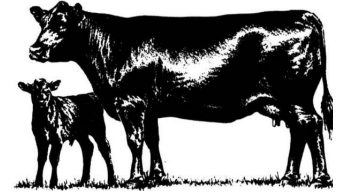


**Cow-Calf Budget: 500-head**  
**Southwestern Idaho – Bruneau/Three Creek Area,**  
**Owyhee County**  
***Summer on Federal, State & Private Range***  
***Winter on Federal Range***  
By Sidnee Rose Hill and Kord Killpack



## **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 500-head cow-calf operation in the Bruneau/Three Creek area of Owyhee County in southwestern Idaho plus total costs and returns for the ranch. The forage source is federal, state, and private range.

### **Livestock Investment**

The livestock investment consists of 500 cows, 25 bulls, and 10 horses. The culling rate is 15 percent, and the cow herd has a 1 percent death loss. The ranch buys two-year-old bulls and replaces them every 4-5 years. The weaned calf crop is 87 percent of the number of cows wintered. Of the 88 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 80 head.

### **Machinery and Equipment**

The cow-calf enterprise uses two 3/4-ton pickups (4x4), a 2-ton truck, a backhoe, a 160 HP tractor, a feed wagon, stock trailer, a UTV and an ATV (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. 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 25 miles of 4-wire fence, one barn, 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 April 15, but some will calve later in the year. The cows graze federal range on winter permits December through February. Replacement heifers are fed alfalfa hay during the winter months.

Cattle are moved from the ranch to federal or state range around March 15 and graze a combination of federal and state rangeland until August 31 (67% federal and 33% state). A grazing association fee is charged for range improvements, salt, and range rider labor. On September 1 cattle are moved to private range for grazing through the end of October. After cattle have been gathered and worked, they are moved to crop aftermath until grazing begins around December 15. 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 88 heifer calves are kept as replacements, while the remaining 130 heifers and 218 steer calves are sold in November. Calves are weaned and loaded on trucks the same day. All steer and heifer calves are sold direct.

The costs of selling cattle include checkoff/brand inspection, freight/trucking, and sales commissions. The total freight/trucking distance to market is estimated at 80 miles with the calculated cost being \$0.125 per cow/per loaded mile. 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 in July and December.

### **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 fall. 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.

**University of Idaho**  
Extension

Table 1: Cow-Calf Budget - Bruneau/Three Creek Area - Owyhee County, 500 Cow - 2021

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Summer on Federal & State Range, Winter on Federal & Private Range

No. of Cows: 500

	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	525	lbs	218	1.67	191,132	382.26	
Heifer Calves	485	lbs	130	1.62	102,141	204.28	
Cull Cows	1200	lbs	75	0.67	60,300	120.60	
Cull Bulls	1800	lbs	5	0.88	7,920	15.84	
Cull Replacement Heifers	1000	lbs	8	1.12	8,960	17.92	
<b>TOTAL GROSS RETURNS</b>					<b>\$370,453</b>	<b>\$740.91</b>	
<b>OPERATING COSTS</b>							
Alfalfa Hay		ton	108	180.25	19,467	38.93	
Meadow Hay		ton	50	145.00	7,250	14.50	
Protein Supplement		cwt	563	34.00	19,142	38.28	
Federal Range		AUM	5,624	1.35	7,592	15.18	
State Range		AUM	432	7.32	3,162	6.32	
Private Range		AUM	1,108	19.50	21,606	43.21	
Salt/Mineral		cwt	125	11.00	1,375	2.75	
Veterinary/Medicine		\$	1	14,089.79	14,090	28.18	
Freight/Trucking to Market		head	88	10.00	880	1.76	
Freight/Trucking to & from Pasture		head	525	10.00	5,250	10.50	
Hired Labor		hour	480	18.19	8,731	17.46	
Owner Labor		hour	2,100	31.12	65,352	130.70	
Commission		head	88	21.93	1,930	3.86	
Checkoff/Brand Inspection		head	436	2.96	1,291	2.58	
Machinery (Fuel, Oil, Repair)		\$	1	7,287.39	7,287	14.57	
Vehicles (Fuel, Repair)		\$	1	14,609.46	14,609	29.22	
Equipment (Repair)		\$	1	2,233.77	2,234	4.47	
Buildings & Improvements (Repair)		\$	1	3,403.84	3,404	6.81	
Interest on Operating Capital		\$	51,163	5.00%	2,558	5.12	
<b>TOTAL OPERATING COSTS</b>					<b>\$207,210</b>	<b>\$414.42</b>	
<b>NET RETURNS ABOVE OPERATING COSTS</b>					<b>\$163,242</b>	<b>\$326.48</b>	
<b>OWNERSHIP COSTS</b>							
<b>Capital Recovery:</b>							
Purchased Livestock		\$	1	25,622	25,622	51.24	
Buildings & Improvements		\$	1	6,725	6,725	13.45	
Machinery		\$	1	4,033	4,033	8.07	
Equipment		\$	1	1,213	1,213	2.43	
Vehicles		\$	1	12,993	12,993	25.99	
Interest on Retained Livestock		\$	746,000	5.06%	37,748	75.50	
Taxes & Insurance		\$	1	1,500	1,500	3.00	
General Overhead		\$	1	8,000	8,000	16.00	
<b>TOTAL OWNERSHIP COSTS</b>					<b>\$97,834</b>	<b>\$195.67</b>	
<b>TOTAL COSTS</b>					<b>\$305,044</b>	<b>\$610.09</b>	
<b>NET RETURNS ABOVE TOTAL COSTS</b>					<b>\$65,408</b>	<b>\$130.82</b>	

