

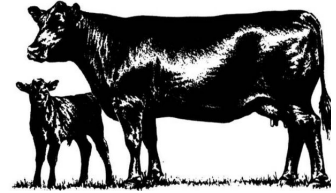
## Cow-Calf Budget: 250-head

### Eastern Idaho

*Summer on Federal, State & Private Range*

*Winter Feeding Necessary*

By Sidnee Rose Hill and Kord Killpack



## Background and Assumptions

University of Idaho costs and returns estimates use economic costs—all resources are valued based on market price or opportunity cost. This budget presents typical costs and returns per cow for a 250-head cow-calf operation in eastern Idaho plus total costs and returns for the ranch. The forage source is federal, state, and private range. Feeding is necessary in the winter.

### Livestock Investment

The livestock investment consists of 250 cows, 10 bulls, and 4 horses. Cows have a useful life of 8 years after they enter the breeding herd. The culling rate is 10 percent, and the cow herd has a 2 percent death loss. The ranch buys yearling bulls and replaces them every 4 years. The weaned calf crop is 90 percent of the number of cows wintered. Of the 34 weaned heifer calves selected from the calf crop as replacements, 4 are culled because of non-breeding or poor quality, leaving an annual net replacement of 30 head.

### Machinery and Equipment

The cow-calf enterprise uses a 3/4-ton pickup (4x4), a 1-ton pickup (4x4), an ATV, an 80 HP tractor with a loader, a feed wagon, a flatbed trailer, and a stock trailer (see Table 4). This equipment complement is minimal but considered adequate. Values on these investments are calculated at 50 percent of new replacement cost to reflect typically aged but functional ranch equipment.

Haying equipment is not included in this budget as hay production is treated as a separate enterprise. See EBB4-AH-19 ([www.uidaho.edu/cals/idaho-agbiz](http://www.uidaho.edu/cals/idaho-agbiz)) for costs and returns associated with hay production in Eastern Idaho. Hay and other feeds used as inputs in this cow-calf budget are valued at the market price received by growers.

### Buildings and Improvements

The ranch has 10 miles of 4-wire fence, one barn, a calving shed, a hay shed, one set of corrals with working alleys, a set of portable panels, a squeeze chute, a calf table, and an assortment of veterinary equipment. Water is supplied from natural sources. Buildings and improvements are valued at 80 percent of new replacement cost.

### Management Practices

The cows calve between February 15 and May 1. In the winter months, cattle are fed alfalfa grass hay and a protein supplement. Replacement heifers are fed alfalfa hay and a mineral supplement.

Cattle are moved from the ranch to federal or state range around May 1 and graze a combination of federal and state rangeland until September 30 (67% federal and 33% state). A grazing association fee is charged for range improvements, fencing, water maintenance, salt, and a range rider. On October 1 cattle are moved to private pastures for grazing through the end of October. After

cattle have been gathered and worked, they are moved to crop aftermath or other private pastures until winter-feeding begins around December 1. Total freight/trucking distance for grazing is 30 miles with a calculated cost of \$0.125 per cow/per loaded mile.

The top 34 heifer calves are kept as replacements, while the remaining 76 heifers and 110 steer calves are sold in October and November. Calves are weaned and loaded on trucks the same day. The costs of selling cattle include beef checkoff and brand inspection fees, freight and trucking, and sales commissions. Checkoff and brand inspection costs pertain to all cattle sold in the enterprise including cull animals. Sales commission and freight costs pertain to cull animals only since they are sold through the sale yard. All steer and heifer calves are sold directly to a buyer.

### **Veterinary Care**

Veterinary care for calves includes viral and clostridial (8 or 7-way vaccinations given twice during the year), growth implants and selenium supplements. Cows, bulls, and replacement heifers receive viral vaccinations including BVD and bacterial infections such as vibriosis and leptospirosis. Replacement heifers are also vaccinated for brucellosis. The herd is treated annually for parasites and the cows are pregnancy checked in the fall. Bulls also receive a breeding soundness evaluation and fertility and trichomoniasis tests in late winter/early spring.

### **Labor Costs**

Labor provided by the operator is valued at \$31.12 per hour, based on average wages for Idaho agricultural supervisors. Regular livestock labor is valued at \$18.19 per hour.

These hourly rates include all applicable payroll taxes and benefits.

### **Budget Format**

In addition to the Background and Assumptions pages, this publication has four tables presenting a variety of costs and returns information.

Table 1 shows both expected revenue and expenses. Expenses are broken into two main categories: operating and ownership. Operating expenses are those that typically vary with the level of production and involve inputs that are used in a single production cycle. Ownership expenses include a systematic cost recovery over the useful life for inputs used in the production process that have a useful life of more than one year.

Table 2 is a monthly summary of the cash flow of revenues and expenses based on when the operation occurs and when inputs are purchased.

Table 3 is a monthly summary of feed requirements for the different classes of livestock. Daily feed quantities per animal are summarized below.

Table 4 lists the purchase price and salvage value of equipment used in this operation, as well as annual capital recovery and interest on retained livestock.

