1978

Custom Beef Feeding : Costs for Small Lots

Cooperative Extension South Dakota State University

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

For current policies and practices, contact SDSU Extension

Website:	extension.sdstate.edu
Phone:	605-688-4792
Email:	sdsu.extension@sdstate.edu

FS 694

CUSTOM BEEF FEEDING COSTS FOR SMALL LOTS

COOPERATIVE EXTENSION SERVICE
SOUTH DAKOTA STATE UNIVERSITY
U.S. DEPARTMENT OF AGRICULTURE

CUSTOM BEEF FEEDING COSTS FOR SMALL LOTS

Richard C. Shane and Curtis A. Everson
Economics Department

Many beef feeding lots in eastern South Dakota are standing empty.

Some are not being used because the owners lack capital or access to the capital required to purchase feeders. Other operators are unwilling to bear the risk of placing high priced feeders in the lot.

Owners want these lots filled. This can mean, in some cases, knowing the rate to charge for custom beef feeding. They have the labor and machinery to feed cattle and want at least a partial return on their fixed investment in feedlot facilities.

We present a sample calculation of the cost of custom feeding beef in small feedlots along with a method for individuals to use in estimating their own costs.

Feedlot capital investment

Table 1 shows the capital investment requirements and annual depreciation expense for beef feedlots of 100- and 200-head capacity.

These feedlots consist of a pole barn with concrete floor, upright 18x50 silo(s), concrete fenceline feedbunks, and four-strand barb wire fencing with one hot wire. Each animal is allowed 75 square feet of space.

The feedlot machinery is allocated to the feeding enterprise based on the percentage of annual hours used for cattle feeding. The 100-head feedlot has a capital investment of $41,089, and the 200-head feedlot requires a $66,160 capital investment.

The person with a different feedlot investment should use column 6 to calculate his total capital investment.

Depreciation expense on the capital investment is calculated using the straight line method. Buildings were assumed to have a 20-year useful life. The fencing and collapsible corral had an expected life of 7 years; the remaining equipment was depreciated over 10 years. Use column 7 to estimate depreciation for feedlots which differ from the example.

The 100-head lot incurred an annual depreciation expense of $29.89 per head, while the 200-head lot had depreciation costs of $23.90 per head.

Custom charge, operator provides all inputs

Table 2 presents enterprise budgets for estimating the costs associated with beef feeding in 100- and 200-head lots. It is assumed that the feeders are yearling heifers that will gain 450 pounds in 7 months when fed the ration presented in the budget. Prices are June 1978 market prices.

The operating costs for the feedlots are $161.18 per head for the 100-head lot and $160.09 per head for the 200-head lot. Fixed costs are $29.83 per head for 100 head and $23.80 per head for 200 head. Depreciation and interest on investment are calculated for only 7 months, the time the heifers are actually in the feedlot. Taxes were computed on the basis of an assessment of 36% of new value and 45 mills.

The cost of custom feeding yearling heifers for 7 months (210 days) based on the given inputs are 91¢ per head per day in the 100-head lot and 88¢ per head per day in the 200-head lot.

Column 6 is provided for the estimation of custom feeding costs when inputs differ from those used to calculate the budget in Table 2.

Custom charge, operator provides labor and machinery inputs

Since rate of gain varies with different rations, it is difficult to estimate feed costs per head. Therefore, many operators prefer not to provide the feed input for custom feeding beef. Also, some farmers have feed for their feeders and only request labor and machinery inputs from the custom operator.

Table 3 presents a calculation procedure for determining custom beef feeding rates when the feedlot owner does not provide the feed and veterinary inputs for the feeding enterprise. The operating costs are now $7.51 and $6.42 per head for the 100- and 200-head lots, respectively.

Fixed costs remain the same as in Table 2 at $29.83 and $23.80 per head for the two lot sizes. However, now the cost per head per day for custom feeding beef is 18¢ in the 100-head lot and 14¢ in the 200-head lot. Column 4 can be

used by the custom feeder whose costs are different from those presented.

The methods used to compute custom feeding rates presented in Tables 2 and 3 include all costs incurred in feeding cattle. If the feedlot facilities are standing idle, the owner still has fixed costs. Therefore, costs per head per day calculated using this method may serve as an upper bound on the custom rate. Negotiation may lower the rate, but it should never go below that amount required to cover variable operating costs.

Table 1. Capital investment and annual depreciation for feedlots with 100- and 200-head capacity.

	100 head		200 head		Your estimate	
Item	New cost	Annual depreciation[1]	New cost	Annual depreciation	New cost	Annual depreciation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pole barn[2]	$14,600	$ 730	$20,800	$1,040		
Silo(s) 18x50	7,650	382	15,300	765		
Unloader	3,258	326	6,516	652		
Tractor[3]	3,500	350	7,000	700		
Loader[4]	1,300	130	2,600	260		
Manure spreader[5]	1,600	160	3,200	320		
Mixer feeder wagon	7,000	700	7,000	700		
Feed bunks (concrete)	905	91	1,810	181		
Waterer	241	24	241	24		
Oiler	328	33	656	66		
Fencing	242	35	302	43		
Collapsible corral	195	28	195	28		
Land[6]	270		540			
Other						
Total	$41,089	$2,989	$66,160	$4,779		
Per head cost	**$ 411**	**$ 29.89**	**$ 331**	**$ 23.90**		

[1] Depreciation calculated using straight line method and salvage value of less than 10% of new cost.
[2] Pole barns are 40x100 ft and 40x200 ft with concrete floors.
[3] Seventy hp tractor cost of $14,000 with 25% of new cost allocated per 100 head.
[4] Loader cost of $2,600 with 50% allocated per 100 head.
[5] Manure spreader cost of $3,200 with 50% allocated per 100 head.
[6] Based on .27 acres per 100 head and $1,000 per acre.

