FORAGE ENTERPRISE BUDGETS FOR SOUTH CAROLINA- 2006/2007

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FORAGE ENTERPRISE BUDGETS FOR SOUTH CAROLINA

Forage budgets may require additional understanding, both in preparation and in interpretation, than agronomic crop enterprise budgets. It follows that the crop involved is frequently a perennial, requiring establishment costs only one time in a number of growing seasons, but still having annual maintenance costs. When a forage crop must be reestablished each year, the budget becomes more straightforward.

Additionally, forages used as pasture are directly consumed by livestock, having revenue component only in connection with livestock enterprise. In such cases the forage budget contains expenses of production but no revenue; the expenses then become one of the cost items in the associated livestock budget. Budgets on forage crops used for hay or silage have revenue section similar to any agronomic crop.

Forage budgets require special understanding also because types, production practices, and yields probably vary more among forages than any other cropping enterprise. This makes it difficult to define a "common practice" to use as a guideline. However, the budgets in this report represent the more important forages grown in South Carolina, the more common production practices, and approximate expected yields for hay and silage. The input levels should be taken as recommendations, but rather as being typical, and are usually near the minimum necessary to produce the specified yields.

Each budget provides detailed estimates of costs, returns, and resource requirements for a particular enterprise. It is important to remember these projections will not be the same for all farm businesses, due to differences in management levels, prices received, prices paid, soil types, fertilization and cultural practices. These budgets should only be used as guidelines. The column "YOUR FARM" was exclusively designed for inclusion of data based on farm records to reflect current conditions.

YIELDS AND SEASONALITY

The average yield levels represent possible state averages under normal, physical, biological and management conditions, but higher yields may be attained with better soils and good management.

Both annual and perennial forages come in warm season and cool season species. Warm season species normally build to a period of peak yield in early summer and then diminish. Cool season species, however, frequently have a period of peak growth on either side of the mid-winter cold period.

PRICES

Prices received for the various forages are estimates based on Clemson outlook projections. The prices used in the enterprise budgets are shown in the following table:

Price and Yield Assumptions for the 2006/2007 Clemson Enterprise Budgets		
ENTEPRISE	YIELD	PRICE
HAY		
FESCUE	3 TON	$100.00
BERMUDAGRASS - Square Bale	5 TON	$120.00
BERMUDAGRASS - Round Bale	5 TON	$80.00
SMALL GRAIN	2 TON	$120.00
SILAGE		
CORN	16 TON	$40.00
SORGHUM	12 TON	$30.00
SMALL GRAIN	10 TON	$35.00
(1) Price estimates based on 05/02/2006 by John Andrae and Wilder Ferreira		

HAY AND SILAGE

The hay budgets presented here assume that all hay is produced in small, square bales. Cost reductions associated with the larger round variety come from savings realized during handling and storage operations, rather than from baling operation itself. The budgets reflect only costs incurred in putting the hay on a wagon or truck in the field. Unloading, stacking, and feeding expenses are not included.

The raw product for silage comes from the field as green chop. For finished silage, the green chop must be hauled and blown into a silo, or dumped in a pit and packed, and allowed to go through a fermentation period before reaching proper feeding condition. Because there is such wide variation in silage handling practices, the silage budgets show expenditures only through the loading of green chop on a truck or wagon in the field.

PASTURE

The grazing budgets, unlike hay and silage budgets, provide no field estimates. Actual consumption of plant by an animal depends heavily on plant condition and grazing management. Livestock budgets, however, make an assumption about stocking rates thereby do incorporate the per acre grazing costs.

PERENNIAL FORAGES

Perennial forages incur both establishment and maintenance costs, and are best shown with two budgets. Extraordinary capital outlay is required the initial year, which is not repeated in subsequent years. The establishment budget shows the one-time expense incurred in getting the forage crop started. The maintenance budget gives annual costs associated with a forage already established. The establishment cost is amortized over the expected life of the forage crop and is included in the maintenance budget as a fixed cost.

