

South Alabama Cow-Calf Enterprise Cost Study

► Alabama Extension economists and specialists use different cattle enterprise budgets to aid producers, educators, financial institutions, and industry stakeholders in planning. These budgets estimate costs and returns, providing valuable insights for informed decision-making.

Enterprise budgets use broad production assumptions to estimate general production scenarios and potential expenses. These expenses are compared to potential income for cattle producers based on the expected revenue of calves and cull animals. Enterprise budgets work well for certain cattle enterprises, such as stocker producers, as they tend to use similar forage and feed production practices and similar husbandry protocols. However, the cow-calf industry in Alabama is a much larger and more diverse group of producers using numerous production protocols.

A representative farm model is another way economists estimate potential profitability. To build a representative farm model, a group of producers is assembled to determine the characteristics of the hypothetical farm business. This group determines a consensus on the equipment needs, production methods, and costs associated with the operation of a given area. A representative farm does not represent any single producer in the group but instead focuses on the collective agreement of the entire group. Contributing producers provide local information that can accurately reflect the cost of production based on actual practices rather than Extension-recommended practices and cost estimates.

Representative farm models are used to construct a profitability study that describes the operation of a specified-size farm in a given region at a specific time. Therefore, by its nature, a representative farm model is backward rather than forward looking.

This study evaluates four different representative farm models: (1) Southwest Alabama Small Farm Model, (2) Southwest Alabama Large Farm Model,

(3) Southeast Alabama Small Farm Model, and



(4) Southeast Alabama Large Farm Model. These farm models were built using input from producers, industry professionals, and Alabama Extension and Auburn University personnel. Producer panels worked as a team to design farm models that they thought best represented the average producer from their region. These farm models are not designed nor intended to represent any single producer, nor are they intended to disparage any producer or producer group. These farm models are produced solely for the following purposes:

- As tools for Alabama producers to compare their production practices to the industry models
- To make producers, educators, and industry representatives aware of opportunities to improve profitability for Alabama cow-calf producers
- To assist educators in designing and presenting economic stability programming for Alabama cow-calf producers.

Southwest Alabama Small Farm Model

The representative Southwest Alabama Small Farm Model herd consists of 40 brood cows and 1 bull. The herd has a calving percentage of 85 percent, utilizes both perennial pasture and winter annual pasture, and does not have a defined calving season.

The Southwest Alabama Small Farm Model had gross returns of \$541.05 per cow-calf unit, with variable costs of \$736.09 and total costs of \$854.99. The net returns per cow for the Southwest Alabama Small Farm Model for fall 2022 were -\$195.04 for return over variable cost and -\$313.94 for return over total cost.

Income		Herd	Per Cow Unit	
	Bull Calf Income		\$276.56	51%
	Heifer Calf Income		\$192.00	35%
	Cull Cow Income	\$2,593.50	\$64.84	12%
	Cull Bull Income	\$306.00	\$7.65	1%
	Total	\$21,642.00	\$541.05	100%
Expenses				
	Pasture	\$9,223.00	\$230.58	31%
	Feed	\$8,760.00	\$219.00	30%
	Animal Health	\$100.00	\$2.50	0%
Cow Replacement Cost		\$4,248.00	\$106.20	14%
	Bull Replacement Cost	\$300.00	\$7.50	1%
	Pasture Rental	\$500.00	\$12.50	2%
	Interest Payment on Land	\$212.50	\$5.31	1%
	Accounting & Legal	\$400.00	\$10.00	1%
	Phone, Utilities & Internet	\$300.00	\$7.50	1%
	Repairs, Maintenance & Supplies	\$1,500.00	\$37.50	5%
	Fuel & Lube	\$3,500.00	\$87.50	12%
	Miscellaneous	\$400.00	\$10.00	1%
	Total	\$29,443.50	\$736.09	100%
Profit /Loss		\$(7,801.50)	\$(195.04)	
	Depreciation of Equipment & Facilities	\$4,756.10	\$118.90	
Profit/Loss with		\$(12,557.60)	\$(313.94)	
Depreciation				
Profit/Loss with Only Pa	\$3,659.00	\$88.98		

Southwest Alabama Large Farm Model

The representative Southwest Alabama Large Farm Model herd consists of 150 brood cows and 6 bulls. The herd has a calving percentage of 85 percent and utilizes perennial pasture, summer annual pastures, and winter annual pastures. This farm does not have a defined calving season.

