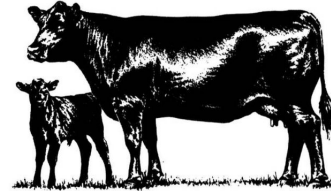


Cow-Calf Budget: 250-head

Northern Idaho

Summer on 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 plus total costs and returns for a Northern Idaho ranch. The forage source is deeded range with some winter hay feeding.

Livestock Investment

The livestock investment consists of 250 cows, 10 bulls, and 2 horses. Cows have a useful life of 6 years after they enter the breeding herd. The culling rate is 17 percent, and the cow herd has a 2 percent death loss. The ranch buys 2-year-old bulls and replaces them every 4 years. The weaned calf crop is 90 percent of the number of cows wintered. Of the 58 weaned heifer calves selected from the calf crop as replacements, 10 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 $\frac{3}{4}$ -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 EBB1-AH-19 for costs and returns associated with grass hay production in Northern Idaho. Also, see the Terms and Definitions document for an explanation of the terms and principles used. 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 35 miles of 4-wire fence, one barn, a hay shed, grain storage, two sets 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

Most cows calve between January 1 and late March, with some calves being born throughout the year. All cattle are fed alfalfa and grass hay from approximately December 1 to March 30. Replacement heifers also receive some supplemental corn/oat/barley mix grain.

In April, the cattle are trucked to private spring pasture where they remain until late May. They are then trucked to private summer pasture and left through October. By November 1, after gathering and working the cattle, they are pastured on stubble fields until winter feeding begins. Costs are

included in the budget for all lands that are grazed.

The top 48 heifer calves are kept as replacements, while the remaining 65 heifers plus 113 steer calves are sold in November through private treaty. Cull animals are sold in June, August, and 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.

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 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, 250 Cow - 2020

CCB-CC1-21

Summer on Private 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
GROSS RETURNS							
Steer Calves	575	lbs	113	1.67	108,508	434.03	
Heifer Calves	525	lbs	55	1.62	46,778	187.11	
Cull Cows	1200	lbs	43	0.67	34,572	138.29	
Cull Bulls	1800	lbs	3	0.88	4,752	19.01	
Cull Replacement Heifers	900	lbs	10	1.12	10,080	40.32	
TOTAL GROSS RETURNS					\$204,690	\$818.76	
OPERATING COSTS							
Alfalfa/Grass Hay		ton	434	180.25	78,229	312.91	
Feed Barley		cwt	173	30.38	5,256	21.02	
Private Range		AUM	2,134	26.00	55,484	221.94	
Crop Aftermath		AUM	303	19.50	5,909	23.63	
Salt/Mineral		cwt	60	15.00	900	3.60	
Veterinary/Medicine		\$	1	7,107.78	7,108	28.43	
Trucking to & from Pasture		head	250	18.00	4,500	18.00	
Trucking to Market		head	56	10.00	560	2.24	
Commission		head	56	22.06	1,235	4.94	
Checkoff/Brand Inspection		head	224	2.96	663	2.65	
Hired Labor		hour	1,260	18.19	22,919	91.68	
Owner Labor		hour	1,000	30.10	30,100	120.40	
Machinery (Fuel, Oil, Repair)		\$	1	4,358.15	4,358	17.43	
Vehicles (Fuel, Repair)		\$	1	10,026.10	10,026	40.10	
Equipment (Repair)		\$	1	957.33	957	3.83	
Buildings & Improvements (Repair)		\$	1	2,871.99	2,872	11.49	
Interest on Operating Capital		\$	57,769	5.00%	2,888	11.55	
TOTAL OPERATING COSTS					\$233,964	\$935.86	
NET RETURNS ABOVE OPERATING COSTS					(\$29,274)	-\$117.10	
OWNERSHIP COSTS							
Capital Recovery:							
Purchased Livestock		\$	1	7,307	7,307	29.23	
Housing & Improvements		\$	1	8,966	8,966	35.86	
Machinery		\$	1	2,709	2,709	10.84	
Equipment		\$	1	1,573	1,573	6.29	
Vehicles		\$	1	5,285	5,285	21.14	
Interest on Retained Livestock		\$	438,600	5.06%	22,193	88.77	
Taxes & Insurance		\$	1	1,186	1,186	4.74	
General Overhead		\$	1	5,235	5,235	20.94	
TOTAL OWNERSHIP COSTS					\$54,454	\$217.82	
TOTAL COSTS					\$288,418	\$1,153.67	
NET RETURNS ABOVE TOTAL COSTS					(\$83,728)	-\$334.91	