PRODUCTION COSTS

The estimates associated with producing each forage 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 forage production specialist recommendations.

b) *Fertilizer and Lime*: fertilizer rates are estimated from Clemson Extension average soil test recommendations by forage 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 are based recommendations of extension specialists. Chemical input levels generally agree with Clemson University recommendations as published in the 2005 South Carolina Agricultural Chemicals Handbook. 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 surveyed. These distributors did not consent for Clemson Extension to advertise their prices and they should not be published in any specialized media.

d) Custom Spread: Most fertilizer applications are assumed to be custom spread. The custom spread cost reflects Nitrogen(N)-Phosphorus(P)-Potassium(K) applications. An amount of 5 dollars per acre was obtained from South Carolina forage specialists.

d) *Tractor & Machinery*: machinery prices were obtained through a survey conducted in March 2006 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 10% to 20%, 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:

Percent Life **(PF)** = (Years of Life * Hours of Annual Use)/
Total Hours Life

Total Accumulated **(TA)** = [(Average Price * RC1) * (**PF**)^{RC3}]

Cost Per Hour = **TA** / (Years of Life * Hours of Annual Use)

FUEL COST:

Self-Propelled Tractors

Cost Per Hour = Horsepower (HP) * Fuel Consumption Multiplier *
Price Per Gallon of Fuel

Other Self-Propelled Items

Cost Per Hour = (Average Price / 1000) * Fuel Consumption Multiplier *
Price Per Gallon of Fuel

LUBRICANT COST:

Cost Per Hour = Fuel Cost per Hour * 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	$2.00	0.048
GAS	$2.00	0.068
LP	$1.65	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

e) *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 these budgets are designed to help farmers evaluate alternative forage 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:

Labor Hours Per Acre = Number of Hours Used **(NHU**) *
Machinery Labor Multiplier
Unallocated Labor Per Acre = Labor Hours Per Acre *
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 $6.00 per hour.

f) *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%.

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:
Salvage Value = Average Price * (**RFV1**) * [(**RFV2**) $^{(\text{YEARS OF LIFE})}$]
Cost Per Hour = (Average Price – Salvage Value) /
(Hours of Annual Use * Years of Life)

INTEREST:

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

INSURANCE:

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

TAX:

Cost Per Hour = (Average Price * Tax Rate) / 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.

3**. Other Costs**

a) *Land Rent*: the land cost 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 pastureland 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 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 forage 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 long-run profit alternatives. It is displayed below the returns of each enterprise:

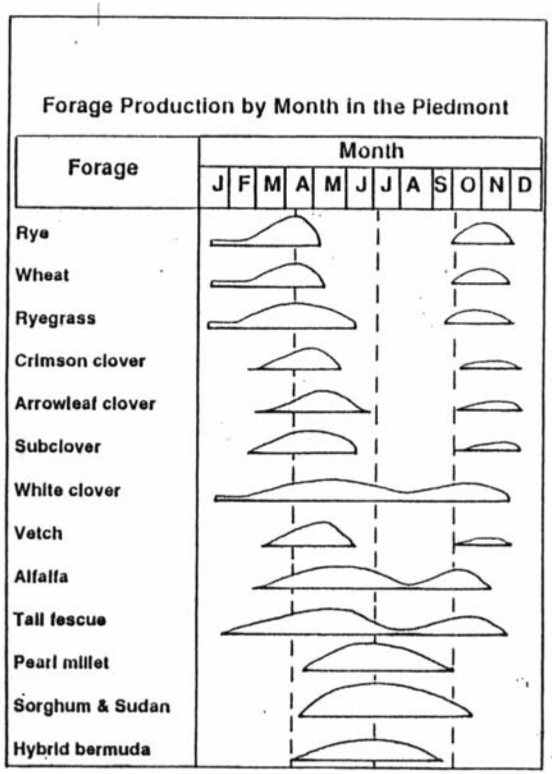
COSTS AND RETURNS PER ACRE FOR SOUTH CAROLINA FORAGE ENTEPRISES 2006/2007						
	TOTAL	VARIABLE	AMORTIZED		TOTAL	NET
ENTEPRISE	RETURNS	COSTS	ESTABL. COST	IAVC	COSTS	RETURN
PASTURE						
BAHIAGRASS FOR GRAZING - ESTABLISHMENT	N/A	$207.47	N/A	N/A	$265.30	N/A
BAHIAGRASS FOR GRAZING	N/A	$121.19	$26.53	N/A	$185.90	N/A
FESCUE-CLOVER FOR GRAZING - ESTABLISHMENT	N/A	$151.20	N/A	N/A	$203.97	N/A
FESCUE-CLOVER FOR GRAZING	N/A	$74.37	$20.40	N/A	$126.46	N/A
HYBRID BERMUDAGRASS FOR GRAZING	N/A	$133.31	$37.03	N/A	$211.88	N/A
OVERSEEDING BERMUDAGRASS WITH RYE/RYEGRASS FOR GRAZING	N/A	$161.77	N/A	N/A	$225.32	N/A
SMALL GRAIN FOR WINTER GRAZING	N/A	$157.80	N/A	N/A	$205.87	N/A
SUMMER ANNUALS FOR GRAZING	N/A	$171.45	N/A	N/A	$223.65	N/A
HAY						
FESCUE FOR HAY - ESTABLISHMENT	N/A	$162.95	N/A	N/A	$216.78	N/A
FESCUE FOR HAY	$300.00	$235.68	$21.68	$64.32	$365.33	-$65.33
HYBRID BERMUDAGRASS FOR HAY - ESTABLISHMENT	N/A	$307.07	N/A	N/A	$370.30	N/A
HYBRID BERMUDAGRASS FOR HAY - SMALL SQUARE BALE	$600.00	$428.81	$37.03	$171.19	$652.95	-$52.95
HYBRID BERMUDAGRASS FOR HAY - ROUND BALE	$400.00	$341.52	$37.03	$58.48	$550.01	-$150.01
SMALL GRAIN FOR HAY	$240.00	$164.07	N/A	$75.93	$212.71	$27.29
SILAGE						
CORN FOR SILAGE	$640.00	$254.32	N/A	$385.68	$372.23	$267.77
SORGHUM FOR SILAGE	$360.00	$204.08	N/A	$155.92	$315.61	$44.39
SMALL GRAIN FOR SILAGE	$350.00	$219.02	N/A	$130.98	$330.36	$19.64

