

Finishing Beef

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Production Level

Costs per unit and net returns in livestock production are highly dependent on production levels. The following estimated budget includes two different production levels. Production levels vary for a number of reasons including livestock quality or genetics, weather, input levels, and management. The two production levels included in this estimated budget reflect production variability due to weather and management as opposed to the quality of the livestock, since livestock values are held constant. Budgeting at multiple production levels can help producers examine the financial risk directly related to production risk of a livestock enterprise.

This beef finishing budget includes a below-average column as well as an above-average column for both steer and heifer finishing. Performance varies due to differences in average daily gain and feed conversions. The values assumed are included in Table 1 and are deviations from averages reported in K-State Research and Extension bulletin C-734, *Seasonality in Steer Feeding Profitability, Price, and Performance*.

Variable and Fixed Costs

Variable costs vary in the short run and can differ on a per head basis from one feeding cycle to the next. The feed requirements used in this budget include additional roughage and grain to allow for waste. Feeding conditions will vary throughout the feeding period, which will alter projected weight gain. If poor feeding conditions are encountered, weight gains will be less than those projected. An allowance for shrink is included in the average daily gain and feed conversion estimates. Hundredweight produced is adjusted for death loss and shrink. Average daily gain may vary depending on the breed of the animals, the ration fed, and the time of the year.

Farm Management Association summary reports are used as a basis for estimating variable costs such as labor, veterinary, drugs, repairs, fuel, oil, and utilities. These cost items may vary considerably between individual producers. Each column shows interest on one-half the variable cost plus the cost of the purchased animal for the length of the feeding period. Producers who do not rely on borrowed funds should consider the interest charge as an opportunity cost of their own capital.

Fixed costs do not vary from one feeding period to the next and are incurred by virtue of owning equipment and facilities. Two turnovers of cattle per year are assumed when calculating the per-head fixed costs. Facility and equipment requirements consist of feed-storage facilities, feeding facilities, corrals, handling equipment, and watering systems. A salvage value of 35 percent is assumed at the end of useful life for facilities and equipment. In each column, interest was calculated on one-half the original cost of facilities and equipment.

This budget uses projected 2002 input and output prices for illustrative purposes. Producers should use their own prices when using this budget. The break-even price is sensitive to changes in feed and feeder prices.

Table 1. Factors Used for Cost-Return Budget

Item	Above Avg. Steer	Below Avg. Steer	Above Avg. Heifer	Below Avg. Heifer
Days on feed	142	156	144	161
Average Daily Gain	3.35	3.04	2.95	2.64
Feed Conversion (as fed)	7.9	8.7	8.25	9.05
Purchase weight	750	750	650	650
Purchase price (\$/cwt)	89.45	89.45	87.24	87.24
Sale weight	1225	1225	1075	1075
Sale price (\$/cwt)	75.62	75.62	75.62	75.62

Ration:

51% corn, 34% grain sorghum, 12% alfalfa 3% supplement*

	Value per head
Investment in facilities	\$80.00
Life of facilities	20 yrs
Investment in equipment	\$108.00
Life of equipment	10 yrs
Salvage value on facilities and equipment	35%
Interest rate on facilities and equipment	8.00%
Insurance rate on facilities and equipment	0.25%
Tax rate on facilities and equipment	1.50%
Interest rate on variable costs	
and purchased livestock	8.00%
Labor hours	0.75
Labor price per hour	\$10.00

* Supplement includes soybean meal, vitamins, minerals, and an ionophore.

