



Finishing Beef

Department of Agricultural Economics



Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Rodney Jones

Extension Agricultural Economist
Livestock Production Economics

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 of a livestock enterprise that is directly related to production risk.

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, *Cattle Feeding Profitability*.

Variable and Fixed Costs

Variable costs are costs that 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. Building requirements consist primarily of feed-storage facilities. Equipment requirements include feeding facilities, corrals, handling equipment, and watering systems. A salvage value of 35 percent is assumed at the end of useful life for buildings and equipment. In each column, interest was calculated on one-half the original cost of buildings and equipment.

This budget uses projected 1998 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)	7.90	8.70	8.25	9.05
Ration: 51% corn, 34% grain sorghum, 12% alfalfa, 3% supplement*				
				Value per head
Investment in buildings				\$80
Life of buildings				20 yrs
Investment in equipment				\$108
Life of equipment				10 yrs
Salvage value on buildings and equipment				35%
Interest rate on buildings and equipment				10%
Insurance rate on buildings and equipment				0.25%
Tax rate on buildings and equipment				1.5%
Interest rate on variable costs and purchased livestock				10%
Labor hours				0.75
Labor price per hour				\$ 10.80

* Supplement includes soybean meal, vitamins, minerals, and

COST-RETURN PROJECTION — FINISHING BEEF

	Steers		Heifers		Your Farm
	Above Ave.	Below Ave.	Above Ave.	Below Ave.	
VARIABLE COSTS PER HEAD					
1. Pasture	\$	\$	\$	\$	\$
2. Sorghum silage (____ lbs @ \$17.36/ton)					
3. Alfalfa hay (____ lbs @ \$79.00/ton)	17.79	19.59	16.62	18.23	
4. Grain sorghum (____ lbs @ \$3.82/cwt)	48.74	53.67	45.54	49.96	
5. Corn (____ lbs @ \$2.48/bu)	84.75	93.34	79.19	86.87	
6. Supplement (____ lbs @ \$171.00/ton)	9.63	10.60	8.99	9.87	
7.					
8. Labor (0.75 hrs @ \$10.80/hr)	8.10	8.10	8.10	8.10	
9. Veterinary, drugs, supplies	2.00	2.00	2.00	2.00	
10. Marketing costs	1.50	1.50	1.50	1.50	
11. Hauling					
12. Utilities, fuel, oil	1.50	1.50	1.50	1.50	
13. Buildings and equipment repairs	1.75	1.75	1.75	1.75	
14. Miscellaneous	3.00	3.00	3.00	3.00	
15. Interest on purchased livestock + 1/2 Variable Costs @ 10%	24.22	27.03	19.94	22.61	
A. TOTAL VARIABLE COSTS	\$ 202.97	\$ 222.08	\$ 188.14	\$205.38	
FIXED COSTS PER HEAD					
16. Depreciation on buildings and equipment	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	
17. Interest on buildings and equipment ¹ @ 10%	9.40	9.40	9.40	9.40	
18. Insurance and taxes on buildings and facilities @ 1.75%	3.29	3.29	3.29	3.29	
B. TOTAL FIXED COSTS	\$ 22.31	\$ 22.31	\$ 22.31	\$ 22.31	
C. TOTAL COSTS PER HEAD (A+B)	\$ 225.28	\$ 244.39	\$ 210.45	\$227.69	
RETURNS PER HEAD					
19. Market animal:					
steers 1,225 lbs @ \$63.20 cwt	\$ 774.20	\$ 774.20			
heifers 1,075 lbs @ \$63.20 cwt			\$ 679.40	\$679.40	
20. Less cost of animal:					
steers 750 lbs @ \$71.20 cwt	-534.00	-534.00			
heifers 650 lbs @ \$68.40 cwt			-421.20	-421.20	
21. Less death loss (1% of line 19)	-7.74	-7.74	-6.79	-6.79	
D. GROSS RETURN PER HEAD	\$ 232.46	\$ 232.46	\$ 251.41	\$251.41	
E. RETURNS OVER VARIABLE COSTS (D – A)	\$ 29.49	\$ 10.38	\$ 63.27	\$ 46.03	
F. RETURNS OVER TOTAL COSTS (D – C)	\$ 7.18	\$ -11.93	\$ 40.96	\$ 23.72	
G. AVERAGE SELLING PRICE NEEDED:					
22. To cover variable cost and feeder (A + 20) ÷ (net selling weight) ²	\$ 60.77	\$ 62.34	\$ 57.26	\$ 58.88	
23. To cover total cost and feeder (C + 20) ÷ (net selling weight) ²	\$ 62.61	\$ 64.18	\$ 59.35	\$ 60.97	
H. TOTAL FEED COST (lines 1 through 7)	\$ 160.91	\$ 177.20	\$ 150.34	\$164.93	
24. Hundredweight produced		4.62		4.14	
25. Feed cost per hundredweight (H ÷ 24)	\$ 34.83	\$ 38.35	\$ 36.31	\$ 39.84	
I. ASSET TURNOVER (D ÷ INVESTMENT) ³	32.20%	32.20%	41.27%	41.27%	
J. NET RETURN ON INVESTMENT [(F + 15 + 17) ÷ INVESTMENT] ³	5.65%	3.39%	11.54%	9.15%	

¹ One-half the investment in buildings and equipment at the interest rate shown in Table 1.² Net selling weight = selling weight - (death loss % × selling weight)³ Investment equals total cost of purchased animal and value of buildings 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 1998.**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

MF-592

October 1998

It is the policy of Kansas State University Agricultural Experiment Station and Cooperative Extension Service that all persons shall have equal opportunity and access to its educational programs, services, activities, and materials without regard to race, color, religion, national origin, sex, age or disability. Kansas State University is an equal opportunity organization. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Marc A. Johnson, Director.

File code: Farm Management 3-2