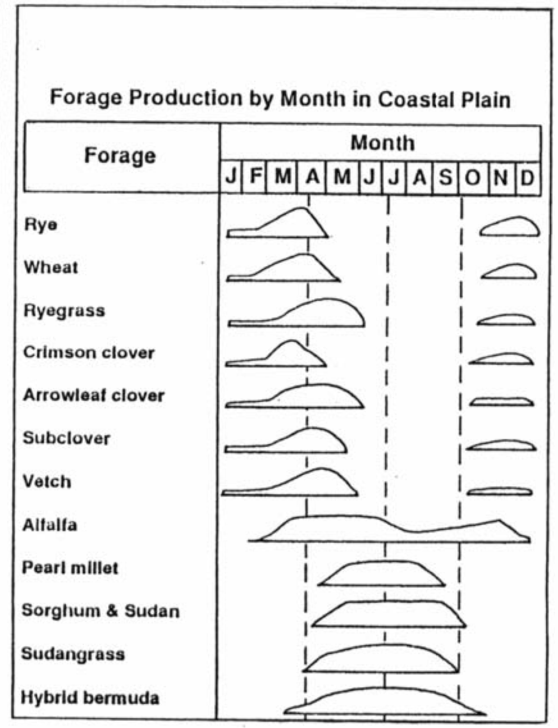
c) *Cost Per Unit of Production*: breakeven prices and breakeven yields are shown on all budgets where they are possible. This table will help analyze the responsiveness of yields and prices using IAVC (Total Variable Costs) and Net Returns (Total Costs) as comparative units. Breakeven price is cost/yield.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

d) *Net Returns Above Variable Costs at Different Yields and Prices*: this table at the bottom of the first 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 forage crop.

PRODUCTION SCHEDULE

For additional information, two tables are displayed below to producers schedule planting and harvesting seasons.





Tables extracted from EB 132, Oct. 1988, Clemson University.

