



2015 Costs and Returns for a 200 Cow, Cow-Calf Operation, Northern Utah

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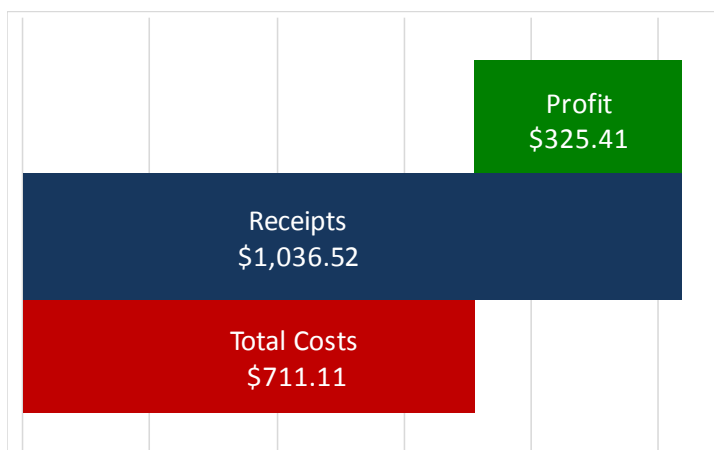


Figure 1. Estimated Receipts, Costs and Profit for Cow Calf Operation.

INTRODUCTION

Enterprise budgets are the building blocks of a farm or ranch. They represent estimates of income and expenses for a specific period of time using a set of production practices and inputs for that enterprise.

The budget in Table 1 on page 3 contains sample costs and returns for a typical cow-calf ranching operation in Northern Utah. It is intended to be a guide used to estimate income and expenses as well as list inputs such as feed, veterinary costs and production practices. The budget also provides a framework for the whole ranch/farm plan.

Receipts. Prices for 500 to 600 pound steer and heifer calves were determined by taking the average price of these calves from weekly sales at the Producers Livestock Auctions during January 2015 as reported by the Utah Department of Agriculture and Food Market News Reports.

Marketing. Marketing is an important part of the ranching business, but livestock marketing has changed over time. Ranchers increasingly utilize video auctions in addition to more traditional marketing techniques such as order buyers and local livestock auctions.

Seasonal Employees. One seasonal employee is hired a total of 500 hours per year and is paid at the rate of \$13.10/hr. including employer’s share of payroll tax (USDA ERS). The total annual cost is \$6,550 for the 200 cow ranch farm. The average labor cost per cow is estimated at \$32.75.

Weighted Mean/Cow. An average which determines the relative importance that heifers, steers, replacement heifers and culls place on the market value per cow.

Feed and Other Cash Expenses. Feed represents the single largest input cost on most ranches, representing approximately 50 percent of total input costs. Most cow calf operations in Northern Utah utilize forages provided through private and public range most of the year and then supplement with hay in the winter and early spring. Figure 2 illustrates how these feed resources are used throughout the year.

Feed costs, health and reproduction, marketing and other cash expenses were determined through interviews with producers, veterinarians and agribusiness lenders.

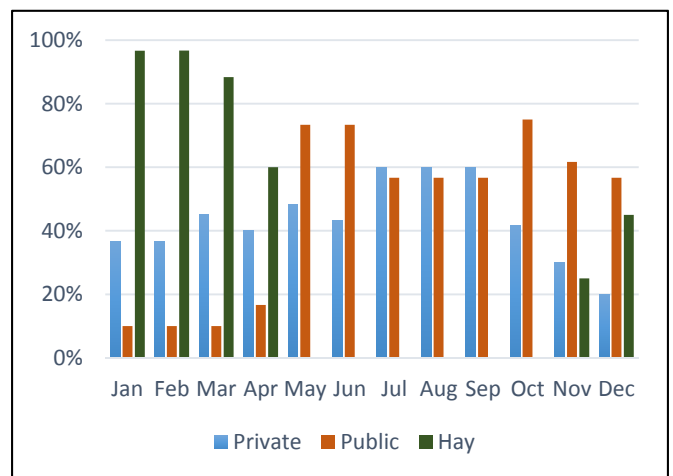


Figure 2. Typical Annual Use of Public and Private Grazing Lands and Forage hay.

