

EBB-CC3-02

## Cow-Calf - 500 Cow Summer on Federal Range Winter on Federal and Private Range

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## Background and Assumptions

This budget presents both the average costs and returns per cow for a 500-head cow-calf operation and the total costs and returns for the ranch. The forage source is federal, state and private range, and some feeding is necessary in the winter.

### Livestock Investment

Livestock investment is 500 cows, 25 bulls, and 10 horses. Cows have a useful life of 5 years after they are placed in the breeding herd. The culling rate is 17 percent and the cow herd has a 3 percent death loss. The ranch buys two-year old bulls and replaces them every 4 years. The weaned calf crop is 85 percent of the number of cows wintered.<sup>1</sup> Of the 113 weaned heifer calves selected from the calf crop for replacements, 13 are culled because of non-breeding or poor quality. This leaves a net replacement rate of 100 head each year.

### Machinery and Equipment

The cow/calf enterprise uses two ¾-ton pickups (4x4), one 1-ton pickup (4x4), a sedan, two 80 HP tractors (one with a loader), a feed wagon, a stock trailer, and a gooseneck trailer. This equipment complement is minimal, but considered adequate to make the ranch operation functional. 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. Only equipment that is necessary for the cattle enterprise is included. Refer to EBB2-AH-01 for a summary of the costs and returns associated with hay production in southwestern Idaho. Hay and other feeds used as inputs in this cow/calf budget are valued at the market price received by growers (farmgate).

### Buildings and Improvements

The ranch has 50 miles of 4-wire fence, one two acre corral with working alleys, a squeeze chute, a calf cradle 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 majority of cows calve in March, but a few will calve later in the year. Cows and replacement heifers are fed only grass hay during the calving month. During the winter months

Animals	Alfalfa/grass hay (lb fed/day)	Feed barley (lb fed/day)	Number of days
Replacement heifer	20	—	90
Replacement heifer	—	3	60
Cows	25	—	30
Cows	—	3	60
Bulls	30	—	90
Horses	20	—	90

(November through February), they graze and receive a hay supplement. Other animals (bulls and horses) are fed only hay throughout the winter. Monthly feed quantities for the herd are listed in Table 3 while daily feed quantities per animal are summarized above.

The cattle are moved from the ranch to federal range around April 1 and will graze there until October 31. There is also some state range that is grazed within the Federal allotments. The cattle are moved to previously harvested hay ground in late October after they have been gathered and worked. The top end of the heifer calves are kept as replacements, and the rest of the heifers (100 head) plus 213 steer calves are sold in November. Cull animals are sold in both August and November. From November 1 through the end of February, the cattle graze crop aftermath and deeded range. There is also a small amount of federal grazing that occurs during this time. Costs are included in the budget for all lands that are grazed.

The costs of selling cattle include check-off/brand inspection, sales commissions, and freight/trucking. Check-off 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 direct.

Veterinary care for calves includes viral treatments and 8-way vaccinations (given twice during the year), implants, and fly tags. Heifer calves also receive a vaccination for Bangs. Cows and bulls are treated for parasites and bulls are given a semen/trich test. Replacement heifers are given preg checks, pelvic measures, and treatments for parasites.

Labor is provided by the operator and one full-time person and valued at \$8.50 and \$11.50 per hour, respectively. An additional person is hired during winter calving and paid \$8.50 per hour. The hired labor rate includes payroll taxes and employee benefits paid by the rancher.

<sup>1</sup> Percent calf crop =  $\frac{\text{number of calves} \times 100}{\text{number of cows wintered}}$