SELF-PROPELLED AND DRAWN IMPLEMENTS GENERAL SPECIFICATIONS

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	MACHINE	ESTIMATED COST	TVC/ HOUR	TFC/ HOUR	TC/ HOUR	HRS/ AC	EXCLUDING TRACTOR TVC/ AC	EXCLUDING TRACTOR TFC/ AC	EXCLUDING TRACTOR TC/ AC	INCLUDING TRACTOR TVC/ AC	INCLUDING TRACTOR TFC/ AC	INCLUDING TRACTOR TC/ AC
SELF-PROPELLED ITEMS												
1.0	COMBINE	110583.73	32.26	67.35	99.61	0.33	-	-	-	10.65	22.23	32.88
2.0	COMBINE LARGE	144912.62	42.27	88.25	130.52	0.25	-	-	-	10.57	22.06	32.63
3.0	COMBINE LARGE W/ HEADER	167397.87	48.83	101.95	150.78	0.25	-	-	-	12.21	25.49	37.70
4.0	COMBINE W/ HEADER	129558.17	37.79	78.90	116.69	0.33	-	-	-	12.47	26.04	38.51
5.0	COTTON PICKER 2-ROW	121377.75	55.53	61.74	117.27	0.76	-	-	-	42.20	46.92	89.12
6.0	COTTON PICKER 4-ROW	196424.73	89.87	99.92	189.79	0.38	-	-	-	34.15	37.97	72.12
6.1	COTTON FINGER STRIPPER 4-ROW	115479.88	52.83	58.74	111.57	0.23	-	-	-	12.15	13.51	25.66
7.0	HIBOY	70446.44	28.82	59.38	88.20	0.06	-	-	-	1.73	3.56	5.29
8.0	TOBACCO COMBINE 1-ROW	57901.40	15.25	36.33	51.58	1.56	-	-	-	23.79	56.67	80.46
9.0	TOBACCO COMBINE 2-ROW	78956.45	20.80	49.54	70.34	1.04	-	-	-	21.63	51.52	73.15
10.0	TRACTOR 50-60 HP (1)	19927.16	6.90	5.29	12.19	-	-	-	-	-	-	-
11.0	TRACTOR 70-80 HP (2)	25728.51	9.80	6.83	16.63	-	-	-	-	-	-	-
12.0	TRACTOR 95-105 HP (3)	44970.49	14.01	9.94	23.95	-	-	-	-	-	-	-
13.0	TRACTOR 115-125 HP (4)	55502.92	16.91	12.27	29.18	-	-	-	-	-	-	-
14.0	TRACTOR 135-145 HP (5)	64833.67	19.73	14.33	34.06	-	-	-	-	-	-	-
15.0	TRACTOR 155-165 HP (6)	76153.34	22.69	16.83	39.52	-	-	-	-	-	-	-
16.0	TRACTOR 175-185 HP (7)	96438.52	26.23	21.32	47.55	-	-	-	-	-	-	-
17.0	TRACTOR 195-205 HP (8)	107460.34	29.17	23.76	52.93	-	-	-	-	-	-	-
17.1	VEGETABLE PICKER 4-ROW	147385.38	42.99	89.76	132.75	0.25	-	-	-	10.75	22.44	33.19
17.2	VEGETABLE PICKER 1-ROW	25266.06	9.11	14.26	23.37	0.79	-	-	-	7.20	11.27	18.47
DRAWN IMPLEMENTS												
18.0	4-BOTTOM FLIP PLOW	5016.37	3.96	3.17	7.13	0.25	0.99	0.79	1.78	3.44	2.50	5.94
19.0	5-BOTTOM PLOW	7984.44	6.31	5.05	11.36	0.20	1.26	1.01	2.27	4.06	3.00	7.06
20.0	BALE WAGON	5085.70	1.99	4.64	6.63	0.17	0.34	0.79	1.13	1.51	1.69	3.20
21.0	CHISEL PLOW 12'	5807.99	0.97	6.12	7.09	0.20	0.19	1.22	1.41	3.00	3.21	6.21
22.0	CHISEL PLOW 14'	6767.45	1.13	7.13	8.26	0.17	0.19	1.21	1.40	2.57	2.90	5.47
23.0	CHISEL PLOW 18'	10365.54	1.73	10.92	12.65	0.12	0.21	1.31	1.52	2.24	2.78	5.02
