

Florida Cow-Calf Management, 2nd Edition - Budgeting for Cow-Calf Operations¹

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Types of Budgeting Analyses

Economic analysis of a beef cattle operation comprises many different aspects. But fundamental to any outlook is the *enterprise budget*. Also called a cost and returns budget, it is usually prepared on an annual basis. Once prepared, the enterprise budget becomes a tool that allows you to evaluate your cow-calf enterprise. You can manipulate the numbers to reflect varying situations, study the effect on different components of the budget, and decide in advance how your management plan might be adjusted to accommodate each situation and improve net income.

Another type of budgeting analysis involves *projection of annual costs and returns*. Producers often prepare projections that cover more than one year; these are used as planning guides for investment, borrowing funds, repaying loans, gauging cash flow, and adopting new production practices. Preparation of projections tends to be time-consuming and generally requires considerable knowledge of an operation's finances. Producers should first be familiar with annual enterprise budgeting before working with projection programs.

Cash-flow analysis constitutes a third type of budgeting. Cash-flow analysis is an accounting procedure; when adapted for budgeting, it becomes a useful farm management tool that projects cash incomes and expenses—divided by units of time—over some specified period (e.g., by month for one year). Such a perspective is especially valuable to beef cattle producers since they usually have only one opportunity during the year to generate income, yet their operations generate expense continually.

Budgeting versus Accounting

Though both use similar formats and procedures, budgeting is distinguished from accounting by its basic focus. Accounting (like the IRS tax report) analyzes income and expenditures for a period of time already *past*. In contrast, budgeting generally concerns the *future*, and is designed to help make educated estimates in respect to future risks and uncertainties, and their effect on the enterprise.

Basic enterprise budgets are modeled on “usual or typical” conditions. Once developed, the budget can be adjusted to demonstrate the impact of possible future conditions (ranging from best- to worst-case scenarios), or changes in management practices.

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For example, you might expect the winter to be drier or colder than “usual,” you can then adjust your budget to reflect the higher feed expense and lower sale weights that will probably result. This translates to higher production costs, less income per head, and reduced net income. But knowing the prospect ahead of time, you might develop some contingency plan to lessen the impact—implement a different management practice or change your marketing strategy—making the effect on net income less drastic. And you can try the plan out in your budget to evaluate its viability.

Cost and Returns Budgets for Florida Cow-Calf Operations

Florida is a large state and, corresponding to its wide-ranging ecological conditions and varied climate, there is a wide variation in the size of Florida's beef cattle operations. Among the various operations, there also exist differences in management practices, levels of ability, and objectives. Particular items and values that determine cost of production vary throughout the state, affected by everything from basic geographical differences to individual management. Income also varies from year to year, due to changes in cattle prices, sale weights, etc. Producers and potential entrants into the cattle industry should develop budgets customized to fit their *individual* operations.

Table 1 shows an example cost and returns budget for a 40-cow north Florida cow-calf operation. Although this budget does approximate the situation on some north Florida operations in 1999, it is presented only as a guide. Every operation will differ somehow, especially the larger ones in central and south Florida, where winter feed costs are lower.

Following the example, the first step in preparing a budget is determining the cost of *investment* in land, buildings, capital, equipment, and cattle. You can use either current or original value, depending on which is most meaningful to you. Usually, current market value is used, whatever your method, keep notes on how you calculated the value of each investment item.

The next step is determining *direct production cost*. Direct costs are cash expenses incurred by way of production. (Notice that taxes and insurance are considered ownership costs, not production costs.) Keep notes on the way you calculated each item of direct production cost so you can recalculate quickly when you modify the budget.

Salvage income received from the sale of cull animals—8 cows, 2 replacement heifers, and 1/4 bull (bull replaced every 4 years)—is subtracted from direct production cost to determine *net direct production cost*. Salvage income is considered an offset to direct production cost, rather than income from calves sold, because the culling process is part of production (rather than marketing) of the end product.

“Indirect costs” are incurred whether production occurs or not. The first category of indirect cost, *ownership cost*, includes taxes and insurance which *are* cash costs; but, as expenses incurred by way of ownership rather than production, they are considered indirect costs. Another item under ownership cost, depreciation, accounts for the fact that existing buildings and equipment must eventually be replaced. A portion of their expense needs to be included in the total cost of production each year to acknowledge a gradual deterioration of the initial investment. Land never depreciates, but you can take depreciation on cattle. Depreciation is calculated on *purchased* breeding animals only, as the difference between purchase price and salvage value. Depreciation is not taken on breeding animals born and raised on the farm; those expenses are included in direct production cost.

Owner labor and management cost is the next category of indirect cost. Since owners seldom pay wages directly to themselves, this is not a cash expense. Yet it must be considered an offset to net income because the owner would surely spend time generating income in some other way, were he or she not involved in the cow-calf enterprise.

Capital costs are the last of the indirect costs. These represent opportunity costs, or the return that could have been earned in an alternative investment. There is a charge for money tied up in operating capital. And money is often borrowed to purchase

livestock, buildings, or equipment. Interest paid on such loans is included here. In effect, capital costs for an investment are typically based on the mix of loan repayment cost and opportunity cost for the rest of the investment.

Total cost of production is broken down into subtotals, depending on which components of total cost a producer wishes to consider. At a minimum, direct production and cash ownership costs must be included; these are immediate, out-of-pocket expenses that have to be paid in the short term. But the prudent producer will also look to the long term and consider depreciation on buildings, machinery, and other investments, as these are recurring costs.