FINANCIAL AND PRODUCTION TERMINOLOGY

Contribution Margin. This represents the portion of sales revenue from the operation that is not consumed by variable costs and so contributes to the coverage of fixed costs and net profit.

Contribution Margin Ratio. The percentage of total sales that is not consumed by variable costs. For example, a contribution margin ratio of 36.9% means that for each dollar increase in sales, total contribution margin will increase by 36.9 cents.

Fixed Costs (Overhead). These are costs that take place irrespective of production. For example, fixed costs include depreciation on equipment and buildings, property taxes, interest on land, equipment or buildings, etc.

Net Income or Profit. Sometimes referred to as net profit, this is the operation’s total sales minus total costs.

Net Income or Profit Ratio. A ratio of profitability calculated as net income divided by total sales. The net income or profit ratio is very useful in determining profitability and is displayed as a percentage. A profit margin of 32% means the farm has a net income of 32 cents for every dollar of sales.

Price Breakeven. Breakeven analysis is a tool used to determine the relationship between the revenue and costs associated with an enterprise. Price breakeven represents the price point which must be reached to cover costs of the enterprise. Price breakeven can be calculated on variable costs as well as total costs.

Production Breakeven. This is the production point which total expenses and total revenue are equal to the production needed to cover costs of the enterprise.

Variable Costs (Operating). Variable or input costs are those costs that change with production. These costs include feed, supplements and minerals as well as reproduction, veterinary and health costs and other inputs which are directly associated with production.

CALCULATING YOUR OWN BUDGET WITH EXCEL

To download a free Excel spreadsheet of this and other crop and livestock enterprise budgets, go to <http://extension.usu.edu/boxelder> and select the Agriculture – Crops/Livestock Budgets link.

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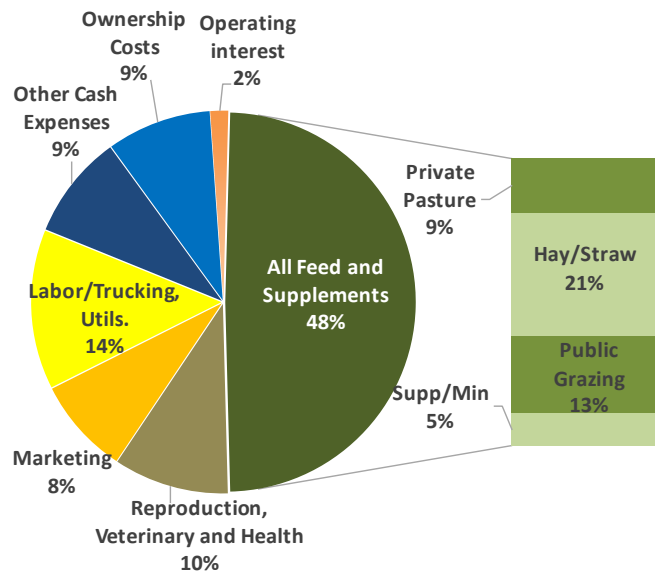


Figure 3. Percent Feed, Health, Marketing, Labor, Ownership and Other Cash Expenses for a Typical 200 Cow, Cow-Calf Operation.

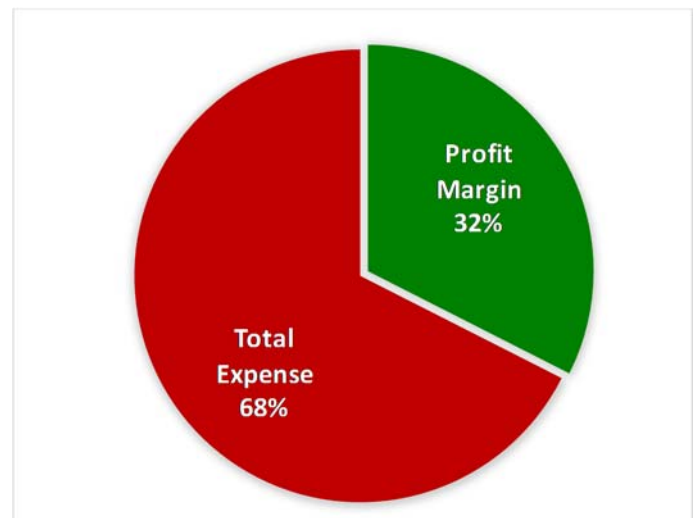


Figure 4. Total Expense and Net Profit Margin.