COST-RETURN PROJECTION — FINISHING BEEF

	Steers		Heifers		
	Above Ave.	Below Ave.	Above Ave.	Below Ave.	Your Farm
VARIABLE COSTS PER HEAD					
1. Pasture	\$	\$	\$	\$	\$
2. Sorghum silage .....	.....	.....	.....	.....	.....
3. Alfalfa hay	20.41	22.48	19.07	20.92	.....
4. Grain sorghum	49.76	54.80	46.49	51.00	.....
5. Corn	86.80	95.59	81.11	88.97	.....
6. Supplement	10.05	11.06	9.39	10.30	.....
7. ....	.....	.....	.....	.....	.....
8. Labor	7.50	7.50	7.50	7.50	.....
9. Veterinary, drugs, supplies	4.10	4.10	4.10	4.10	.....
10. Marketing costs	2.00	2.00	2.00	2.00	.....
11. Hauling .....	.....	.....	.....	.....	.....
12. Utilities, fuel, oil	3.00	3.00	3.00	3.00	.....
13. Facilities and equipment repairs	3.50	3.50	3.50	3.50	.....
14. Miscellaneous	3.25	3.25	3.25	3.25	.....
15. Interest on purchased livestock + 1/2 Variable Costs	24.17	26.85	21.02	23.77	.....
A. TOTAL VARIABLE COSTS	\$ 214.55	\$ 234.14	\$ 200.43	\$ 218.31	.....
FIXED COSTS PER HEAD					
16. Depreciation on facilities and equipment	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	.....
17. Interest on facilities and equipment ¹	10.15	10.15	10.15	10.15	.....
18. Insurance and taxes on facilities and equipment	3.29	3.29	3.29	3.29	.....
B. TOTAL FIXED COSTS	\$ 23.06	\$ 23.06	\$ 23.06	\$ 23.06	.....
C. TOTAL COSTS PER HEAD (A+B)	\$ 237.61	\$ 257.20	\$ 223.49	\$ 241.38	.....
RETURNS PER HEAD					
19. Market animal:					
steers 1,225 lbs	\$ 926.35	\$ 926.35			
heifers 1,075 lbs .....	.....	.....	\$ 812.92	\$ 812.92	.....
20. Less cost of animal:					
steers 750 lbs	670.88	670.88			
heifers 650 lbs .....	.....	.....	567.06	567.06	.....
21. Less death loss (1% of line 19)	9.26	9.26	8.13	8.13	.....
D. GROSS RETURN PER HEAD	\$ 246.21	\$ 246.21	\$ 237.73	\$ 237.73	.....
E. RETURNS OVER VARIABLE COSTS (D – A)	\$ 31.66	\$ 12.07	\$ 37.30	\$ 19.41	.....
F. RETURNS OVER TOTAL COSTS (D – C)	\$ 8.60	\$ -10.99	\$ 14.24	\$ -3.65	.....
G. AVERAGE SELLING PRICE NEEDED PER CWT:					
22. To cover variable cost and feeder (A + 20) ÷ (net selling weight) ²	\$ 73.01	\$ 74.62	\$ 72.12	\$ 73.80	.....
23. To cover total cost and feeder (C + 20) ÷ (net selling weight) ²	\$ 74.91	\$ 76.53	\$ 74.28	\$ 75.96	.....
H. TOTAL FEED COST (lines 1 through 7)	\$ 167.02	\$ 183.94	\$ 156.06	\$ 171.19	.....
24. Hundredweight produced	4.63	4.63	4.14	4.14	.....
25. Feed cost per hundredweight (H ÷ 24)	\$ 36.09	\$ 39.75	\$ 37.67	\$ 41.33	.....
I. ASSET TURNOVER ((19 - 21) ÷ INVESTMENT) ³	106.78%	106.78%	106.59%	106.59%	.....
J. NET RETURN ON INVESTMENT [(F + 15 + 17) ÷ INVESTMENT] ³	5.00%	3.03%	6.01%	4.01%	.....

¹Original cost of facilities and equipment plus salvage value divided by 2, times an interest rate of 8 percent.²Net selling weight = selling weight - (death loss% × selling weight).³Investment equals total cost of purchased animal and value of facilities and equipment.Publications from Kansas State University are available on the World Wide Web at: <http://www.oznet.ksu.edu>.Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Rodney Jones, *Finishing Beef*, Kansas State University, October 2001.**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

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