**University of Idaho**  
**Extension**

Table 1: Cow-Calf Budget - Eastern Idaho, 250 Cow - 2021

CCB-CC6-21

Summer on Federal &amp; State Range, Winter Feeding Necessary

No. of Cows: 250

	Weight Each	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
<b>GROSS RETURNS</b>							
Steer Calves	550	lbs	110	1.67	101,035	404.14	
Heifer Calves	525	lbs	76	1.62	64,638	258.55	
Cull Cows	1300	lbs	25	0.67	21,775	87.10	
Cull Bulls	1800	lbs	3	0.88	4,752	19.01	
Cull Replacement Heifers	850	lbs	4	1.12	3,808	15.23	
<b>TOTAL GROSS RETURNS</b>					<b>\$196,008</b>	<b>\$784.03</b>	
<b>OPERATING COSTS</b>							
Alfalfa Hay		ton	65	180.25	11,716	46.87	
Alfalfa/Grass Hay		ton	635	145.00	92,075	368.30	
Protein Supplement		cwt	450	34.00	15,300	61.20	
Federal Range		AUM	1,020	1.35	1,377	5.51	
State Range		AUM	500	7.32	3,660	14.64	
Grazing Association Fees		AUM	303	25.00	7,575	30.30	
Private Range		AUM	303	26.00	7,878	31.51	
Crop Aftermath		AUM	303	19.50	5,909	23.63	
Salt/Mineral		cwt	60	11.00	660	2.64	
Veterinary/Medicine		\$	1	6,689.11	6,689	26.76	
Freight/Trucking to Pasture		head	250	3.75	938	3.75	
Commission		head	32	28.44	910	3.64	
Checkoff/Brand Inspection		head	218	2.96	645	2.58	
Hired Labor		hour	1,250	18.19	22,738	90.95	
Owner Labor		hour	1,000	31.12	31,120	124.48	
Machinery (Fuel, Oil, Repair)		\$	1	4,286.70	4,287	17.15	
Vehicles (Fuel, Repair)		\$	1	9,739.64	9,740	38.96	
Equipment (Repair)		\$	1	1,037.11	1,037	4.15	
Buildings & Improvements (Repair)		\$	1	287.20	287	1.15	
Interest on Operating Capital		\$	56,135	5.00%	2,807	11.23	
<b>TOTAL OPERATING COSTS</b>					<b>\$227,347</b>	<b>\$909.39</b>	
<b>NET RETURNS ABOVE OPERATING COSTS</b>					<b>(\$31,339)</b>	<b>-\$125.35</b>	
<b>OWNERSHIP COSTS</b>							
<b>Capital Recovery:</b>							
Purchased Livestock		\$	1	7,801	7,801	31.20	
Buildings & Improvements		\$	1	5,970	5,970	23.88	
Machinery		\$	1	2,709	2,709	10.84	
Equipment		\$	1	2,059	2,059	8.23	
Vehicles		\$	1	5,595	5,595	22.38	
Interest on Retained Livestock		\$	426,600	5.06%	21,586	86.34	
Taxes & Insurance		\$	1	781	781	3.12	
General Overhead		\$	1	5,000	5,000	20.00	
<b>TOTAL OWNERSHIP COSTS</b>					<b>\$51,501</b>	<b>\$206.00</b>	
<b>TOTAL COSTS</b>					<b>\$278,847</b>	<b>\$1,115.39</b>	
<b>NET RETURNS ABOVE TOTAL COSTS</b>					<b>(\$82,839)</b>	<b>-\$331.36</b>	

**Table 2: Monthly Summary of Returns and Expenses.**

CCB-CC6-21

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Value
<b>Production:</b>													
Steer Calves											101,035		101,035
Heifer Calves										64,638			64,638
Cull Cows	21,775												21,775
Cull Bulls										4,752			4,752
Cull Replacement Heifers	3,808										3,808		3,808
<b>Total Receipts</b>	<b>25,583</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>69,390</b>	<b>104,843</b>	<b>0</b>	<b>196,008</b>
<b>Operating Inputs:</b>													
Alfalfa Hay	2,343	2,343	2,343	2,343								2,343	11,716
Alfalfa/Grass Hay	18,415	18,415	18,415	18,415								18,415	92,075
Protein Supplement			7,650	7,650									15,300
Federal Range					1,377								1,377
State Range					3,660								3,660
Grazing Association Fees						7,575							7,575
Private Range										7,878			7,878
Crop Aftermath											5,909		5,909
Salt/Mineral	55	55	55	55	55	55	55	55	55	55	55	55	660
Veterinary/Medicine		1,338	1,338							4,013			6,689
Freight/Trucking					469				469				938
Commission											910		910
Checkoff/Brand Inspection											645		645
Hired Labor	1,137	3,411	3,411	3,411	1,137	1,137	1,137	1,137	1,137	2,274	2,274	1,137	22,738
Owner Labor	2,593	2,593	2,593	2,593	2,593	2,593	2,593	2,593	2,593	2,593	2,593	2,593	31,120
Machinery (Fuel, Oil, Repair)	78	78	78	78	78	78	78	78	78	78	78	78	4,287
Vehicles (Fuel, Repair)	357	357	357	357	357	357	357	357	357	357	357	357	9,740
Equipment (Repair)	812	812	812	812	812	812	812	812	812	812	812	812	1,037
Buildings & Improvements (Repair)	24	24	24	24	24	24	24	24	24	24	24	24	287
Interest on Operating Capital												2,807	2,807
<b>Total Costs</b>	<b>25,814</b>	<b>29,426</b>	<b>37,076</b>	<b>35,738</b>	<b>10,562</b>	<b>12,631</b>	<b>5,056</b>	<b>5,056</b>	<b>5,525</b>	<b>6,193</b>	<b>19,640</b>	<b>34,530</b>	<b>227,347</b>
<b>Net Returns</b>	<b>-231</b>	<b>-29,426</b>	<b>-37,076</b>	<b>-35,738</b>	<b>-10,562</b>	<b>-12,631</b>	<b>-5,056</b>	<b>-5,056</b>	<b>-5,525</b>	<b>63,197</b>	<b>85,203</b>	<b>-34,530</b>	<b>-31,339</b>