The Southwest Alabama Large Farm Model had gross returns of \$821.26 per cow-calf unit, with variable costs of \$1,130.47 and total costs of \$1,294.85. The net return per cow for the Southwest Alabama Large Farm Model for fall 2022 were -\$309.21 over variable costs and -\$473.59 over total cost.

Income		Herd	Per Cow Unit	
	Bull Calf Income	\$61,961.25	\$413.08	50%
	Heifer Calf Income	\$48,895.00	\$325.97	40%
	Cull Cow Income	\$9,187.50	\$61.25	7%
	Cull Bull Income	\$3,145.00	\$20.97	3%
	Excess Hay Sales (200 rolls)	\$15,000.00	\$100.00	12%
	Total	\$123,188.75	\$821.26	100%
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Expenses				
	Pasture	\$58,054.22	\$387.03	34%
	Feed	\$41,797.50	\$278.65	25%
	Animal Health	\$375.00	\$2.50	0%
	Cow Replacement Cost	\$20,250.00	\$135.00	12%
	Bull Replacement Cost	\$6,000.00	\$40.00	4%
	Pasture Rental	\$6,125.00	\$40.83	4%
	Cost of "For Sale" Hay	\$9,685.71	\$64.57	6%
	Interest Payment on Land	\$1,983.33	\$13.22	1%
	Accounting & Legal	\$300.00	\$2.00	0%
	Phone Utilities & Internet	\$-	\$-	0%
	Repairs, Maintenance & Supplies	\$15,000.00	\$100.00	9%
	Fuel & Lube	\$10,000.00	\$66.67	6%
	Miscellaneous	\$-	\$-	0%
	Total	\$169,570.77	\$1,130.47	100%
Profit /Loss		\$(46,382.02)	\$(309.21)	
	Depreciation of Equipment & Facilities	\$24,657.00	\$164.38	
Profit/Loss With		\$(71,039.02)	\$(473.59)	
Depreciation				

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Southeast Alabama Small Farm Model

The representative Southeast Alabama Small Farm Model herd consisted of 38 cows and 1 bull. This herd had a calving percentage of 84 percent, utilizes summer perennial and winter annual pastures, and does not have a defined calving season.

The Southeast Alabama Small Farm Model had gross returns of \$660.01 per cow-calf unit, with variable costs of \$654.94 and total costs of \$780.74 per. The net return per cow for the Southeast Alabama Small Farm Model for fall 2022 was \$5.06 over variable costs and -\$120.73 over total cost.

Income		Herd	Per Cow Unit	
	Bull Calf Income	\$12,400.00	\$326.32	49%
	Heifer Calf Income	\$9,881.25	\$260.03	39%
	Cull Cow Income	\$2,442.00	\$64.26	10%
	Cull Bull Income	\$357.00	\$9.39	1%
	Total	\$25,080.25	\$660.01	100%
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Expenses	Desture	#0.055.00	\$404 4F	450/
	Pasture	\$3,855.00	\$101.45	15%
	Feed	\$10,316.80	\$271.49	41%
	Animal Health	\$330.20	\$8.69	1%
	Cow Replacement Cost	\$3,990.00	\$105.00	16%
	Bull Replacement Cost	\$750.00	\$19.74	3%
	Pasture Rental	\$-	\$-	0%
	Cost of "For Sale" Hay	\$-	\$-	0%
	Interest Payment on Land	\$495.83	\$13.05	2%
	Accounting & Legal	\$400.00	\$10.53	2%
	Phone Utilities & Internet	\$1,000.00	\$26.32	4%
	Repairs, Maintenance & Supplies	\$1,000.00	\$26.32	4%
	Fuel & Lube	\$1,000.00	\$26.32	4%
	Miscellaneous	\$1,750.00	\$46.05	7%
	Total	\$24,887.83	\$654.94	100%
Profit /Loss		\$192.42	\$5.06	
	Depreciation of Equipment & Facilities	\$4,780.10	\$125.79	
Profit/Loss With Depreciation		\$(4.587.68)	\$(120.73)	

Southeast Alabama Large Farm Model

The representative Southeast Alabama Large Farm Model herd consisted of 250 cows and 10 bulls. This herd had a calving percentage of 90 percent, utilized summer perennial and winter annual pastures, and has a defined calving season.

The Southeast Alabama Large Farm Model had gross returns of \$952.58 per cow-calf unit, with variable costs of \$948.77 and total costs of \$1,106.18. The net return per cow for the Southeast Alabama Large Farm Model for fall 2022 was \$3.80 over variable costs and -\$153.60 over total costs.