24.0	COTTON TRAILER	5538.47	2.92	4.66	7.58	0.34	0.99	1.58	2.57	3.34	3.38	6.72
25.0	CULTIPACKER	2375.27	0.32	3.87	4.19	0.20	0.06	0.77	0.83	2.02	2.14	4.16
26.0	CULTIVATOR 1-ROW	950.76	0.20	1.32	1.52	1.18	0.24	1.56	1.80	8.38	7.80	16.18
27.0	CULTIVATOR 2-ROW	2035.14	0.44	2.82	3.26	0.56	0.25	1.58	1.83	4.11	4.54	8.65
28.0	CULTIVATOR 4-ROW	3437.07	0.91	3.88	4.79	0.23	0.21	0.89	1.10	2.46	2.46	4.92
29.0	CULTIVATOR 6-ROW	4579.30	1.46	4.14	5.60	0.17	0.25	0.70	0.95	1.91	1.86	3.77
30.0	CULTIVATOR W/ HERB.&INSEC. 6-ROW	5741.77	1.65	7.97	9.62	0.17	0.28	1.35	1.63	1.95	2.52	4.47
31.0	CULTIVATOR W/ HERBICIDE 6-ROW	5220.98	1.50	7.25	8.75	0.17	0.26	1.23	1.49	1.92	2.39	4.31
32.0	CULTIVATOR W/ INSECTICIDE 6-ROW	5220.98	1.50	7.25	8.75	0.17	0.26	1.23	1.49	1.92	2.39	4.31
33.0	CULTIVATOR W/ SPRAYER 6-ROW	5220.98	1.50	7.25	8.75	0.17	0.26	1.23	1.49	1.92	2.39	4.31
34.0	DIGGER INVERTER 2-ROW	6526.01	5.06	9.01	14.07	0.92	4.66	8.29	12.95	17.54	17.43	34.97
34.1	DIGGER INVERTER 6-ROW	15835.97	12.27	21.86	34.13	0.34	4.17	7.43	11.60	10.88	12.30	23.18
35.0	DISK W/ SPRAYER 16'	12958.37	2.17	13.65	15.82	0.15	0.33	2.05	2.38	2.43	3.54	5.97
36.0	DISK W/ SPRAYER 21'	15926.41	2.66	16.78	19.44	0.12	0.32	2.01	2.33	2.35	3.49	5.84
37.0	FERTILIZER SPREADER	10833.08	6.22	30.21	36.43	0.12	0.75	3.63	4.38	1.57	4.26	5.83
38.0	FUMIGATION UNIT	1552.81	1.06	4.83	5.89	0.43	0.46	2.08	2.54	3.42	4.35	7.77
39.0	GRAIN DRILL 16'	10889.42	5.78	17.62	23.40	0.13	0.75	2.29	3.04	2.57	3.58	6.15
40.0	GRAIN DRILL 8'	6024.04	3.20	9.75	12.95	0.29	0.93	2.83	3.76	3.77	4.81	8.58
41.0	GRAIN DRILL 13' W/ CULTIPACKER	8858.25	4.70	14.34	19.04	0.16	0.75	2.29	3.04	2.99	3.88	6.87
42.0	GRAIN DRILL 13' W/ FERTILIZER	8755.95	4.65	14.17	18.82	0.16	0.74	2.27	3.01	3.45	4.23	7.68
43.0	GRANULAR APPLICATOR	3592.33	0.77	4.99	5.76	0.56	0.43	2.79	3.22	4.30	5.76	10.06
44.0	HEAVY DISK 13'	10818.77	1.81	11.40	13.21	0.17	0.31	1.94	2.25	3.66	4.37	8.03
45.0	HEAVY DISK 14'	12093.05	2.02	12.74	14.76	0.15	0.30	1.91	2.21	3.26	4.06	7.32
46.0	HEAVY DISK 16'	14717.54	2.46	15.51	17.97	0.12	0.30	1.86	2.16	3.02	3.88	6.90
47.0	HERBICIDE APPLICATOR 12'	2000.23	1.17	3.47	4.64	0.15	0.18	0.52	0.70	1.65	1.55	3.20
48.0	HERBICIDE APPLICATOR 16'	2868.75	1.85	4.42	6.27	0.11	0.20	0.49	0.69	1.28	1.24	2.52
49.0	LIGHT DISKING W/ HERBICIDE	9269.49	4.62	11.72	16.34	0.15	0.69	1.76	2.45	2.79	3.25	6.04
50.0	LISTER	1400.16	0.37	3.89	4.26	0.59	0.22	2.30	2.52	6.00	6.32	12.32