**Table 3: Monthly Feed Requirements.**

Feed	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Alfalfa Hay													
Replacement Heifers	ton	13	13	13	13								13
Alfalfa/Grass Hay													
Cows	ton	120	120	120	120								120
Bulls	ton	5	5	5	5								5
Horses	ton	2	2	2	2								2
Protein Supplement													
Cows	cwt			225	225								
Federal Range													
Cows	AUM					125	125	125	125	125			
Replacement Heifers	AUM					22	22	22	22	22			
Bulls	AUM					5	5	5	5	5			
State Range													
Cows	AUM					125	125	125	125	125			
Replacement Heifers	AUM					21	21	21	21	21			
Bulls	AUM					5	5	5	5	5			
Private Pasture													
Cows	AUM										250		
Replacement Heifers	AUM										43		
Bulls	AUM										10		
Horses	AUM										4		
Crop Aftermath													
Cows	AUM											250	
Replacement Heifers	AUM											43	
Bulls	AUM											10	
Horses	AUM											4	
Salt/Mineral	cwt	5	5	5	5	5	5	5	5	5	5	5	

**Daily Feed Requirements  
by Livestock Category (lb fed/head/day)**

Livestock Category	Alfalfa - Grass Hay (lb)	Alfalfa Hay (lb)	Protein Supple- ment (lb)	No. of Days
Replacement Heifers		20		150
Cows	30			150
Cows			3	60
Bulls	36			150
Horses	25			150

**Table 4: Investment Summary.**

CCB-CC6-21

	Total Value	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes & Insurance	Annual Capital Recovery
<b>Buildings, Improvements and Equipment</b>						
Fencing	20,000	0	100	25	72.00	\$1,420.00
Working Corrals & Pens	15,000	3,000	100	30	54.00	\$780.00
Panels	2,000	1,000	100	15	7.20	\$97.00
Barn	20,000	3,000	100	30	72.00	\$1,105.00
Hay Shed	30,000	5,000	100	30	108.00	\$1,625.00
Calving Shed	20,000	4,000	100	30	72.00	\$1,040.00
Feed Wagon	2,000	500	100	10	7.20	\$195.00
Squeeze Chute	3,500	1,000	100	10	12.60	\$325.00
Vet Equipment	1,500	0	100	15	5.40	\$145.50
Flatbed Trailer	6,000	1,000	100	20	21.60	\$405.00
Stock Trailer	12,000	1,000	100	20	43.20	\$891.00
<b>Total</b>	<b>\$132,000</b>				<b>\$475.20</b>	<b>\$8,028.50</b>
<b>Purchased Livestock</b>						
Horses	10,000	2,400	100	10		\$988.00
Bulls	40,000	15,840	100	4		\$6,813.12
<b>Total</b>	<b>\$50,000</b>					<b>\$7,801.12</b>
<b>Retained Livestock</b>						
Beef Replacement Heifers	51,600	40,936	100			\$2,610.96 <sup>2</sup>
Beef Cows	375,000	217,750	100			\$18,975.00 <sup>2</sup>
<b>Total</b>	<b>\$426,600</b>					<b>\$21,585.96</b>
<b>Machinery and Vehicles</b>						
80 hp Tractor with Loader	40,000	8,500	100	18	144.00	2,709.00
Pickup 4X4 3/4 ton	20,000	5,000	100	10	72.00	1,950.00
Pickup 4X4 1 ton	25,000	4,000	100	8	90.00	3,255.00
ATV	4,000	1,000	100	10	37.60	390.00
<b>Total</b>	<b>\$89,000</b>				<b>\$306.00</b>	<b>8,304.00</b>

<sup>1</sup> Annual capital recovery is the method of calculating depreciation and interest recommended by the National Task Force on Commodity Costs and Returns Measurement Methods.

<sup>2</sup> Interest on average investment.

This updated budget is based on previous budgets created by Ben Eborn, Danielle Gunn, and Justin Hatch.

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