47	4.46	8.93		
45.0	HEAVY DISK 14'	12341.01	2.06	13.00	15.06	0.15	0.31	1.95	2.26	3.98	4.14	8.12		
46.0	HEAVY DISK 16'	15024.67	2.51	15.15	18.34	0.12	0.33	2.03	2.34	3.63	3.96	7.43		
47.0	HERBICIDE APPLICATOR 12'	2040.10	1.19	3.54	4.73	0.15	0.18	0.53	0.71	2.03	1.58	3.61		
48.0	HERBICIDE APPLICATOR 16'	2925.93	1.88	4.51	6.39	0.11	0.21	0.50	0.71	1.56	1.26	2.82		
49.0	LIGHT DISKING W/ HERBICIDE	9454.23	4.77	11.95	16.66	0.15	0.71	1.79	2.50	3.31	3.32	6.63		
50.0	LISTER	1428.07	0.38	3.96	4.26	0.59	0.44	2.22	2.34	2.56	3.49	6.44		
51.0	MOWER-CONDITIONER	16283.06	6.61	22.70	29.31	0.36	2.38	8.17	10.55	5.53	10.11	15.64		
52.0	MULCH BEDDER-LAYER	5368.67	8.72	14.90	23.62	0.52	4.53	7.75	12.28	9.08	10.55	19.63		
53.0	MULCH LAYER	4343.26	7.06	12.06	19.12	0.52	3.67	6.27	9.94	8.22	9.07	17.29		
54.0	NO-TILL DRILL 12'	13531.83	3.85	16.42	26.27	0.21	1.07	3.45	4.22	5.72	6.28	15.54		
55.0	NO-TILL DRILL 16'	20066.54	10.65	32.48	43.13	0.14	1.49	4.55	6.04	4.43	6.30	10.73		
56.0	NURSE TANK ON PICK-UP	2004.02	0.80	4.52	5.32	0.17	0.14	0.77	0.91	1.62	1.68	3.30		
57.0	PEANUT COMBINE 2-ROW	28039.51	8.50	38.92	47.42	1.10	9.35	42.81	52.16	28.47	53.98	82.45		
57.1	PEANUT COMBINE 6-ROW	80398.35	6.31	33.84	42.15	0.84	2.10	6.01	8.08	53.00	53.00	73.35		
58.0	PEANUT PLANTER	11322.00	4.74	19.09	23.83	0.21	1.00	4.01	5.01	4.65	6.14	10.79		
59.0	PRECISION PLANTER 4-ROW	10433.38	3.07	13.19	16.26	0.20	0.61	2.64	3.25	4.09	4.67	8.76		
60.0	PLANTER 1-ROW	1112.29	0.19	2.06	2.25	1.65	0.31	3.40	3.71	14.73	12.29	27.02		
61.0	PLANTER 2-ROW	2076.71	0.34	3.84	4.09	0.32	0.32	0.82	0.82	3.21	3.21	6.42		
62.0	PLANTER 4-ROW	10150.95	2.99	12.83	15.82	0.20	0.60	2.57	3.17	4.07	4.60	8.67		
63.0	PLANTER 6-ROW	14262.83	4.20	18.03	22.23	0.15	0.63	2.70	3.33	3.77	4.58	8.35		
64.0	PLANTER 8-ROW	20811.04	6.13	26.31	32.44	0.09	0.55	2.37	2.92	2.75	3.68	6.48		
65.0	PLANTER NO-TILL 4-ROW	12977.35	6.46	34.41	22.87	0.17	1.10	2.79	3.83	5.78	6.28	15.54		
66.0	PLANTER NO-TILL 6-ROW	16025.67	7.98	20.26	28.24	0.14	1.12	2.84	3.96	5.05	5.24	10.29		
67.0	PLANTER NO-TILL 8-ROW	25377.37	12.64	32.09	44.73	0.08	1.01	2.57	3.58	3.60	4.31	7.91		
68.0	PLANTER NO-TILL W/ HERBICIDE 4-ROW	11596.91	3.95	17.2	21.46	0.22	1.30	4.94	6.23	6.23	8.47	17.76		
69.0	PLANTER NO-TILL W/ SPRAYER 4-ROW	14016.39	4.98	17.72	24.00	0.20	1.40	3.54	4.94	7.09	8.47	12.76		
70.0	PLANTER W/ FERTILIZER 6-ROW	16125.64	4.75	20.39	25.14	0.17	0.81	3.47	4.28	4.37	5.59	9.96		
71.0	PLANTER W/ HERBICIDE 6-ROW	16125.64	4.75	20.39	25.14	0.17	0.81	3.47	4.28	4.37	5.59	9.96		
72.0	PLANTER W/ SPRAYER 4-ROW	11136.30	3.95	17.46	22.2	0.22	1.03	3.15	4.46	5.35	5.35	10.70		
73.0	PLANTER W/ SPRAYER 6-ROW	16125.64	4.75	20.39	25.14	0.17	0.81	3.47	4.28	4.37	5.59	9.96		
74.0	POTATO DIGGER (SWEET)	11471.78	0.91	17.85	18.76	0.79	0.72	14.10	14.82	10.45	19.60	30.05		
75.0	POTATO HARVESTER	53249.73	13.31	30.05	43.36	0.79	10.51	23.74	34.25	27.07	33.63	60.70		
76.0	POTATO PLANTER	21338.33	11.61	16.06	29.67	0.27	3.87	4.34	8.01	6.37	7.06	15.45		
77.0	POTATO PLANTER (SWEET)	6997.53	1.36	14.52	15.88	0.39	0.53	5.66	6.19	5.34	8.38	13.72		
78.0	PRIME AID BULK BARN	18253.49	11.38	18.83	30.21	0.69	7.85	12.99	20.84	13.88	16.71	30.59		
79.0	PTO AIR BLAST SPRAYER (500)	19328.30	16.43	26.83	43.26	0.20	3.29	5.37	8.66	6.76	7.40</			