

MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Beef Cattle Feeding: Figuring Profit and Loss Prospects
Michigan State University Extension Service
Leonard R. Kyle, Agricultural Economics
Issued August 1964
4 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.

Beef Cattle Feeding

FILE COPY
DO NOT REMOVE
FIGURING PROFIT AND LOSS PROSPECTS

COOPERATIVE EXTENSION SERVICE • MICHIGAN STATE UNIVERSITY

by LEONARD R. KYLE

Extension Specialist in Agricultural Economics

EACH TIME a farmer buys cattle, he begins a new and separate business venture. Each time he may or may not make a profit. Compared with many other farm business ventures, cattle feeding is a risky business. The nature of the business makes this so.

The farmer's ability as a cattle feeder and his financial backing as a businessman are pitted against the competition of many other businesses. And the market outlook at any given time always influences the choice of whether to buy or not or how much to buy. Lower slaughter prices in 1963-64, for example, have made cattle feeders apprehensive about 1964-65 and future feeding years. The lower prices during January-April 1964 were closely related to the supply of cattle at this stage in the cattle numbers cycle.

Much of the year-to-year fluctuation in returns for feeding cattle is due either to the price paid for stocker and feeder cattle or the price received for slaughter cattle. For the long pull, prospects for profits depend on:

- (1) a sound feeding program
- (2) prudent buying and selling
- (3) enough financial backing to cover losses for one or two years and still stay in business.

To appraise his cattle feeding situation realistically, a farmer should have a good knowledge of (1) common feedlot systems and (2) how they compare for profitability and risk of loss. Tables 1 and 2, which summarize data from Illinois farms, are helpful in this regard. For example, Table 1 shows that good-to-choice steer calves were the most profitable and the least risky kind of cattle fed. Short feeding of choice yearlings or heavy steers was the least profitable. They did not even sell for enough to cover the cost

of feed and cattle about one year in each three. Averages of different feedlot systems are compared in Table 2.

Break Even Estimation

It is always good business to carefully estimate the prospects for making a profit each time you buy feeder cattle, although it is impossible to predict the selling price for slaughter cattle with absolute accuracy. Over-optimism has caused cattle feeders to pay too much for stockers and feeders for the last two years.

Tables 3, 4, 5, 6 and 7 will aid in estimating the price a farmer can pay for feeder cattle delivered to his feedlot and recover all of his variable costs of production.

Variable costs include the cost of the cattle, feed (at farm prices), interest on cost of cattle, death loss, marketing costs and miscellaneous items. Since most farmers use their own labor, this item is included with fixed costs for buildings and equipment. The price which can be paid for feeder cattle and recover total costs is explained in the footnote for each table. This can be adjusted to any specific fixed cost by dividing cost by the purchased weight in cwt., of that kind of cattle.

To read each table, decide on the expected market price at the time of sale (left-hand column) and move across to the right to the figure beneath your estimated average feed cost per pound of gain. This figure indicates the price you can pay for feeder cattle and recover variable costs. For example, if you expect choice slaughter steers to sell for \$22 per cwt. and your feed costs to average 17¢ per pound of gain, you can pay \$25.77 per cwt. for good-to-choice steer calves this fall and recover variable costs. To recover all costs, including labor, buildings, equipment and farm overhead, you could pay only \$21.77 (Table 3,

footnote 1, $\$25.77 - \frac{18}{4.50} = \21.77).

Table 1. Facts About Illinois Cattle Feeding Systems, 1951-63¹

System	Average			Range returns above cost of feed and cattle	Years of negative returns out of 13 ⁴
	Returns above feed and cattle	Price ² spread	Feeding ³ margin		
A. Long-fed steer calves	\$31.24	-\$2.92	\$7.76	\$85 to -\$11	1
B. Long-fed heifer calves	\$18.15	-\$1.39	\$5.57	\$79 to -\$18	3
C. Long-fed yearling steers	\$23.76	-\$0.36	\$5.19	\$81 to -\$13	4
D. Short-fed common to medium yearlings	\$17.57	\$2.55	\$0.00	\$80 to -\$30	2 ⁵
E. Short-fed choice yearling steers	\$16.01	\$0.36	\$3.45	\$62 to -\$42	4
F. Short-fed heavy steers	\$12.85	\$1.09	\$1.01	\$66 to -\$47	4 ⁵

¹Mueller, A. G., Feeder Cattle Reports, Farm Bureau Farm Management Service and Department of Agricultural Economics, University of Illinois.

²Price spread is selling price per cwt. minus purchase price.

³Feeding margin is selling price per cwt. minus average feed cost of gain per cwt.

⁴Preliminary estimates for cattle sold during 1964 would indicate negative returns for all systems, especially when the cattle were sold before June 15.

⁵Only 12 years of data are available.

Table 2. A Comparison of Averages for Different Cattle Feeding Systems in Illinois, 1951-63¹

Item	Long-fed			Short-fed		
	Steer calves	Heifer calves	Choice yearlings	Common - medium	Choice yearlings	Heavy steers
1. Prices paid	\$28.41	\$25.47	\$26.01	\$20.25	\$24.63	\$24.09
2. Selling price	25.49	24.08	25.65	22.80	24.99	25.18
3. Price spread	-2.92	-1.39	-0.36	2.55	0.36	1.09
4. Feed cost/cwt. of gain	17.73	18.51	20.46	22.80	21.54	24.17
5. Feeding margin	7.76	5.57	5.19	0.00	3.45	1.01
6. Purchase weight (lbs.)	432	411	511	656	679	827
7. Selling weight (lbs.)	1,027	857	1,130	978	1,067	1,173
8. Average daily gain (lbs.)	1.71	1.49	1.68	1.66	1.89	1.9

¹Mueller, A. G., Feeder Cattle Reports, Farm Bureau Farm Management Service and Department of Agricultural Economics, University of Illinois.

