

EBB-CC4-02

Cow-Calf^{3/4} 500 Cow Summer on Federal and State Range Winter Feeding Necessary

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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 15 percent and the cow herd has a 2 percent death loss. The ranch buys two-year old bulls and replaces them every 4 years. The weaned calf crop is 88 percent of the number of cows wintered.¹ Of the 95 weaned heifer calves selected from the calf crop for replacements, 10 are culled because of non-breeding or poor quality. This leaves a net replacement rate of 85 head each year.

Machinery and Equipment

The cow/calf enterprise uses two 3/4-ton pickups (4x4), one 1-ton pickup (4x4), 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 37 miles of 4-wire fence, one barn, a calving shed, 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 the cows calve between February 15 and April 15, but a few will calve later in the year. From December 15 to April 15, all cattle are fed alfalfa hay and barley

Animals	Alfalfa/grass hay (lb fed/day)	Protein supplement (lb fed/day)	Number of days
Replacement heifers	20	—	120
Replacement heifers	—	0.5	180
Cows	25	—	120
Cows	—	0.5	75
Bulls	30	—	75
Horses	20	—	120

supplements. 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 15 and will graze there until August 31. There is also some state range that is grazed within the federal allotments. On September 1, the cattle are moved to state and private range for grazing through the end of October. The cattle are moved to previously harvested hay ground in late October after they have been gathered and worked, and stay until winter-feeding begins around December 15. Costs are included in the budget for all lands that are grazed.

The top end of the heifer calves are kept as replacements while the rest of the heifers (125 head) and 220 steer calves are sold in October and November. 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, plus worm and parasite treatments. Heifer calves are vaccinated for Bangs. Cows and replacement heifers are treated for vibrio, leptospirosis, worms, and parasites and given preg checks. Only 10 percent of the cows are given preg checks. Bulls are given the same veterinary treatments as cows and replacements with the exception of a trich test.

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.

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

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

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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
1. Gross Receipts							
Steer calves	4.75	cwt	220	88.00	91,960.00	183.92	_____
Heifer calves	4.22	cwt	125	83.00	43,782.50	87.56	_____
Aged bull	18.00	cwt	6	48.00	5184.00	10.37	_____
Cull cows	11.00	cwt	75	43.00	35,475.00	70.95	_____
Cull replacement heifer	8.50	cwt	10	65.00	5525.00	11.05	_____
Total Receipts					\$181,926.50	\$363.85	_____
2. Operating Costs							
Alfalfa hay		ton	114.00	75.00	8550.00	17.10	_____
Grass hay		ton	798.30	55.00	43,906.50	87.81	_____
Corn silage		ton	56.25	24.00	1350.00	2.70	_____
Federal range		AUM	2592.00	1.35	3499.20	7.00	_____
State range		AUM	378.75	5.33	2018.74	4.04	_____
Private range		AUM	1029.60	8.00	8236.80	16.47	_____
Crop aftermath		AUM	924.00	12.00	11,088.00	22.18	_____
Salt		lb	9996.00	0.06	599.76	1.20	_____
Protein supplement - 20%		cwt	271.22	8.75	2373.13	4.75	_____
Freight/trucking		head	91.00	5.77	525.07	1.05	_____
Checkoff/brand inspection		head	438.00	2.01	880.38	1.76	_____
Commission		head	91.00	15.23	1385.93	2.77	_____
Veterinary Medicine		\$	6333.53	1.00	6333.53	12.67	_____
Machinery (fuel, lubrication, repair)		\$	2419.84	1.00	2419.84	4.84	_____
Vehicles (fuel, repair)		\$	5873.63	1.00	5873.63	11.75	_____
Equipment (repair)		\$	538.60	1.00	538.60	1.08	_____
Housing and Improvements (repair)		\$	4538.62	1.00	4538.62	9.08	_____
Hired Labor		hour	2730.00	10.84	29,595.00	59.19	_____
Owner Labor		hour	1539.00	8.50	13,081.50	26.16	_____
Interest on Operating Capital		\$	40,969.24	0.06	2560.58	5.12	_____
Total Operating Costs					\$149,354.80	\$298.71	_____
3. Income Above Operating Costs					\$32,571.70	\$65.14	_____
4. Ownership Costs							
Capital Recovery:							
Purchased Livestock		\$	9767.55	1.00	9767.55	19.54	_____
Housing and Improvements		\$	17,055.56	1.00	17,055.56	34.11	_____
Machinery		\$	1838.05	1.00	1838.05	3.68	_____
Equipment		\$	1443.58	1.00	1443.58	2.89	_____
Vehicles		\$	6517.93	1.00	6517.93	13.04	_____
Interest on Retained Livestock		\$	282,625.00	0.07	19,077.19	38.15	_____
Taxes and Insurance		\$	958.22	1.00	958.22	1.92	_____
Overhead		\$	3250.00	1.00	3250.00	6.50	_____
Total Ownership Costs					\$59,908.08	\$119.82	_____
5. Total Costs					\$209,262.88	\$418.53	_____
6. Returns to Risk and Management					-\$27,336.38	-\$54.67	_____

Table 2: Monthly Summary of Returns and Expenses.