51.0	MOWER-CONDITIONER	15919.95	6.47	22.20	28.67	0.36	2.33	7.99	10.32	4.81	9.90	14.71
52.0	MULCH BEDDER-LAYER	5263.75	8.55	14.61	23.16	0.52	4.45	7.60	12.05	8.03	10.35	18.38
53.0	MULCH LAYER	4258.38	6.92	11.82	18.74	0.52	3.60	6.15	9.75	7.19	8.90	16.09
54.0	NO-TILL DRILL 12'	13258.11	9.65	16.09	25.74	0.21	2.03	3.38	5.41	4.97	5.47	10.44
55.0	NO-TILL DRILL 16'	19625.65	10.41	31.76	42.17	0.14	1.46	4.45	5.91	3.82	6.16	9.98
56.0	NURSE TANK ON PICK-UP	1968.81	0.79	4.44	5.23	0.17	0.13	0.75	0.88	1.31	1.65	2.96
57.0	PEANUT COMBINE 2-ROW	27491.58	8.33	38.16	46.49	1.10	9.16	41.98	51.14	24.57	52.91	77.48
57.1	PEANUT COMBINE 4-ROW	59215.51	17.95	82.19	100.14	0.55	9.87	45.20	55.07	19.17	51.95	71.12
58.0	PEANUT PLANTER	11160.75	4.65	18.71	23.36	0.21	0.98	3.93	4.91	3.92	6.02	9.94
59.0	PRECISION PLANTER 4-ROW	10240.64	3.01	12.95	15.96	0.20	0.60	2.59	3.19	3.40	4.58	7.98
60.0	PLANTER 1-ROW	1087.30	0.19	2.01	2.20	1.65	0.31	3.32	3.63	11.70	12.05	23.75
61.0	PLANTER 2-ROW	2039.38	0.35	3.77	4.12	0.89	0.31	3.36	3.67	6.45	8.06	14.51
62.0	PLANTER 4-ROW	9938.65	2.93	12.57	15.50	0.20	0.59	2.51	3.10	3.39	4.50	7.89
63.0	PLANTER 6-ROW	13953.93	4.11	17.64	21.75	0.15	0.62	2.65	3.27	3.15	4.49	7.64
64.0	PLANTER 8-ROW	20372.09	6.00	25.76	31.76	0.09	0.54	2.32	2.86	2.32	3.61	5.93
65.0	PLANTER NO-TILL 4-ROW	12718.52	6.33	16.07	22.40	0.17	1.08	2.73	3.81	4.43	5.17	9.60
66.0	PLANTER NO-TILL 6-ROW	15683.95	7.81	19.83	27.64	0.14	1.09	2.78	3.87	4.27	5.13	9.40
67.0	PLANTER NO-TILL 8-ROW	24846.64	12.37	31.42	43.79	0.08	0.99	2.51	3.50	3.09	4.22	7.31
68.0	PLANTER NO-TILL W/ HERBICIDE 4-ROW	13728.56	6.84	17.36	24.20	0.20	1.37	3.47	4.84	5.31	6.34	11.65
69.0	PLANTER NO-TILL W/ SPRAYER 4-ROW	13728.56	6.84	17.36	24.20	0.20	1.37	3.47	4.84	5.31	6.34	11.65
70.0	PLANTER W/ FERTILIZER 6-ROW	15771.75	4.64	19.94	24.58	0.17	0.79	3.39	4.18	3.66	5.48	9.14
71.0	PLANTER W/ HERBICIDE 6-ROW	15771.75	4.64	19.94	24.58	0.17	0.79	3.39	4.18	3.66	5.48	9.14
72.0	PLANTER W/ SPRAYER 4-ROW	10962.82	3.23	13.86	17.09	0.22	0.71	3.05	3.76	3.79	5.24	9.03
73.0	PLANTER W/ SPRAYER 6-ROW	15771.75	4.64	19.94	24.58	0.17	0.79	3.39	4.18	3.66	5.48	9.14
74.0	POTATO DIGGER (SWEET)	11247.61	0.89	17.50	18.39	0.79	0.70	13.83	14.53	8.45	19.22	27.67
75.0	POTATO HARVESTER	52209.16	13.05	29.47	42.52	0.79	10.31	23.28	33.59	23.67	32.97	56.64
76.0	POTATO PLANTER	20921.35	13.34	15.74	29.08	0.27	3.60	4.25	7.85	7.38	6.93	14.31