CONTACT INFORMATION

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Table 1. Costs and Returns for a 200 Cow, Cow-Calf Ranching Operation, Northern Utah

Production									
Cow	Cow Replacement	Cow Death Loss	Cows/Bull		Bull Replacement		Weighted Mean/Cow		
200	12.0%	2.0%	25		20.0%		Pounds	Price	
Calf Weaning Rate		Weaned Calves	Avg Weaned Wt.		Total Weaned Wt.		638 lbs.	\$1.624/lb.	
88.0%		176 head	538 lbs.		67,780 lbs.		Value/Cow	\$1,036.52	
Receipts									
	Head	Unit	Unit of Measure	Price/Unit	Value per Unit	Percent of Income	Value per Cow	Total Value	
Heifer Calves	63	510	Lbs.	\$2.40	\$1,224.00	37.2%	\$385.56	\$77,112	
Replacement Heifers	(25)	510	Lbs.	\$2.40	(\$1,224.00)	(14.8%)	(\$153.00)	(\$30,600)	
Steer Calves	88	550	Lbs.	\$2.65	\$1,457.50	61.9%	\$641.30	\$128,260	
Cull Cows	24	1,150	Lbs.	\$1.07	\$1,230.50	14.5%	\$150.67	\$30,135	
Cull Bulls	2	1,400	Lbs.	\$1.07	\$1,498.00	1.2%	\$11.98	\$2,397	
Annual Sales		152				100.0%	\$1,036.52	\$207,303	
Feed, Supplements and Minerals									
Hay (January - March)		0.65	Tons	\$150.00	100.0%		\$97.50	\$19,500	
Straw (January - March)		0.65	Tons	\$60.00	100.0%		\$39.00	\$7,800	
Private Pasture (March - May)		2.5	AUM	\$30.00	100.0%		\$75.00	\$15,000	
Public Grazing									
Grazing Fees (May - Oct)		6	AUM	\$1.35	100.0%		\$8.10	\$1,620	
Non Fee Costs		6	AUM	\$13.00	100.0%		\$78.00	\$15,600	
Private Pasture/Range (Nov - Dec)		2	AUM	\$30.00	100.0%		\$60.00	\$12,000	
Salt and Mineral		1	Head	\$15.00	100.0%		\$15.00	\$3,000	
Supplements		1	Head	\$20.00	100.0%		\$20.00	\$4,000	
Subtotal Feed, Supplements and Minerals							\$392.60	\$78,520	
Reproduction, Veterinary and Health									
Reproduction Costs									
Breeding Bulls		8	Head	\$140.00	100.0%		\$5.60	\$1,120	
Veterinary Service		1	Head	\$25.00	100.0%		\$25.00	\$5,000	
Pregnancy Testing		1	Head	\$4.00	100.0%		\$4.00	\$800	
Animal Health			Head						
Medication and Supplies		1	Head	\$8.00	100.0%		\$8.00	\$1,600	
Vaccinations, Cow		1	Head	\$8.50	100.0%		\$8.50	\$1,700	
Vaccinations, Calves		1	Head	\$12.00	100.0%		\$12.00	\$2,112	
Subtotal Reproduction, Veterinary and Health							\$63.10	\$12,332	
Marketing									
Auction Fees		1	Head		2.50%		\$25.91	\$3,941	
Shrink		1	Head		2.00%		\$27.17	\$4,756	
Subtotal Marketing							\$53.08	\$8,697	
Other Inputs									
Hired Labor		500	Hrs	\$13.10			\$32.75	\$6,550	
Trucking		2	Times	\$10.00			\$20.00	\$4,000	
Utilities				\$5.00			\$5.00	\$1,000	
Miscellaneous/Fuel and Travel				\$30.00			\$30.00	\$6,000	
Subtotal Other Inputs							\$87.75	\$17,550	
Other Cash Expenses									
Liability Insurance				\$3,500			\$17.50	\$3,500	
Office				\$1,500			\$7.50	\$1,500	
Accounting/Legal				\$3,000			\$15.00	\$3,000	
Annual Investment Insurance				\$1,500			\$7.50	\$1,500	
Interest on Operating Capital			Rate	Term	Principle				
			5.0%	0.50/yr	\$78,520		\$9.82	\$1,963	
Total Other Cash Expenses							\$57.32	\$11,463	
Total Variable Costs							\$653.84	\$128,562	
Contribution Margin							\$382.67	\$78,741	
Ownership Costs									
Capital Recovery (Depreciation)		Unit	Purchase Value	Life Yrs	Value	Salvage Value	Per Cow	Total	
Buildings & Improvements			\$40,000	40	\$40,000	10,000	\$3.75	\$750	
Machinery/Vehicles			\$150,000	10	\$150,000	75,000	\$37.50	\$7,500	
Purchased Livestock (Bulls)		8	\$3,500	5	\$28,000	11,984	\$16.02	\$3,203	
Total Ownership Costs							\$57.27	\$11,453	
Total Costs							\$711.11	\$140,015	
Net Income to Owner (Management/risk)							\$325.41	\$67,288	

