

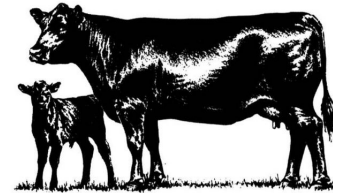
Cow-Calf Budget: 300-head

Central Idaho

Summer on Private Pasture & Federal 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 300-head cow-calf operation in Central Idaho plus total costs and returns for the ranch. The forage source is private pasture and federal range (BLM and Forest Service). Feeding is necessary in the winter.

Livestock Investment

The livestock investment consists of 300 cows, 12 bulls, and 6 horses. Cows have a useful life of 7 years after they enter the breeding herd. The culling rate is 14 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 92 percent of the number of cows wintered. Of the 54 weaned heifer calves selected from the calf crop as replacements, 6 are culled because of non-breeding or poor quality, leaving an annual net replacement of 48 head.

Machinery and Equipment

The cow-calf enterprise uses a 3/4-ton pickup (4x4), a 1-ton pickup, an ATV, an 80 HP tractor with a loader, a stock trailer, and a gooseneck 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 EBB3-AH-19 for costs and returns associated with hay production in central Idaho. Hay and other feeds used as inputs in this cow-calf budget are valued at the market price received by growers FOB the farm.

Buildings and Improvements

The ranch has 12 miles of 4-wire fence, one barn, one set of corrals with working alleys, a squeeze chute, a calf table, and a normal complement 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 January 15 and April 15. All cattle are fed alfalfa and grass hay from approximately December 1 to April 30. Replacement heifers also receive some supplemental barley/corn/oat grain blend.

Typically, an operation uses a combination of deeded pasture and federal range. Approximately two-thirds of the cattle graze on BLM and Forest Service range while the remaining one-third graze on meadow pasture. The range cattle are moved from hay meadows to BLM grazing in late April and to Forest Service grazing in June. Cows and calves are returned to previously harvested hay fields in early October, after the cattle have been gathered and worked.

The top 48 heifer calves are kept as replacements, while the remaining 84 heifers and 138 steer calves and cull animals are sold in November. 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. The estimated freight distance for market is 80 miles. Freight costs are calculated at a \$0.125 per cow/per loaded mile. All steer and heifer calves are sold direct.

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, vibriosis and leptospirosis. The herd is treated annually for parasites and the cows are pregnancy checked in the fall. Bulls also receive a breeding soundness evaluation and trichomoniasis test.

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: Cow-Calf Budget, 300 Cow - 2020

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Summer on Private Pasture & Federal Range, Winter Feeding Necessary

No. of Cows: 300

	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	138	1.67	126,753	422.51	
Heifer Calves	525	lbs	84	1.62	71,442	238.14	
Cull Cows	1100	lbs	42	0.67	30,954	103.18	
Cull Bulls	1650	lbs	3	0.88	4,356	14.52	
Cull Replacement Heifers	900	lbs	6	1.12	6,048	20.16	
TOTAL GROSS RETURNS					\$239,553	\$798.51	
OPERATING COSTS							
Alfalfa/Grass Hay		ton	379	180.00	68,220	227.40	
Meadow Hay		ton	281	145.00	40,745	135.82	
Feed Barley		cwt	150	30.38	4,557	15.19	
Federal Range		AUM	1,121	1.35	1,513	5.04	
Meadow Pasture		AUM	713	26.00	18,538	61.79	
Crop Aftermath		AUM	484	19.50	9,438	31.46	
Salt/Mineral		cwt	156	34.00	5,304	17.68	
Veterinary/Medicine		\$	1	8,331.05	8,331	27.77	
Freight/Trucking		head	51	10.00	510	1.70	
Commission		head	51	20.27	1,034	3.45	
Checkoff/Brand Inspection		head	273	2.96	808	2.69	
Hired Labor		hour	2,180	18.19	39,654	132.18	
Owner Labor		hour	1,000	31.12	31,120	103.73	
Machinery (Fuel, Oil, Repair)		\$	1	4,358.15	4,358	14.53	
Vehicles (Fuel, Repair)		\$	1	10,026.10	10,026	33.42	
Equipment (Repair)		\$	1	904.15	904	3.01	
Buildings & Improvements (Repair)		\$	1	1,010.52	1,011	3.37	
Interest on Operating Capital		\$	61,518	5.00%	3,076	10.25	
TOTAL OPERATING COSTS					\$249,147	\$830.49	
NET RETURNS ABOVE OPERATING COSTS					(\$9,594)	-\$31.98	
OWNERSHIP COSTS							
Capital Recovery:							
Purchased Livestock		\$	1	10,104	10,104	33.68	
Housing & Improvements		\$	1	3,257	3,257	10.86	
Machinery		\$	1	2,709	2,709	9.03	
Equipment		\$	1	1,573	1,573	5.24	
Vehicles		\$	1	3,335	3,335	11.12	
Interest on Retained Livestock		\$	514,800	5.06%	26,049	86.83	
Taxes & Insurance		\$	1	846	846	2.82	
General Overhead		\$	1	5,000	5,000	16.67	
TOTAL OWNERSHIP COSTS					\$52,873	\$176.24	
TOTAL COSTS					\$302,020	\$1,006.73	
NET RETURNS ABOVE TOTAL COSTS					(\$62,467)	-\$208.22	

