

Cow-Calf Budget: 250-head

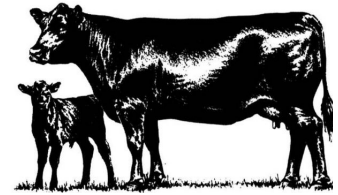
Eastern Idaho

Fall Calving

Summer Private Range & Pasture,

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 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 12 percent, and the cow herd has a 3 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 43 weaned heifer calves selected from the calf crop as replacements, 5 are culled because of non-breeding or poor quality, leaving an annual net replacement of 38 head.

Machinery and Equipment

The cow-calf enterprise uses a 3/4-ton pickup (4x4), a 1-ton pickup (4x4), an 80 HP tractor with a loader, an ATV, a feed wagon, 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) 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 September 1 and November 15. Cows are fed a protein supplement in October and November to support lactation and additionally begin preparing them for breeding season. In the winter months, cattle are fed alfalfa/grass hay. Replacement heifers are fed alfalfa hay.

Cattle are moved from the ranch to private range around May 1 until the end of August. In September cattle are moved to private pastures and crop aftermath for calving where they graze until winter-feeding begins

around December 1. The total freight/trucking distance for grazing is estimated at 80 miles with a calculated cost of \$0.125 per cow/per loaded mile.

The top 43 heifer calves are kept as replacements, while the remaining 67 heifers and 110 steer calves are sold in April. Calves are weaned and loaded on trucks the same day. The costs of selling cattle include checkoff/brand inspection, freight/trucking, and sales commissions. Checkoff/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 direct. The total freight/trucking distance to market is estimated at 80 miles with the calculated cost being \$0.125 per cow/per loaded mile.

Veterinary Care

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

Labor Costs

Labor provided by the operator is valued at \$31.12 per hour, based on average wages for 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.

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

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Fall Calving - Summer on Private Range & Pasture, 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
GROSS RETURNS							
Steer Calves	550	lbs	112	1.67	102,872	411.49	
Heifer Calves	525	lbs	70	1.62	59,535	238.14	
Cull Cows	1300	lbs	38	0.67	33,098	132.39	
Cull Bulls	1800	lbs	3	0.88	4,752	19.01	
Cull Replacement Heifers	850	lbs	5	1.12	4,760	19.04	
TOTAL GROSS RETURNS					\$205,017	\$820.07	
OPERATING COSTS							
Alfalfa Hay		ton	65	180.25	11,716	46.87	
Alfalfa/Grass Hay		ton	695	145.00	100,775	403.10	
Protein Supplement		cwt	450	34.00	15,300	61.20	
Private Pasture		AUM	630	30.33	19,108	76.43	
Private Range		AUM	1,212	26.00	31,512	126.05	
Crop Aftermath		AUM	307	19.50	5,986	23.95	
Salt/Mineral		cwt	55	11.00	605	2.42	
Veterinary/Medicine		\$	1	6,871.96	6,872	27.49	
Freight/Trucking		head	250	10.00	2,500	10.00	
Commission		head	46	23.16	1,065	4.26	
Checkoff/Brand Inspection		head	228	2.96	675	2.70	
Hired Labor		hour	625	18.19	11,369	45.48	
Owner Labor		hour	750	31.12	23,340	93.36	
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	2,871.99	2,872	11.49	
Interest on Operating Capital		\$	62,190	5.00%	3,109	12.44	
TOTAL OPERATING COSTS					\$251,868	\$1,007.47	
NET RETURNS ABOVE OPERATING COSTS					(\$46,851)	-\$187.40	
OWNERSHIP COSTS							
Capital Recovery:							
Purchased Livestock		\$	1	7,801	7,801	31.20	
Buildings & Improvements		\$	1	8,133	8,133	32.53	
Machinery		\$	1	2,709	2,709	10.84	
Equipment		\$	1	1,783	1,783	7.13	
Vehicles		\$	1	5,595	5,595	22.38	
Interest on Retained Livestock		\$	426,600	5.06%	21,586	86.34	
Taxes & Insurance		\$	1	1,026	1,026	4.10	
General Overhead		\$	1	5,000	5,000	20.00	
TOTAL OWNERSHIP COSTS					\$53,632	\$214.53	
TOTAL COSTS					\$305,500	\$1,222.00	
NET RETURNS ABOVE TOTAL COSTS					(\$100,483)	-\$401.93	

Table 2: Monthly Summary of Returns and Expenses.