Income		Herd	Per Cow Unit	
	Bull Calf Income	\$118,235.00	\$472.94	50%
	Heifer Calf Income	\$93,280.00	\$373.12	39%
	Cull Cow Income	\$21,498.75	\$86.00	9%
	Cull Bull Income	\$5,130.00	\$20.52	2%
	Total	\$238,143.75	\$952.58	100%
Expenses				
	Pasture	\$70,144.83	\$280.58	30%
	Feed	\$55,375.00	\$221.50	23%
	Animal Health	\$10,073.20	\$40.29	4%
	Cow Replacement Cost	\$40,625.00	\$162.50	17%
	Bull Replacement Cost	\$15,000.00	\$60.00	6%
	Pasture Rental	\$10,000.00	\$40.00	4%
	Cost of "For Sale" Hay	\$-	\$-	0%
	Interest Payment on Land	\$2,975.00	\$11.90	1%
	Accounting & Legal	\$2,000.00	\$8.00	1%
	Phone Utilities & Internet	\$-	\$-	0%
	Repairs, Maintenance & Supplies	\$15,000.00	\$60.00	6%
	Fuel & Lube	\$15,000.00	\$60.00	6%
	Truck, Equipment & Liability Insurance	\$1,000.00	\$4.00	
	Miscellaneous	\$-	\$-	0%
	Total	\$237,193.03	\$948.77	100%
Profit /Loss		\$950.73	\$3.80	
	Depreciation of Equipment and Facilities	\$39,351.00	\$157.40	
Profit/Loss With Depreciation		\$(38,400.28)	\$(153.60)	

Profit/Loss With Only Pasture, Feed & Health Costs	\$112,623.93	\$410.20
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Alabama Extension 2022 Cow-Calf Enterprise Budget

Returns Per Cow Per Year	Total
Weaning Percent	90%
Average Calf Weight, lb./calf	625
Total Calf Weight, Ib.	28,125
Average Calf Weight, Ib./Cow-Unit	563
Average Calf Price, \$/lb.	\$1.60
Total Cull Cow Weight, Ib.	7,700
Average Cull Cow Weight, Ib./Cow	1,100
Average Cull Cow Weight, Ib./Cow-Unit	154
Average Cull Cow Price, \$/lb.	\$0.50
Gross Returns, Total \$	\$48,850
Average Calf Return, \$/Cow-Unit	\$900.00
Average Cull Cow Return, \$/Cow-Unit	\$77.00
Gross returns, \$ Per Cow-Unit	\$977.00

Costs Per Cow Per Year	\$/Cow-Unit
Pasture	\$474.70
Purchased Feed	\$156.37
Machinery & Equipment	\$89.60
Animal Health	\$38.72
Buildings/Improvements/Facilities–DIRT	\$35.00
Buildings/Improvements/Facilities–Interest	\$20.00
Management	\$12.00
Labor	\$0.00
Custom Hire	\$9.60
Farm Records	\$3.00
Professional Fees	\$8.00
Utilities	\$7.30
Marketing Fees	\$39.08
Supplies	\$0.00
Replacement Heifer Capital Cost ¹	\$150.00
Annual Bull Cost Depreciation	\$18.00
Interest on Breeding Stock Capital	\$64.35
Insurance on Breeding Stock	\$0.00
Interest on Operating Cost	\$30 96
Cost Per Cow Per Year	\$1,156.67

Returns Over Costs Per Cow Per Year	Total
Returns Over Variable Costs Per Cow Per Year	\$47.28
Returns Over Total Costs Per Cow Per Year	-\$179.67

Returns and Costs per Cow-Calf Unit by Representative Farm					
	Gross Returns	Variable Cost	Total Cost	Net Returns over Variable Costs	Net Returns over Total Costs
Southwest Small Farm	\$541.05	\$736.09	\$854.99	-\$195.04	-\$313.94
Southwest Large Farm	\$821.26	\$1,130.47	\$1,294.85	-\$309.21	-\$473.59
Southeast Small Farm	\$660.01	\$654.94	\$780.74	\$5.06	-\$120.73
Southeast Large Farm	\$952.58	\$948.77	\$1,106.18	\$3.80	-\$153.60
ACES Cow- Calf Budget	\$977.00	\$929.72	\$1,156.67	\$47.28	-\$179.67

Differences in profit and loss between regions were primarily affected by (1) calf weight, (2) prices received, and (3) variable costs. Smaller farms from both regions reported lower calf prices. Southwest Alabama had a lower calving percentage and calf weight as opposed to Southeast Alabama.