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											126,753		126,753
Heifer Calves											71,442		71,442
Cull Cows					7,739						23,216		30,954
Cull Bulls											4,356		4,356
Cull Replacement Heifers											6,048		6,048
Total Receipts	0	0	0	0	7,739	0	0	0	0	0	231,815	0	239,553
Operating Inputs:													
Alfalfa/Grass Hay	13,644	13,644	13,644	13,644								13,644	68,220
Meadow Hay	8,149	8,149	8,149	8,149								8,149	40,745
Feed Barley	911	911	911	911								911	4,557
Federal Range					303	303	303	303	303				1,513
Meadow Pasture					3,708	3,708	3,708	3,708	3,708				18,538
Crop Aftermath											4,719	4,719	9,438
Salt/Mineral		442	442	442	442	442	442	442	442	442	442	442	5,304
Veterinary/Medicine		417		3,749		833			833	2,499			8,331
Freight/Trucking					128							383	510
Commission					258							775	1,034
Checkoff/Brand Inspection					202							606	808
Hired Labor	3,172	6,741	6,741	3,172	3,172	892	892	892	892	6,741	3,172	3,172	39,654
Owner Labor	2593.33	2593.33	2593.33	2593.33	2593.33	2593.33	2593.33	2593.33	2593.33	2593.33	2593.33	2593.33	31,120
Machinery (Fuel, Oil, Repair)	363	363	363	363	363	363	363	363	363	363	363	363	4,358
Vehicles (Fuel, Repair)	836	836	836	836	836	836	836	836	836	836	836	836	10,026
Equipment (Repair)	75	75	75	75	75	75	75	75	75	75	75	75	904
Buildings & Improvements (Repair)	84	84	84	84	84	84	84	84	84	84	84	84	1,011
Interest on Operating Capital												3,076	3,076
Total Costs	29,828	34,256	33,839	34,019	12,164	10,129	9,296	9,296	10,129	13,634	14,049	38,065	249,147
Net Returns	-29,828	-34,256	-33,839	-34,019	-4,426	-10,129	-9,296	-9,296	-10,129	-13,634	217,766	-38,065	-9,594

Table 3: Monthly Feed Requirements.

Feed	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Feed Barley													
Replacement Heifers	cwt	30	30	30	30								30
Alfalfa/Grass Hay													
Cows	ton	56	56	56	56								56
Replacement Heifers	ton	11	11	11	11								11
Bulls	ton	7	7	7	7								7
Horses	ton	2	2	2	2								2
Meadow Hay													
Cows	ton	56	56	56	56								56
Federal Range													
Cows	AUM					183	183	183	183	183			
Replacement Heifers	AUM					26	26	26	26	26			
Bulls	AUM					11	11	11	11	11			
Horses	AUM					4	4	4	4	4			
Meadow Pasture													
Cows	AUM					116	116	116	116	116			
Replacement Heifers	AUM					17	17	17	17	17			
Bulls	AUM					7	7	7	7	7			
Horses	AUM					2	2	2	2	2			
Crop Aftermath	AUM										242	242	
Salt/Mineral	cwt	13	13	13	13	13	13	13	13	13	13	13	13

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

Livestock Category	Alfalfa or Grass Hay (lb)	Feed Barley (lb)	No. of Days
Replacement Heifers		1.8	150
Replacement Heifers	13		150
Cows	25		150
Bulls	28		150
Horses	20		150

Table 4: Investment Summary.

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	Total Value	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes & Insurance	Annual Capital Recovery
Buildings, Improvements and Equipment						
Fencing	24,000	0	100	25	86.40	\$1,704.00
Working Corrals & Pens	10,000	3,000	100	30	36.00	\$448.00
Barn	20,000	3,000	100	30	72.00	\$1,105.00
Calf Table	1,500	500	100	10	5.25	\$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	5,000	1,000	100	20	18.00	\$324.00
Gooseneck Trailer	12,000	4,000	100	20	43.20	\$648.00
Total	\$77,500				\$278.85	\$4,829.50
Purchased Livestock						
Horses	15,000	3,600	100	10		\$1,482.00
Bulls	48,000	17,424	100	4		\$8,622.43
Total	\$63,000					\$10,104.43
Retained Livestock						
Beef Replacement Heifers	64,800	55,890	100			\$3,278.88 ²
Beef Cows	450,000	231,000	100			\$22,770.00 ²
Total	\$514,800					\$26,048.88
Machinery and Vehicles						
Tractor 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	
Pickup 4X4 1 ton	25,000	6,000	100	8	235.00	\$2,945.00
ATV	4,000	1,000	100	10	37.60	\$390.00
Total	\$89,000				\$567.00	\$6,044.00

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, Shannon Williams, and Sarah Baker.

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