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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Value
Production:													
Steer Calves				102,872									102,872
Heifer Calves				59,535									59,535
Cull Cows					33,098								33,098
Cull Bulls		4,752											4,752
Cull Replacement Heifers		4,760											4,760
Total Receipts	0	9,512	0	162,407	33,098	0	0	0	0	0	0	0	205,017
Operating Inputs:													
Alfalfa Hay	2,343	2,343	2,343	2,343								2,343	11,716
Alfalfa/Grass Hay	20,155	20,155	20,155	20,155								20,155	100,775
Protein Supplement			7,650	7,650									15,300
Private Pasture					19,108								19,108
Private Range					31,512								31,512
Crop Aftermath									5,986				5,986
Salt/Mineral	50	50	50	50	50	50	50	50	50	50	50	50	605
Veterinary/Medicine												6,872	6,872
Freight/Trucking	208	208	208	208	208	208	208	208	208	208	208	208	2,500
Commission		213	213									639	1,065
Checkoff/Brand Inspection					337								675
Hired Labor	947	947	947	947	947	947	947	947	947	947	947	947	11,369
Owner Labor	1,945	1,945	1,945	1,945	1,945	1,945	1,945	1,945	1,945	1,945	1,945	1,945	23,340
Machinery (Fuel, Oil, Repair)	214	643	643	643	214	214	214	214	214	429	429	214	4,287
Vehicles (Fuel, Repair)	812	812	812	812	812	812	812	812	812	812	812	812	9,740
Equipment (Repair)	56	56	56	56	56	56	56	56	56	56	56	56	1,037
Buildings & Improvements (Repair)	86	86	86	86	86	86	86	86	86	86	86	86	2,872
Interest on Operating Capital	239	239	239	239	239	239	239	239	239	239	239	239	3,109
Total Costs	27,057	27,699	35,349	35,136	55,516	4,559	4,559	4,559	10,883	4,773	5,413	33,929	251,868
Net Returns	-27,057	-18,187	-35,349	127,271	-22,418	-4,559	-4,559	-4,559	-10,883	-4,773	-5,413	-33,929	-46,851

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	132	132	132	132								132
Bulls	ton	5	5	5	5								5
Horses	ton	2	2	2	2								2
Protein Supplement													
Cows	cwt										225	225	
Private Range													
Cows	AUM					250	250	250	250				
Replacement Heifers	AUM					43	43	43	43				
Bulls	AUM					10	10	10	10				
Private Pasture													
Cows	AUM									250	250		
Replacement Heifers	AUM									43	43		
Bulls	AUM									10	10		
Horses	AUM					4	4	4	4	4	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	35			150
Cows			3	60
Bulls	40			150
Horses	25			150

Table 4: Investment Summary.

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	Total Value	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes & Insurance	Annual Capital Recovery ¹
Buildings, Improvements and Equipment						
Fencing	40,000	0	100	25	144.00	\$2,840.00
Working Corrals & Pens	15,000	3,000	100	30	54.00	\$780.00
Pannels	2,000	1,000	100	15	7.20	\$96.00
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
Feed Wagon	2,000	500	100	10	7.20	\$195.00
Calf Table	1,500	500	100	10	5.40	\$130.00
Squeeze Chute	3,500	1,000	100	10	12.60	\$325.00
Vet Equipment	1,500	0	100	15	5.40	\$145.50
Stock Trailer	12,000	1,000	100	20	43.20	\$891.00
Total	\$127,500				\$459.00	\$8,132.50
Purchased Livestock						
Horses	10,000	2,400	100	10		\$988.00
Bulls	40,000	15,840	100	4		\$6,813.12
Total	\$50,000					\$7,801.12
Retained Livestock						
Beef Replacement Heifers	51,600	40,936	100			\$2,610.96 ²
Beef Cows	375,000	217,750	100			\$18,975.00 ²
Total	\$426,600					\$21,585.96
Machinery and Vehicles						
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	188.00	1,950.00
Pickup 4X4 1 ton	25,000	4,000	100	8	235.00	3,255.00
ATV	4,000	1,000	100	10	37.60	390.00
Total	\$89,000				\$567.00	8,304.00

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

² Interest on average investment.

This updated budget is based on previous budgets created by Ben Eborn and Meranda Small.

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