**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
<b>Production:</b>													
Steer Calves											191,132		191,132
Heifer Calves											102,141		102,141
Cull Cows							18090					42210	60,300
Cull Bulls							7,920						7,920
Cull Replacement Heifers											8,960		8,960
<b>Total Receipts</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26,010</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>302,233</b>	<b>42,210</b>	<b>370,453</b>
<b>Operating Inputs:</b>													
Alfalfa Hay	4,867	4,867	4,867	2,433								2,433	19,467
Meadow Hay	1,813	1,813	1,813	906								906	7,250
Protein Supplement	6,381										6,381	6,381	19,142
Federal Range			7,592										7,592
State Range			3,162										3,162
Private Range									10,803	10,803			21,606
Salt/Mineral	115	115	115	115	115	115	115	115	115	115	115	115	1,375
Veterinary/Medicine			3,522								10,567		14,090
Freight/Trucking to Market		88						528				264	880
Freight/Trucking to & from Pasture			2,625									2,625	5,250
Hired Labor	437	873	1,746	1,746	873	437	437	437	437	437	437	437	8,731
Owner Labor	5,446	5,446	5,446	5,446	5,446	5,446	5,446	5,446	5,446	5,446	5,446	5,446	65,352
Commission		39							251			1,640	1,930
Checkoff/Brand Inspection		26							168			1,097	1,291
Machinery (Fuel, Oil, Repair)	607	607	607	607	607	607	607	607	607	607	607	607	7,287
Vehicles (Fuel, Repair)	1,217	1,217	1,217	1,217	1,217	1,217	1,217	1,217	1,217	1,217	1,217	1,217	14,609
Equipment (Repair)	186	186	186	186	186	186	186	186	186	186	186	186	2,234
Buildings & Improvements (Repair)	284	284	284	284	284	284	284	284	284	284	284	284	3,404
Interest on Operating Capital												2,558	2,558
<b>Total Costs</b>	<b>21,352</b>	<b>15,560</b>	<b>33,183</b>	<b>12,941</b>	<b>8,728</b>	<b>8,292</b>	<b>8,292</b>	<b>9,238</b>	<b>19,095</b>	<b>19,095</b>	<b>30,866</b>	<b>20,570</b>	<b>207,210</b>
<b>Net Returns</b>	<b>-21,352</b>	<b>-15,560</b>	<b>-33,183</b>	<b>-12,941</b>	<b>-8,728</b>	<b>-8,292</b>	<b>17,718</b>	<b>-9,238</b>	<b>-19,095</b>	<b>-19,095</b>	<b>271,367</b>	<b>21,640</b>	<b>163,242</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	36	36										36
Meadow Hay													
Bulls	ton	9	8	9									
Horses	ton	4	4	4	4							4	4
Federal Range													
Cows	AUM	470	470	470	470	470	470	470	470			470	470
Replacement Heifers	AUM			76	76	76	76	76	76	76	76	76	
Bulls	AUM			30	30	30	30	30	30	30	30		
State Range													
Cows	AUM	30	30	30	30	30	30	30	30	30	30		
Replacement Heifers	AUM			15	15	15	15	15	15	15	15		
Bulls	AUM									6	6		
Private Range													
Cows	AUM									500	500		
Bulls	AUM									24	24		
Horses	AUM					10	10	10	10	10	10		
Protein Supplement													
Cows & Heifers	cwt	96	96	96	93							96	96
Salt/Mineral	cwt	10	10	10	10	10	10	10	10	10	10	10	10

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

Livestock Category	Alfalfa or Grass Hay (lb)	Protein Supplement (lb)	No. of Days
Replacement Heifers	20		90
Replacement Heifers		3	60
Cows	25		30
Cows		3	60
Bulls	30		90
Horses	25		120

**Table 4: Investment Summary.**

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	Total Value	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes & Insurance	Annual Capital Recovery <sup>1</sup>
<b>Buildings, Improvements and Equipment</b>						
Fencing	63,000	0	100	25	226.80	\$4,473.00
Corrals & Pens	26,750	10,700	100	30	96.30	\$1,043.25
Water System	5,900	0	100	20	21.24	\$477.90
Barn	12,500	1,250	100	30	45.00	\$731.25
Feed Wagon	800	0	100	10	2.88	\$104.00
Squeeze Chute	1,800	180	100	10	6.48	\$210.60
Vet Equipment	650	65	100	15	2.34	\$56.75
Stock Trailer	11,550	1,155	100	20	41.58	\$842.00
<b>Total</b>	<b>\$122,950</b>				<b>\$442.62</b>	<b>\$7,938.74</b>
<b>Purchased Livestock</b>						
Horses	25,000	3,600	100	10		\$2,782.00
Bulls	100,000	19,008	100	4		\$22,839.74
<b>Total</b>	<b>\$125,000</b>					<b>\$25,621.74</b>
<b>Retained Livestock</b>						
Beef Replacement Heifers	96,000	70,560	100			\$4,857.60 <sup>2</sup>
Beef Cows	650,000	241,200	100			\$32,890.00 <sup>2</sup>
<b>Total</b>	<b>\$746,000</b>					<b>\$37,747.60</b>
<b>Machinery and Vehicles</b>						
Backhoe	30,000	7,100	20	18	108.00	\$1,969.40
150 hp Tractor	30,000	6,000	55	18	108.00	\$2,064.00
2 Pickups 4X4 3/4 ton	60,000	5,000	100	10	564.00	\$7,150.00
2 Ton Truck	40,000	10,000	50	10	376.00	\$3,900.00
Car	10,000	2,500	25	8	94.00	\$1,162.50
UTV	7,000	4,000	100	10	65.80	\$390.00
1 ATVs	4,000	1,000	100	10	37.60	\$390.00
<b>Total</b>	<b>\$181,000</b>				<b>\$1,250.00</b>	<b>\$17,025.90</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, Scott Jensen, and Neil Rimbey.

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