77.0	POTATO PLANTER (SWEET)	6880.79	1.33	14.24	15.57	0.39	0.52	5.55	6.07	4.34	8.22	12.56
78.0	PRIME AID BULK BARN	17886.90	11.16	18.46	29.62	0.69	7.70	12.74	20.44	12.46	16.39	28.85
79.0	PTO AIR BLAST SPRAYER (500)	18950.60	16.11	26.30	42.41	0.20	3.22	5.26	8.48	6.02	7.25	13.27
80.0	PTO BALER	13759.97	4.44	21.16	25.60	0.38	1.69	8.04	9.73	7.01	11.82	18.83
80.1	ROUND BALER	11444.32	3.95	14.35	18.30	0.38	1.50	5.45	6.95	6.82	9.23	16.05
80.2	SMALL BALER	7590.00	2.45	11.67	14.12	0.38	0.93	4.43	5.36	6.25	8.21	14.46
81.0	PULL TYPE SPRAYER	4571.28	1.83	10.32	12.15	0.18	0.33	1.86	2.19	1.57	2.81	4.38
82.0	RAKE	2734.64	0.80	5.00	5.80	0.25	0.20	1.25	1.45	1.93	2.57	4.50
83.0	ROLLING CULTIVATOR 6-ROW	4938.71	1.57	4.46	6.03	0.17	0.27	0.76	1.03	1.93	1.92	3.85
84.0	ROTARY MOWER 7'	2134.78	0.65	2.96	3.61	0.29	0.19	0.86	1.05	2.19	2.39	4.58
85.0	ROTOVATOR	1684.40	1.30	4.68	5.98	1.41	1.83	6.60	8.43	11.56	14.06	25.62
86.0	SICKLE MOWER	2274.60	3.33	6.31	9.64	0.26	0.87	1.64	2.51	2.66	3.02	5.68
87.0	SIDEDRESSER 2-ROW	1684.40	0.36	2.34	2.70	0.56	0.20	1.31	1.51	5.69	5.14	10.83
88.0	SILAGE BLOWER	3158.26	1.58	4.40	5.98	0.47	0.74	2.07	2.81	3.99	4.55	8.54
89.0	SILAGE CHOPPER	21207.18	15.02	29.57	44.59	0.43	6.46	12.72	19.18	13.73	17.99	31.72
90.0	SILAGE CHOPPER & WAGON	28950.70	18.81	53.82	72.63	0.57	10.72	30.68	41.40	20.36	37.67	58.03
91.0	SILAGE WAGON	7764.05	2.68	10.82	13.50	0.57	1.53	6.17	7.70	9.51	11.83	21.34
92.0	SPIKE HARROW	947.48	0.09	1.43	1.52	0.24	0.02	0.34	0.36	1.68	1.61	3.29
93.0	ORCHARD SPRAYER	15791.29	9.25	27.40	36.65	0.18	1.67	4.93	6.60	2.91	5.88	8.79
94.0	SPRING TOOTH	2301.84	0.01	3.46	3.47	0.11	0.00	0.38	0.38	0.76	0.96	1.72
95.0	SUBSOILER BEDDER 2-ROW	3869.35	0.86	4.89	5.75	0.45	0.39	2.20	2.59	4.80	5.27	10.07
96.0	SUBSOILER-BEDDER 4-ROW	6776.76	4.91	5.71	10.62	0.19	0.93	1.08	2.01	3.59	2.97	6.56
96.1	SUBSOILER-BEDDER 6-ROW	8425.32	6.11	7.10	13.21	0.17	1.04	1.21	2.25	3.91	3.29	7.20
97.0	SUBSOILER-PLANTER W/SPRAYER 4-ROW	21514.03	10.71	27.20	37.91	0.20	2.14	5.44	7.58	6.09	8.31	14.40
97.1	SUBSOILER-PLANTER W/SPRAYER 6-ROW	25478.98	12.69	32.22	44.91	0.18	2.28	5.80	8.08	6.37	8.83	15.20
97.2	SUBSOILER-PLANTER 6-ROW	23395.84	11.65	29.58	41.23	0.18	2.10	5.32	7.42	6.18	8.35	14.53
98.0	SUPER BEDDER	3196.16	2.42	8.82	11.24	1.10	2.66	9.70	12.36	13.44	17.22	30.66
99.0	TOBACCO CULTIVATOR 1-ROW	1228.43	0.49	1.14	1.63	0.71	0.35	0.81	1.16	5.25	4.57	9.82