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	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Value
Production:													
Steer calves										91960			91960
Heifer calves									43783				43783
Aged bull									5184				5184
Cull cows												35475	35475
Cull replacement heifer												5525	5525
Total Receipts	0	0	0	0	0	0	0	0	48967	91960	0	41000	181927
Operating Inputs:													
Alfalfa hay	1995	2209	1069								1069	2209	8550
Grass hay	10511	10869	5259								5631	11637	43907
Corn silage		900	450										1350
Federal range			389	778	778	778	778						3499
State range			81	161	161	161	161	646	646				2019
Private range				80	80	80	80	3958	3958				8237
Crop aftermath										7392	3696		11088
Salt	50	50	50	50	50	50	50	50	50	50	50	50	600
Protein supplement - 20%	729	802	406					116	128		64	128	2373
Freight/trucking										525			525
Checkoff/brand inspection										710		171	880
Commission										91		1295	1386
Veterinary Medicine	500	1617								4217			6334
Machinery (Fuel,Lube,Repair)	202	202	202	202	202	202	202	202	202	202	203	202	2420
Vehicles (Fuel and Repair)	489	489	489	489	489	489	489	489	489	489	492	489	5874
Equipment (Repair)	45	45	45	45	45	45	45	45	45	45	45	45	539
Housing, Improvements (Repair)	378	378	378	378	378	378	378	378	378	378	380	378	4539
Taxes and Insurance													958
Hired Labor	4850	4850	2082	1967	1967	1967	1967	1967	1967	1967	1967	2082	29595
Total Costs	19748	22411	10899	4149	4149	4149	4149	7851	7863	16065	13595	19642	134671
Net Returns	-19748	-22411	-10899	-4149	-4149	-4149	-4149	-7851	41104	75895	-13595	21358	47256

Table 3: Monthly Feed Requirements.

Feed	Units	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Alfalfa hay													
Replacement Heifers	ton	27	29	14	0	0	0	0	0	0	0	14	29
Grass hay													
Cows	ton	175	194	94	0	0	0	0	0	0	0	94	194
Bulls	ton	13	0	0	0	0	0	0	0	0	0	7	14
Horses	ton	4	4	2	0	0	0	0	0	0	0	2	4
Corn silage													
Bulls	ton	0	38	19	0	0	0	0	0	0	0	0	0
Federal range													
Cows	AUM	0	0	235	470	470	470	470	0	0	0	0	0
Replacement Heifers	AUM	0	0	38	76	76	76	76	0	0	0	0	0
Bulls	AUM	0	0	15	30	30	30	30	0	0	0	0	0
State range													
Cows	AUM	0	0	15	30	30	30	30	100	100	0	0	0
Replacement Heifers	AUM	0	0	0	0	0	0	0	15	15	0	0	0
Bulls	AUM	0	0	0	0	0	0	0	6	6	0	0	0
Private range													
Cows	AUM	0	0	0	0	0	0	0	400	400	0	0	0
Replacement Heifers	AUM	0	0	0	0	0	0	0	61	61	0	0	0
Bulls	AUM	0	0	0	0	0	0	0	24	24	0	0	0
Horses	AUM	0	0	0	10	10	10	10	10	10	0	0	0
Crop aftermath													
Cows	AUM	0	0	0	0	0	0	0	0	0	500	250	0
Replacement Heifers	AUM	0	0	0	0	0	0	0	0	0	76	38	0
Bulls	AUM	0	0	0	0	0	0	0	0	0	30	15	0
Horses	AUM	0	0	0	0	0	0	0	0	0	10	5	0
Salt													
	lb	833	833	833	833	833	833	833	833	833	833	833	833
Protein supplement - 20%													
Cows	cwt	70	77	39	0	0	0	0	0	0	0	0	0
Replacement Heifers	cwt	13	15	7	0	0	0	0	13	15	0	7	15

Table 4: Investment Summary.

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	Purchase Price	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes and Insurance	Annual Capital Recovery ¹
Buildings, Improvements and Equipment						
Barn	\$15,000.00	\$1500.00	100	30	\$49.50	\$1161.97
Fencing	\$71,000.00	\$0.00	100	25	\$213.00	\$5955.97
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
Calving shed	\$27,200.00	\$2720.00	100	30	\$89.76	\$2107.05
Range improvement	\$29,000.00	\$0.00	100	10	\$87.00	\$4081.36
Water system	\$6500.00	\$0.00	100	10	\$19.50	\$914.79
Feed wagon	\$1700.00	\$170.00	100	10	\$5.61	\$226.80
Gooseneck trailer	\$5500.00	\$550.00	100	20	\$18.15	\$495.33
Stock trailer	\$2500.00	\$250.00	100	20	\$8.25	\$225.15
Squeeze chute	\$2100.00	\$210.00	100	10	\$6.93	\$280.17
Vet equipment	\$2000.00	\$0.00	100	15	\$6.00	\$216.13
Total	\$197,100.00				\$610.68	\$18,499.14
Purchased Livestock						
Bulls	\$42,500.00	\$20,000.00	100	4		\$7955.18
Horses	\$16,000.00	\$6000.00	100	10		\$1812.37
Total	\$58,500.00					\$9767.55
Retained Livestock						
Cows	\$300,000.00	\$175,000.00	100			\$16,031.25 ²
Replacement heifers	\$57,000.00	\$33,250.00	100			\$3045.94 ²
Total	\$357,000.00					\$19,077.19²
Machinery and Vehicles						
Tractor - 80hp	\$24,000.00	\$5280.00	60	18	\$52.70	\$1310.38
Tractor loader	\$29,000.00	\$6400.00	20	18	\$21.24	\$527.67
Pickup 4x4 3/4 ton	\$17,000.00	\$3400.00	70	4	\$107.10	\$2955.38
Pickup 4x4 3/4 ton	\$17,000.00	\$3400.00	50	5	\$76.50	\$1762.12
Pickup 4x4 1 ton	\$20,000.00	\$4000.00	50	6	\$90.00	\$1800.43
Total	\$107,000.00				\$347.54	\$8355.98

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.

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