To calculate **net income**, determine income from calves sold (do not include salvage income from cull animals); subtract each subtotal under “total cost of production” from the calf income to determine net income above each subtotal of production cost. To calculate **cost per lb of calf sold**, divide each subtotal of production cost by total lb of calf sold. For example, in Table 1, dividing \$4,472 (net direct production cost + cash ownership cost) by 10,280 lb (total lb of calf sold) yields a cost of \$0.44/lb. This is well below the weighted average price of \$0.78/lb received for the calves. But if depreciation and “owner labor and management cost” are also included, the cost is \$0.88/lb, which is *higher* than the weighted average price received.

Each producer can follow the enclosed format to calculate his or her own costs. When comparing your operation to another producer's using your respective budgets, first ensure that budget formats are comparable. And since prices can fluctuate greatly within a year, update your annual budget regularly to reconcile any important changes.

Three major factors in the budget that affect net income are **price of livestock** (over which you have little control, except for quality or time of sale), **calf sale weight** (over which you have some control, especially in the longer term), and **calf crop percentage** (which is directly tied to your management). You can measure the costs and returns associated with these factors by adjusting your budget to simulate various situations. For example, if you had a 90% weaned calf crop (rather than the 85%

given in the example), and if steer calves sold at 500 lb and heifer calves at 450 lb, income from calves sold would be \$9,792; this represents an increase of \$1,792 over the amount calculated in Table 1.

Many factors, from costs to management practices, are involved in any measure taken to improve net income. Therefore every budget item should be reconsidered as different situations are evaluated. For example, to improve your calf crop, annual pregnancy testing might be indicated, along with heavy culling. Growth promotants and more hired labor might be needed to increase weaning weights.

In brief, you should be careful to consider both the long- and short-term impact of investments and management changes. A small amount of time spent budgeting could save you a lot of money—or, alternatively, *earn* you a lot of money—in the future.

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Table 1. Example "cost and returns budget" for a 40-cow^a north Florida cattle operation, 1999.

Item	Total Quantity	Dollars		
		Price	Cost/Income	Your Farm
Investment				
• Land	100 acres	1,000/acre	100,000	_____
• Buildings, capital investment			40,000	_____
• Equipment			16,000	_____
• Cattle			<u>24,000</u>	_____
Total Investment			180,000	_____
Direct production cost				
• Fertilizer [16-4-8; 400 lb/acre on 10 acres of hay, 3 cuts]	6 tons	150/ton	900	_____
• Nitrogen [50 lb/acre on 60 acres of pasture]	3,000 lb	.30/lb	900	_____
• Lime [0.2 tons/acre]	20 tons	28/ton	560	_____
• Hay [harvesting cost]	40 tons	30/ton	1,200	_____
• Range cubes	800 lb	.10/lb	80	_____
• Grain	4,000 lb	.08/lb	320	_____
• Rye and ryegrass pasture	10 acres	100/acre	1,000	_____
• Minerals and salt	2,000 lb	.15/lb	300	_____
• Medicine and veterinary services	50 head	10/head	500	_____
• Maintenance, fuel, and repairs			1,000	_____
• Utilities			100	_____
• Hired labor			0	_____
• Other			200	_____
• Replacement bull [annual value]			<u>300</u>	_____
Total direct production cost			7,360	_____
Salvage income				
• 900 lb cull cow [8 head]	7,200 lb	.40/lb	2,880	_____
• 750 lb cull replacement heifer [2 head]	1,500 lb	.70/lb	1,050	_____
• 1400 lb cull bull [1/4 head]	350 lb	.45/lb	158	_____
Total salvage income			4,088	_____
Net direct production cost			3,272	_____
Indirect cost				
Ownership cost				
• Depreciation ^b			3,600	_____
• Taxes			1,000	_____
• Insurance			<u>200</u>	_____
Total ownership cost			4,800	_____
Owner labor and management cost			1,000	_____
Capital cost				
• Land [10%]			10,000	_____

Table 1. Example "cost and returns budget" for a 40-cow^a north Florida cattle operation, 1999.

Item	Total Quantity	Dollars		
		Price	Cost/Income	Your Farm
• Operating capital [10% X 50% direct production cost]			365	_____
• Buildings, capital investment [10%]			4,000	_____
• Equipment [10%]			1,600	_____
• Cattle [10%]			<u>2,400</u>	_____
Total capital cost			18,365	_____
Total cost of production				
• Net direct production cost			3,272	_____
• Net direct production + cost ownership cost ^c			4,472	_____
• Net direct production + ownership + owner labor cost			9,072	_____
• Production ^d + ownership + owner labor + capital cost			27,437	_____
Income, calves^e				
• Steers [17 at 440 lb]	7,480 lb	.80/lb	5,984	_____
• Heifers [7 at 400 lb]	<u>2,800 lb</u>	<u>.72/lb</u>	<u>2,016</u>	_____
Total income	10,280	.78/lb	8,000	_____
Net income, above:				
• Net direct production cost	3,272		4,728	_____
• Net direct production + cash ownership cost ^c	4,472		3,528	_____
• Net direct production + ownership + owner labor cost	9,072		-1,072	_____
• Production ^d + ownership + owner labor + capital cost	27,437		-19,437	_____
Cost per lb of calf sold^f				
• Net direct production cost	3,272		.32	_____
• Net direct production + cash ownership cost ^c	4,472		.44	_____
• Net direct production + ownership + owner labor cost	9,072		.88	_____
• Production ^d + ownership + owner labor + capital cost	27,437		2.67	_____
^a 85% calf crop; 420 lb calf weight. ^b 5% on buildings, capital investment; 10% on equipment. ^c Taxes (\$1000) plus insurance (\$200) from "ownership cost." ^d Net direct production cost. ^e An 85% calf crop yields 34 calves from 40 cows; assume 17 males, 17 females; from females, subtract replacements for cull cows (8) and cull replacement heifers (2). ^f Total cost of production, divided by lb of calf sold (10,280).				