100.0	TOBACCO HARVESTER LOW PROFILE	13159.41	1.91	19.07	20.98	2.95	5.63	56.26	61.89	25.99	71.86	97.85
101.0	TOBACCO TOPPER 2-ROW	3105.62	4.25	9.56	13.81	0.86	3.66	8.22	11.88	9.59	12.77	22.36
102.0	TOBACCO TRAILER	1052.75	0.55	0.89	1.44	2.58	1.42	2.30	3.72	19.22	15.94	35.16
103.0	TOBACCO TRANSPLANTER 1-ROW	3052.98	2.28	2.92	5.20	3.08	7.02	8.99	16.01	37.21	30.03	67.24
104.0	TOBACCO TRANSPLANTER 2-ROW	4895.30	3.66	4.69	8.35	1.54	5.64	7.22	12.86	27.21	22.53	49.74
105.0	TOMATO TRANSPLANTER 3-ROW	7895.65	1.64	14.61	16.25	2.06	3.38	30.10	33.48	23.57	44.17	67.74
106.0	TRACTOR MTD SPRAYER	3067.80	1.80	5.32	7.12	0.16	0.29	0.85	1.14	1.39	1.70	3.09
107.0	TRACTOR MTD SPRAYER & FERT	3970.86	2.33	6.89	9.22	0.16	0.37	1.10	1.47	1.48	1.95	3.43
108.0	TRAILER 4W	2564.10	1.25	7.09	8.34	0.14	0.18	0.99	1.17	1.14	1.73	2.87
109.0	TRANSPLANTER 1-ROW	1894.95	0.39	3.51	3.90	2.75	1.07	9.65	10.72	20.05	24.20	44.25
110.0	TRANSPLANTER 2-ROW	3060.35	0.64	5.66	6.30	2.29	1.47	12.96	14.43	17.27	25.08	42.35
111.0	TRANSPLANTER 4-ROW	10316.98	2.55	14.32	16.87	1.38	3.52	19.76	23.28	17.04	29.19	46.23
112.0	TRUCK 1.5 TON	31582.58	6.32	9.95	16.27	0.23	1.45	2.29	3.74	1.45	2.29	3.74
113.0	WHIRL SEEDER	526.38	0.26	1.46	1.72	0.10	0.03	0.15	0.18	0.72	0.68	1.40
114.0	WINDROWER	2447.12	1.26	4.80	6.06	0.17	0.21	0.82	1.03	1.39	1.72	3.11
115.0	BROADCAST DEEP TILLAGE	10509.77	5.23	13.29	18.52	0.24	1.26	3.19	4.45	7.55	8.31	15.86
116.0	COTTON MODULE BUILDER	21146.49	7.34	10.76	18.10	0.11	0.81	1.18	1.99	2.35	2.28	4.63
117.0	TEDDER	4625.58	1.38	8.56	9.94	0.25	0.35	2.14	2.49	2.07	3.46	5.53
118.0	STRIP TILL RIG	19387.14	9.65	24.51	34.16	0.31	2.99	7.60	10.59	5.13	9.24	14.37
119.0	BUSHHOG 14'	7109.37	2.16	9.87	12.03	0.15	0.32	1.48	1.80	1.36	2.27	3.63
120.0	FLAIL MOWER	3079.30	0.93	4.27	5.20	0.49	0.46	2.09	2.55	3.84	4.68	8.52
121.0	PLANTER W/ SPRAYER 8-ROW	21295.24	6.27	26.93	33.20	0.12	0.75	3.23	3.98	3.12	4.95	8.07
122.0	SUBSOILER-BEDDER 8-ROW	15136.64	7.54	19.14	26.68	0.12	0.90	2.30	3.20	4.41	5.15	9.56
123.0	DO-ALL FIELD CONDITIONER 8-ROW	8138.09	2.59	7.35	9.94	0.09	0.23	0.66	0.89	2.01	1.95	3.96
124.0	BOLL BUGGY	16087.40	8.48	13.53	22.01	0.34	2.88	4.60	7.48	5.23	6.40	11.63
125.0	FARM WAGON	3077.66	2.50	8.44	10.94	0.15	0.38	1.27	1.65	1.85	2.29	4.14
126.0	CULTIVATOR W/ HERBICIDE 8-ROW	6743.37	1.94	9.36	11.30	0.10	0.19	0.94	1.13	1.60	1.93	3.53
127.0	FRONT-END LOADER	5564.50	1.92	6.98	8.90	0.19	0.36	1.33	1.69	1.68	2.33	4.01