

Drylot Backgrounding and Finishing Beef

Department of Agricultural Economics — www.agmanager.info



Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Kevin C. Dhuyvetter
Agricultural Economist
Farm Management

Michael Langemeier
Agricultural Economist

Finishing beef in large commercial feedlots is very common in Kansas. This budget represents a producer that buys calves and then backgrounds and finishes them and thus is more typical a farmer-feeder type of operation as opposed to a commercial feedlot. There are many different feeding programs/feedstuffs used in backgrounding and finishing operations in Kansas. This budget uses projected 2010 input and output prices for illustrative purposes. Individual producers should use their own prices and costs, and adjust production factors to match their individual situations. The breakeven price is particularly sensitive to changes in feed and feeder prices.

Production Level

Costs per unit and net returns to 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.

Costs

Operating 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.

Ownership 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. Interest cost on facilities and equipment is based on the average investment times an interest rate of 7.5 percent. Depreciation is based on a remaining life of 10 and 8 years for equipment and machinery, respectively, and it is assumed there is no salvage value at the end of the remaining life of facilities and equipment.

Table 1. *Factors Used for Drylot Backgrounding and Finishing Beef Cost-Return Budget*

	Above Average Steer	Below Average Steer	Above Average Heifer	Below Average Heifer		
Backgrounding Phase						
Days on feed	90	111	88	109		
Average daily gain	2.22	1.80	1.99	1.61		
Feed conversion (as fed)	18.50	19.50	19.00	20.00		
Purchase weight	550	550	475	475		
Purchase price	\$106.67	\$106.67	\$103.13	\$103.13		
Ration:	81.5% sorghum silage, 14.0% grain sorghum, 4.5% supplement					
Finishing Phase						
Days on feed	142	156	170	188		
Average daily gain	3.35	3.05	3.10	2.80		
Feed conversion (as fed)	7.90	8.70	8.35	9.15		
Sale weight	1,225	1,225	1,175	1,175		
Sale price	\$86.71	\$86.71	\$86.75	\$86.71		
Ration:	51.0% corn, 34.0% grain sorghum, 12.0% alfalfa, 3.0% supplement					
Labor, hours @ \$13.00/hr	1.59	1.86	1.70	2.00		
	(\$/head)	(years)	value, (%)	rate, (%)	rate, (%)	(%)
Buildings and facilities	\$1.88	10	0%	7.50%	0.25%	1.50%
Equipment	\$9.69	8	0%	7.50%	0.25%	0.00%
Interest rate on operating costs and purchased cattle					7.50%	

COST-RETURN PROJECTION — DRYLOT BACKGROUNDING AND FINISHING BEEF

	Steers		Heifers		Your Farm
	Above Avg.	Below Avg.	Above Avg.	Below Avg.	
RETURNS PER HEAD					
1. Market animal (See Table 1).....	\$ 1,062.20	\$ 1,062.20	\$ 1,019.31	\$ 1,018.84	
2. Less cost of animal (See Table 1).....	586.69	586.69	489.87	489.87	
3. Less death loss	15.93	15.93	15.29	15.28	
4. Other income.....					
A. GROSS RETURNS PER HEAD	\$ 459.58	\$ 459.58	\$ 514.16	\$ 513.69	
COSTS PER HEAD					
5. Summer pasture.....	\$	\$	\$	\$	
6. Harvested forage	64.18	68.87	64.67	69.39	
7. Grain	266.61	291.93	301.83	329.37	
8. Supplement.....	42.43	45.53	42.75	45.86	
9. Other feed					
10. Labor	20.64	24.20	22.15	26.00	
11. Veterinary, drugs, supplies.....	12.00	12.00	12.00	12.00	
12. Marketing costs	7.00	7.00	7.00	7.00	
13. Hauling.....					
14. Utilities, fuel, and oil.....	15.69	18.02	17.41	20.05	
15. Facilities and equipment repairs	12.00	12.00	13.00	13.00	
16. Professional fees (legal, accounting, etc.).....	2.00	2.00	2.00	2.00	
17. Miscellaneous	12.00	12.00	13.00	13.00	
18. Depreciation on facilities and equipment	1.40	1.40	1.40	1.40	
19. Interest on facilities and equipment	0.43	0.43	0.43	0.43	
20. Insurance and taxes on facilities and equipment	0.06	0.06	0.06	0.06	
B. SUBTOTAL	\$ 456.45	\$ 495.45	\$ 497.71	\$ 539.55	
21. Interest on feeder and ½ Operating Costs	38.64	45.45	38.85	46.01	
C. TOTAL COSTS	\$ 495.08	\$ 540.90	\$ 536.56	\$ 585.56	
D. RETURNS OVER TOTAL COSTS (A – C)	\$ -35.50	\$ -81.32	\$ -22.40	\$ -71.87	
22. Hundredweight produced.....	6.57	6.57	6.82	6.82	
23. Feed cost per hundredweight.....	56.84	61.88	59.97	65.16	
E. BREAKEVEN PRICE, \$/cwt	\$ 89.65	\$ 93.45	\$ 88.69	\$ 92.92	
F. ASSET TURNOVER ((1 + 4 – 3) ÷ INVESTMENT) ¹	174.89%	174.89%	200.23%	200.14%	
G. NET RETURN ON INVESTMENT ((D + 19 + 21) ÷ INVESTMENT) ¹	0.60%	-5.92%	3.37%	-5.07%	

¹ Investment equals total value of feeder calf, facilities, and equipment

Publications from Kansas State University are available on the World Wide Web at: www.ksre.ksu.edu.

Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Kevin C. Dhuyvetter and Michael Langemeier, *Drylot Backgrounding and Finishing Beef*, Kansas State University, December 2009.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-593

December 2009

K-State Research and Extension is an equal opportunity provider and employer. 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, Fred A. Cholick, Director.