Table 2. Net Income (Total Sales per Cow - Total Costs per Cow)

Total Costs/Cow	Total Sales per Cow				
	\$937	\$987	\$1,037	\$1,087	\$1,137
\$671	\$265	\$315	\$365	\$415	\$465
\$691	\$245	\$295	\$345	\$395	\$445
\$711	\$225	\$275	\$325	\$375	\$425
\$731	\$205	\$255	\$305	\$355	\$405
\$751	\$185	\$235	\$285	\$335	\$385

Table 3. Net Income/Total Sales Ratio (Net Income per Cow / Total Sales per Cow)

Net Income/Cow	Total Sales per Cow				
	\$937	\$987	\$1,037	\$1,087	\$1,137
\$275	29.4%	27.9%	26.6%	25.3%	24.2%
\$300	32.1%	30.5%	29.0%	27.6%	26.4%
\$325	34.7%	33.0%	31.4%	29.9%	28.6%
\$350	37.4%	35.5%	33.8%	32.3%	30.8%
\$375	40.1%	38.1%	36.2%	34.6%	33.0%

Table 4. Contribution Margin (Total Sales per Cow - Variable Costs per Cow)

Total Sales/Cow	Variable Costs per Cow				
	\$554	\$604	\$654	\$704	\$754
\$1,137	\$583	\$533	\$483	\$433	\$383
\$1,087	\$533	\$483	\$433	\$383	\$333
\$1,037	\$483	\$433	\$383	\$333	\$283
\$987	\$433	\$383	\$333	\$283	\$233
\$937	\$383	\$333	\$283	\$233	\$183

Table 5. Contribution Margin Ratio (Contribution Margin per Cow / Total Sales per Cow)

Total Sales/Cow	Contribution Margin				
	\$282.67	\$332.67	\$382.67	\$432.67	\$482.67
\$1,137	24.9%	29.3%	33.7%	38.1%	42.5%
\$1,087	26.0%	30.6%	35.2%	39.8%	44.4%
\$1,037	27.3%	32.1%	36.9%	41.7%	46.6%
\$987	28.7%	33.7%	38.8%	43.9%	48.9%
\$937	30.2%	35.5%	40.9%	46.2%	51.5%

Table 6. Production Breakeven (Total Costs / Total Sales per Cow)

Total Sales/Cow	Total Costs				
	\$135,015	\$137,515	\$140,015	\$142,515	\$145,015
\$1,137	119 hd	121 hd	123 hd	125 hd	128 hd
\$1,087	124 hd	127 hd	129 hd	131 hd	133 hd
\$1,037	130 hd	133 hd	135 hd	137 hd	140 hd
\$987	137 hd	139 hd	142 hd	144 hd	147 hd
\$937	144 hd	147 hd	150 hd	152 hd	155 hd

Table 7. Price Breakeven (Total Costs per Cow / Weighted Sale Weight per Cow)

Total Costs/Cow	Weighted Sale Weight/Cow				
	538 lbs.	588 lbs.	638 lbs.	688 lbs.	738 lbs.
\$811	\$1.51	\$1.38	\$1.27	\$1.18	\$1.10
\$761	\$1.41	\$1.29	\$1.19	\$1.11	\$1.03
\$711	\$1.32	\$1.21	\$1.11	\$1.03	\$0.96
\$661	\$1.23	\$1.12	\$1.04	\$0.96	\$0.90
\$611	\$1.14	\$1.04	\$0.96	\$0.89	\$0.83