

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

This beef backgrounding and finishing budget includes a below-average column as well as an above-average column for both steer and heifer feeding. Performance varies due to differences in average daily gain and feed conversions. The values assumed are included in Table 1 and are deviations from long-term averages.

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. For this budget, steers and heifers are assumed to be backgrounded on a ration consisting of sorghum silage, grain sorghum, and supplement, and switched to a finishing ration consisting of alfalfa, corn, grain sorghum, and supplement. 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.

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
Backgrounding Phase				
Days on feed	90	111	88	109
Average Daily Gain	2.2	1.8	2	1.6
Feed Conversion (as fed)	18.5	19.5	19	20
Purchase weight	550	550	475	475
Purchase price (\$/cwt)	99.91	99.91	95.44	95.44
Ration:				
81.5% sorghum silage, 14% grain sorghum, 4.5% supplement				
Finishing Phase				
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
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	\$155.00
Life of facilities	20 yrs
Investment in equipment	\$145.00
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	1.5
Labor price per hour	\$10.00

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

COST-RETURN PROJECTION — DRYLOT BACKGROUNDING AND FINISHING BEEF

	Steers		Heifers		Your Farm
	Above Ave.	Below Ave.	Above Ave.	Below Ave.	
VARIABLE COSTS PER HEAD					
1. Pasture	\$	\$	\$	\$	\$
2. Sorghum silage	24.51	25.83	22.03	23.19	
3. Alfalfa hay	20.41	22.48	19.07	20.92	
4. Grain sorghum	69.96	76.09	64.65	70.11	
5. Corn	86.80	95.59	81.11	88.97	
6. Supplement	24.90	26.73	22.74	24.35	
7.					
8. Labor	15.00	15.00	15.00	15.00	
9. Veterinary, drugs, supplies	12.50	12.50	12.50	12.50	
10. Marketing costs	6.50	6.50	6.50	6.50	
11. Hauling					
12. Utilities, fuel, oil	4.50	4.50	4.50	4.50	
13. Facilities and equipment repairs	8.70	8.70	8.70	8.70	
14. Miscellaneous	3.60	3.60	3.60	3.60	
15. Interest on purchased livestock + 1/2 Variable Costs	35.48	41.43	30.08	35.55	
A. TOTAL VARIABLE COSTS	\$ 312.87	\$ 338.96	\$ 290.48	\$ 313.89	
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)	\$ 335.94	\$ 362.02	\$ 313.54	\$ 336.96	
RETURNS PER HEAD					
19. Market animal:					
steers: (See Table 1)	926.35	926.35			
heifers: (See Table 1)			812.92	812.92	
20. Less cost of animal:					
steers: (See Table 1)	549.51	549.51			
heifers: (See Table 1)			453.32	453.32	
21. Less death loss (1.5% of line 19)	13.90	13.90	12.19	12.19	
D. GROSS RETURN PER HEAD	\$ 362.94	\$ 362.94	\$ 347.41	\$ 347.41	
E. RETURNS OVER VARIABLE COSTS (D – A)	\$ 50.07	\$ 23.99	\$ 56.93	\$ 33.51	
F. RETURNS OVER TOTAL COSTS (D – C)	\$ 27.01	\$ 0.93	\$ 33.87	\$ 10.45	
G. AVERAGE SELLING PRICE NEEDED PER CWT:					
22. To cover variable cost and feeder (A + 20) ÷ (net selling weight) ²	\$ 71.47	\$ 73.63	\$ 70.24	\$ 72.46	
23. To cover total cost and feeder (C + 20) ÷ (net selling weight) ²	\$ 73.38	\$ 75.54	\$ 72.42	\$ 74.63	
H. TOTAL FEED COST (lines 1 through 7)	\$ 226.59	\$ 246.73	\$ 209.59	\$ 227.55	
24. Hundredweight produced:	6.57	6.57	5.84	5.84	
25. Feed cost per hundredweight (H ÷ 24)	\$ 34.51	\$ 37.57	\$ 35.90	\$ 38.97	
I. ASSET TURNOVER ((19 - 21) ÷ INVESTMENT) ³	123.72%	123.72%	124.86%	124.86%	
J. NET RETURN ON INVESTMENT [(F + 15 + 17) ÷ INVESTMENT] ³	9.85%	7.12%	11.55%	8.76%	

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, *Drylot Backgrounding and Finishing Beef*, Kansas State University, October 2001.**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

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