Table 2: Monthly Summary of Returns and Expenses. CCB-CC1-21

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Value
Production:													
Steer Calves											108,508		108,508
Heifer Calves											46,778		46,778
Cull Cows						34,572							34,572
Cull Bulls		2,851						4,752					4,752
Cull Replacement Heifers											10,080		10,080
Total Receipts	0	2,851	0	0	0	34,572	0	4,752	0	0	165,366	0	204,690
Operating Inputs:													
Alfalfa/Grass Hay	19,557	19,557	19,557									19,557	78,229
Feed Barley	876	876	876	876							876	876	5,256
Private Range				7,926	7,926	7,926	7,926	7,926	7,926	7,926			55,484
Crop Aftermath											5,909		5,909
Salt/Mineral	75	75	75	75	75	75	75	75	75	75	75	75	900
Veterinary/Medicine	71	355		2,665	71	355		142	782	2,665			7,108
Trucking to & from Pasture				2,250						2,250			4,500
Trucking to Market		19				381		9			151		560
Commission		41				840		21			333		1,235
Checkoff/Brand Inspection		5				103		3			496		663
Hired Labor	3,274	3,274	3,274	3,274						3,274	3,274	3,274	22,919
Owner Labor	2,508	2,508	2,508	2,508	2,508	2,508	2,508	2,508	2,508	2,508	2,508	2,508	30,100
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)	80	80	80	80	80	80	80	80	80	80	80	80	957
Buildings & Improvements (Repair)	239	239	239	239	239	239	239	239	239	239	239	239	2,872
Interest on Operating Capital												2,888	2,888
Total Costs	27,879	28,229	27,808	21,093	12,098	13,706	12,027	12,202	12,809	20,217	15,140	30,697	233,964
Net Returns	-27,879	-25,377	-27,808	-21,093	-12,098	20,866	-12,027	-7,450	-12,809	-20,217	150,225	-30,697	-29,274

Table 3: Monthly Feed Requirements.

Feed	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Feed Barley	cwt	29	29	29	29							29	29
Alfalfa/Grass Hay													
Cows	ton	94	94	94									94
Replacement Heifers	ton	9	9	9									9
Bulls	ton	5	5	5									5
Horses	ton	1	1	1									1
Private Range													
Cows	AUM				250	250	250	250	250	250	250		
Replacement Heifers	AUM				38	38	38	38	38	38	38		
Bulls	AUM				14	14	14	14	14	14	14		
Horses	AUM				2	2	2	2	2	2	2		
Crop Aftermath	AUM											303	
Salt/Mineral	cwt	5	5	5	5	5	5	5	5	5	5	5	5

**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		2	180
Replacement Heifers	13		120
Cows	25		120
Bulls	30		120
Horses	25		120

Table 4: Investment Summary.

CCB-CC1-22

	Total Value	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes & Insurance	Annual Capital Recovery ¹
Buildings, Improvements and Equipment						
Fencing	70,000	0	100	25	252.00	\$4,970.00
Hay Shed	30,000	5,000	100	40	108.00	\$1,450.00
Grain Storage	8,500	1,500	100	30	30.60	\$455.00
Working Corrals & Pens	20,000	3,000	100	30	72.00	\$986.00
Barn	20,000	3,000	100	30	72.00	\$1,105.00
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	5,000	1,000	100	20	18.00	\$324.00
Gooseneck Trailer	12,000	4,000	100	20	43.20	\$648.00
Total	\$172,000				\$619.20	\$10,538.50
Purchased Livestock						
Horses	5,000	1,200	100	10		\$494.00
Bulls	40,000	15,840	100	4		\$6,813.12
Total	\$45,000					\$7,307.12
Retained Livestock						
Beef Replacement Heifers	63,600	54,855	100			\$3,218.16 ²
Beef Cows	375,000	192,500	100			\$18,975.00 ²
Total	\$438,600					\$22,193.16
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	\$1,950.00
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	\$7,994.00

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 Jim Church.

The authors – Sidnee Rose Hill was the Program Coordinator for the Idaho Farm Business Management and Benchmarking Program, a USDA-NIFA funded project implemented by the University of Idaho, through May 2022 and is a rancher based in Carey, ID. Kord Killpack is an Extension Educator – Livestock at the University of Idaho based in Bear Lake County, ID. For any questions, please email Kord Killpack at kkillpack@uidaho.edu.

Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Barbara Petty, Associate Dean and Director of University of Idaho Extension, University of Idaho, Moscow, Idaho 83843. The University of Idaho provides equal opportunity in education and employment on the basis of race, color, religion, national origin, gender, age, disability, or status as a Vietnam-era veteran, as required by state and federal laws.