Table 2. Enterprise budget for feedlots of 100 and 200 head of yearling heifers.*

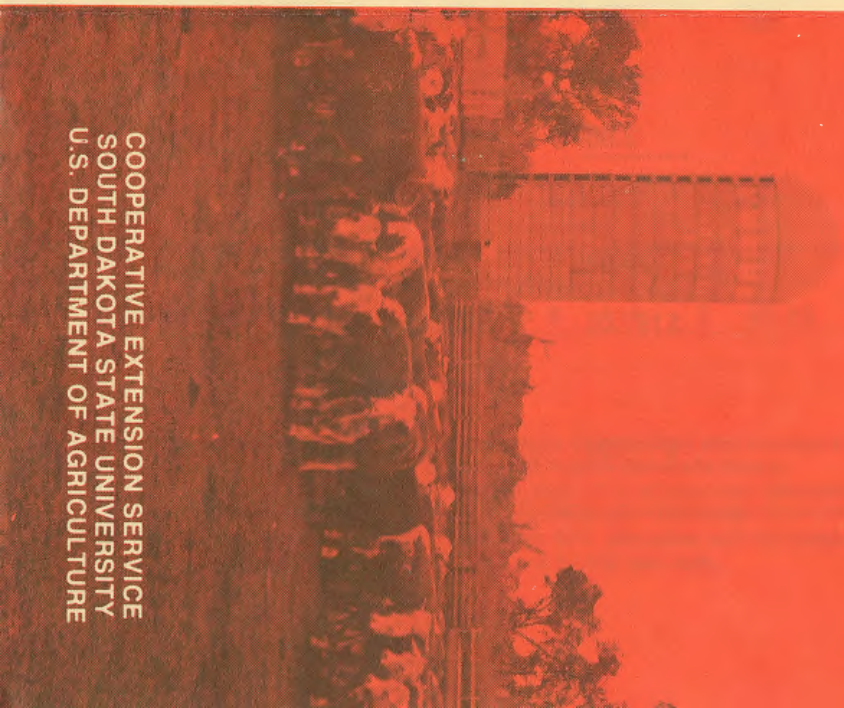
	Units	Price	100 head Cost per head	200 head Cost per head	Your estimate
Operating costs					
Corn	32.0 bu	$ 2.15	$ 68.80	$ 68.80	
Alfalfa	.3 T	30.00	9.00	9.00	
Corn silage	2.5 T	16.00	40.00	40.00	
Supplement	2.0 cwt	8.20	16.40	16.40	
Mineral & salt	15.0 lb	.15	2.85	2.85	
Veterinary and drug costs			2.00	2.00	
Fuel, lub & utilities			1.26	1.06	
Repairs			1.94	1.75	
Labor and management	1.2/1.0 hrs.	3.00	3.60	3.00	
Overhead (5% of operating costs)			7.29	7.24	
Interest on operating capital (9% annual rate for 7 months)			8.04	7.99	
Total operating costs			$161.18	$160.09	
Fixed costs					
Depreciation (7 months)			17.44	13.94	
Interest on investment (7% for 7 months)			8.51	6.75	
Insurance and taxes (45 mills, 36% assessment)			3.88	3.11	
Total fixed cost			29.83	23.80	
Total cost for 210 days			$191.01	$183.89	
Cost per head per day			**$ .91**	**$ .876**	

*Gain of 450 lbs in 7 months.

Table 3. Cost of feeding cattle exclusive of feed and veterinary costs.

	100 head	200 head	Your estimate
	($ per head)		
Operating costs			
Fuel, lub & utilities	$ 1.26	$ 1.06	
Repairs	1.94	1.75	
Labor and management	3.60	3.00	
Overhead (5% of operating cost)	.34	.29	
Interest on operating capital (9% annual rate for 7 months)	.37	.32	
Total operating costs	7.51	6.42	
Fixed costs			
Depreciation	17.44	13.94	
Interest on investment	8.51	6.75	
Insurance & taxes	3.88	3.11	
Total fixed costs	29.83	23.80	
Total cost for 210 days	37.34	30.22	
Cost per head per day	**$ .178**	**$ .144**	

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the USDA, Hollis D. Hall, Director of Cooperative Extension Service, SDSU, Brookings. Educational programs and materials offered without regard to age, race, color, religion, sex, handicap or national origin. An Equal Opportunity Employer.
File: 5.2-7.4—2M—78—2,000 reprinted at estimated 9.7 cents each—11-79mb—5244A.



COOPERATIVE EXTENSION SERVICE
SOUTH DAKOTA STATE UNIVERSITY
U.S. DEPARTMENT OF AGRICULTURE

CUSTOM BEEF FEEDING COSTS FOR SMALL LOTS

FS 694