Variable costs for the smaller farms tended to be lower than the larger farms. The only farm above the nationally calculated Livestock Marketing Information Center (LMIC) average for variable costs was the Large Southwest Alabama Model Farm.



The drivers for income per cow/calf are calving percentage, weight of calves, and price of calves. Smaller farms tended to get lower calf prices and wean lighter calves than the larger producers.





*** Alabama November M&L 1 calves refers to feeder calf prices sold through Alabama Stockyards as recorded by the United States Department of Agriculture (USDA) Agricultural Marketing Service.

Profit Over Pasture, Feed & Health (Per Cow)					
	Pasture	Feed	Health	Profit/Loss	
Southwest Small Farm	\$230.58	\$219.00	\$2.50	\$88.98	
Southwest Large Farm	\$387.03	\$278.65	\$2.50	\$153.08	
Wiregrass Small Farm	\$101.45	\$271.49	\$8.69	\$278.38	
Wiregrass Large Farm	\$280.58	\$221.50	\$40.29	\$410.20	

Many producers choose not to consider the costs associated with replacing breeding stock, insurance, depreciation, interest, and return to management. While this is certainly not wise if producers wish to grow their net worth, it is often the minimum that will allow producers to continue farming. The Profit Over Pasture, Feed & Health (Per Cow) chart shows that all the model farms were able to cover pasture, feed, and health (veterinary) costs. The problem with this limited evaluation is that it doesn't reflect the amount of capital spent on fixed costs such as machinery, implements, buildings, or the depreciation of those assets. Depreciation of assets represents a loss of value due to wear, tear, age, and obsolescence. Neither does it consider development costs of herd replacements, the cost of repair, fuel and maintenance of vehicles and machinery, insurance, accounting, or the opportunity costs associated with dedicating land for pasture, which is often captured by assigning a land rental rate as a cost.

Labor

Labor was excluded from these representative farms, although the data was collected during the informationgathering process. The small farms reported no hired labor, whereas the larger farms both reported some day labor and continuous farm labor requirements. The small farms chose not to account for personal and family labor, and the large farms had additional enterprises that all drew from the same labor. All these variations for labor made the numbers unreliable for farm modeling purposes. However, each producer should carefully evaluate their labor situation and consider it when calculating their final profit or loss for a given enterprise.

Recommendations for South Alabama Producers

Analysis of the South Alabama Farm Models highlights several opportunities for producers to address issues that may affect their profitability:

- Reproductive efficiency was an issue in most of the representative farm models. The calving percentage (number of calves born/number of exposed females) should be 90 percent or above¹. The calving percentage for three of the four farm models was below the standard (Southwest Alabama Small Farm Model 85 percent, Southwest Alabama Large Farm Model 85 percent, and Southeast Alabama Small Farm Model 84 percent), with only the Large Alabama Southeast Model Farm achieving the 90 percent goal. To improve this, producers should consider better record keeping and implementation of a short, defined breeding season. Also, breeding soundness exams (BSE) and pregnancy checks for breeding animals, developing a vaccination and parasite control program as determined by the producer and their veterinarian, and culling nonproductive animals should be implemented. Breeding seasons and grouping of animals into similar production stages allow for the most efficient feeding and health programs at little to no extra expense. Record keeping can be as simple and low cost as a handwritten notebook and allows a manager to identify which animals are unproductive.
- Feed costs (including pasture) are major expenses for livestock producers, thus any improvement to forage production and grazing efficiency will likely be profitable. Pasture fertilization based on soil sampling, rotational grazing, and weed management has improved forage stand, quality, and nutritional value. Rotational grazing alone has been shown to reduce stored feed requirements by up to 31 percent per head per day².

Equipment, buildings, and facilities represent a large percentage of both producer assets and liabilities. These are all considered depreciable assets because their value decreases over time due to deterioration or loss of usefulness. Producers should be aware of asset depreciation (loss of value) and account for those fixed costs (expenses) when doing financial planning and analysis for their operation.

References

¹Standardized Calculation and Interpretation of Basic Cow Herd Performance Measures. NebGuide G2094. University of Nebraska. Revised October 2022.

²Ball, Hoveland, Lacefield. Southern Forages (Third Edition). pp. 218-219.



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New December 2023, ANR-3040

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