**Table1: Cow-Calf-- 500 Cows**  
**Winter and Summer on Federal and State Range**

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	Weight Each	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
<b>1. Gross Receipts</b>							
Steer calves	4.15	cwt	213	88.00	77,787.60	155.58	_____
Heifer calves	3.75	cwt	100	83.00	31,125.00	62.25	_____
Aged bull	16.00	cwt	6	48.00	4608.00	9.22	_____
Cull cows	11.00	cwt	85	43.00	40,205.00	80.41	_____
Cull replacement heifer	7.25	cwt	13	70.00	6597.50	13.20	_____
Total Receipts					\$160,323.10	\$320.65	_____
<b>2. Operating Costs</b>							
Meadow hay		ton	340.45	60.00	20,427.00	40.85	_____
Alfalfa hay		ton	9.32	75.00	698.82	1.40	_____
Salt		lb	11,297.00	0.06	677.82	1.36	_____
BLM		AUM	2930.80	1.35	3956.58	7.91	_____
U.S. Forest Service		AUM	1590.00	1.35	2146.50	4.29	_____
State range		AUM	240.00	5.33	1279.20	2.56	_____
Deeded range		AUM	730.00	12.00	8760.00	17.52	_____
Crop aftermath		AUM	1200.80	12.00	14,409.60	28.82	_____
Checkoff/brand inspection		head	417.00	2.01	838.17	1.68	_____
Commission		head	104.00	14.83	1542.32	3.08	_____
Freight/trucking		head	104.00	6.96	723.84	1.45	_____
Veterinary Medicine		\$	5554.07	1.00	5554.07	11.11	_____
Machinery (fuel, lubrication, repair)		\$	2122.36	1.00	2122.36	4.24	_____
Vehicles (fuel, repair)		\$	9520.51	1.00	9520.51	19.04	_____
Equipment (repair)		\$	546.10	1.00	546.10	1.09	_____
Housing and Improvements (repair)		\$	1825.62	1.00	1825.62	3.65	_____
Hired Labor		hour	2730.00	10.84	29,595.00	59.19	_____
Owner Labor		hour	1668.00	8.50	14,178.00	28.36	_____
Interest on Operating Capital		\$	34,048.32	0.06	2128.02	4.26	_____
Total Operating Costs					\$120,929.52	\$241.86	_____
<b>3. Income Above Operating Costs</b>					\$39,393.58	\$78.79	_____
<b>4. Ownership Costs</b>							
Capital Recovery:							
Purchased Livestock		\$	9767.55	1.00	9767.55	19.54	_____
Housing and Improvements		\$	10,887.56	1.00	10,887.56	21.78	_____
Machinery		\$	1619.35	1.00	1619.35	3.24	_____
Equipment		\$	1782.08	1.00	1782.08	3.56	_____
Vehicles		\$	10,583.17	1.00	10,583.17	21.17	_____
Interest on Retained Livestock		\$	297,500.00	0.07	20,081.25	40.16	_____
Taxes and Insurance		\$	988.63	1.00	988.63	1.98	_____
Overhead		\$	2350.00	1.00	2350.00	4.70	_____
Total Ownership Costs					\$58,059.60	\$116.12	_____
<b>5. Total Costs</b>					\$178,989.12	\$357.98	_____
<b>6. Returns to Risk and Management</b>					-\$18,666.02	-\$37.33	_____



**Table 4: Investment Summary.****EBB-CC3-02**

	Purchase Price	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes and Insurance	Annual Capital Recovery <sup>1</sup>
<b>Buildings, Improvements and Equipment</b>						
Fencing	\$96,000.00	\$0.00	100	25	\$288.00	\$8053.14
Corral	\$10,600.00	\$1060.00	100	30	\$34.98	\$821.13
Water developments	\$24,000.00	\$0.00	100	25	\$72.00	\$2013.29
Feed wagon	\$1700.00	\$170.00	100	10	\$5.61	\$226.80
Gooseneck trailer	\$5500.00	\$550.00	100	10	\$18.15	\$733.77
Stock trailer	\$2500.00	\$250.00	100	20	\$8.25	\$225.15
Squeeze chute	\$2100.00	\$210.00	100	10	\$6.93	\$280.17
Calf Cradle	\$750.00	\$75.00	100	10	\$2.48	\$100.06
Vet equipment	\$2000.00	\$0.00	100	15	\$6.00	\$216.13
<b>Total</b>	<b>\$145,150.00</b>				<b>\$442.40</b>	<b>\$12,669.64</b>
<b>Purchased Livestock</b>						
Bulls	\$42,500.00	\$20,000.00	100	4		\$7955.18
Horses	\$16,000.00	\$6000.00	100	10		\$1812.37
<b>Total</b>	<b>\$58,500.00</b>					<b>\$9767.55</b>
<b>Retained Livestock</b>						
Cows	\$300,000.00	\$200,000.00	100			\$16,875.00 <sup>2</sup>
Replacement heifers	\$57,000.00	\$38,000.00	100			\$3206.25 <sup>2</sup>
<b>Total</b>	<b>\$357,000.00</b>					<b>\$20,081.25<sup>2</sup></b>
<b>Machinery and Vehicles</b>						
Tractor loader	\$29,000.00	\$6400.00	20	18	\$21.24	\$527.67
Tractor - 80hp	\$24,000.00	\$5300.00	50	18	\$43.95	\$1091.68
Pickup 4x4 3/4 ton	\$17,000.00	\$3400.00	85	4	\$130.05	\$3588.67
Pickup 4x4 3/4 ton	\$17,000.00	\$3400.00	100	6	\$153.00	\$3060.74
Pickup 4x4 1 ton	\$20,000.00	\$4000.00	85	6	\$153.00	\$3060.74
Sedan	\$10,000.00	\$2000.00	50	6	\$45.00	\$873.03
<b>Total</b>	<b>\$117,000.00</b>				<b>\$546.24</b>	<b>\$12,202.52</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.

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