Table 3. Long-fed Choice Steer Calves Bought at 450 lbs. — Sold at 1,050 lbs.

Expected selling price per cwt.	Price you can pay and recover variable costs ¹						
	Your feed cost per pound of gain						
	14¢	15¢	16¢	17¢	18¢	19¢	20¢
\$20	\$25.10	\$23.77	\$22.44	\$21.11	\$19.78	\$18.45	\$17.12
21	27.43	26.10	24.77	23.44	22.11	20.78	19.45
22	29.76	28.43	27.10	25.77	24.44	23.11	21.78
23	32.10	30.77	29.44	28.11	26.78	25.45	24.12
24	34.43	33.10	31.77	30.44	29.11	27.78	26.45

¹Reduce the amount you can pay by \$4.00 per cwt. to cover \$18 of fixed costs for labor, buildings, equipment and farm overhead.

Table 4. Long-fed Choice Heifer Calves Bought at 400 lbs. — Sold at 850 lbs.

Expected selling price per cwt.	Price you can pay and recover variable costs ¹						
	Your feed cost per pound of gain						
	14¢	15¢	16¢	17¢	18¢	19¢	20¢
\$19	\$22.15	\$21.02	\$19.89	\$18.76	\$17.63	\$16.50	\$15.37
20	24.27	23.14	22.01	20.88	19.75	18.62	17.49
21	26.39	25.26	24.13	23.00	21.87	20.74	19.61
22	28.51	27.38	26.25	25.12	23.99	22.86	21.73
23	30.63	29.50	28.37	27.24	26.11	24.98	23.85

¹Reduce the amount you can pay by \$3.25 per cwt. to cover \$13 of fixed costs for labor, buildings, equipment and farm overhead.

Table 5. Long-fed Choice Yearling Steers Bought at 600 lbs. — Sold at 1,100 lbs.

Expected selling price per cwt.	Price you can pay and recover variable costs ¹					
	Your feed cost per pound of gain					
	16¢	17¢	18¢	19¢	20¢	21¢
\$20	\$21.33	\$20.50	\$19.67	\$18.84	\$18.01	\$17.18
21	23.16	22.33	21.50	20.67	19.84	19.01
22	24.99	24.16	23.33	22.50	21.67	20.84
23	26.82	25.99	25.16	24.33	23.50	22.67
24	28.65	27.82	26.99	26.16	25.33	24.50

¹Reduce the amount you can pay by \$2.66 per cwt. to cover \$16 of fixed costs for labor, buildings, equipment and farm overhead.

Table 6. Short-fed Choice Yearling Steers Bought at 675 lbs. — Sold at 1,050 lbs.

Expected selling price per cwt.	Price you can pay and recover variable costs ¹					
	Your feed cost per pound of gain					
	17¢	18¢	19¢	20¢	21¢	22¢
\$19	\$18.54	\$17.98	\$17.42	\$16.86	\$16.30	\$15.74
20	20.09	19.53	18.97	18.41	17.85	17.29
21	21.64	21.08	20.52	19.96	19.40	18.84
22	23.19	22.63	22.07	21.51	20.95	20.39
23	24.74	24.18	23.62	23.06	22.50	21.94

¹Reduce the amount you can pay by \$1.33 per cwt. to cover \$9 of fixed costs for labor, buildings, equipment and farm overhead.

Table 7. Short-fed Holstein Steers Bought at 650 lbs. — Sold at 1,000 lbs.

Expected selling price per cwt.	Price you can pay and recover variable costs ¹					
	Your feed cost per pound of gain					
	15¢	16¢	17¢	18¢	19¢	20¢
\$17	\$16.54	\$16.00	\$15.46	\$14.92	\$14.38	\$13.84
18	18.08	17.54	17.00	16.46	15.92	15.38
19	19.62	19.08	18.54	18.00	17.46	16.92
20	21.16	20.62	20.08	19.54	19.00	18.46
21	22.70	22.16	21.62	21.08	20.54	20.00

¹Reduce the amount you can pay by \$1.54 per cwt. to cover \$10 of fixed costs for labor, buildings, equipment and farm overhead.

Break Even Analysis for 1964-65

An important analytical tool in making a decision to buy a particular drove of cattle is a *Break Even Budget*. Properly computed, this budget will give an accurate estimate of the selling prices needed to cover the cost of cattle and feed, all variable costs or total costs for a particular farm operation. This in-

formation weighed against the outlook for slaughter prices of finished cattle is the best measure of the risks involved in buying and feeding a particular drove of cattle.

The following worksheet will help you construct a budget estimate of your costs and break even prices. The same form can be used to keep track of the actual costs involved in feeding a drove of cattle.

ESTIMATE YOUR OWN BREAK-EVEN PRICE FOR FEEDING CATTLE FOR 1964-65

		Costs per head
Variable Costs	1. Cost of cattle	_____
	2. Feed	_____
	3. Death loss (2% of line 1)	_____
	4. Interest	_____
	5. Marketing and miscellaneous	_____
	6.	Sub-total _____
Fixed Costs	7. Labor	_____
	8. Buildings and equipment	_____
	9.	_____
		Total _____

Cost for	Break Even		(Divide cost per head by selling weight)
	Cost per head	Price per cwt. sold	
Cattle and feed (line 1 and 2)	_____	_____	
All variable costs (line 6)	_____	_____	
Total costs (line 9)	_____	_____	

Special Instructions for Estimating Costs

Line

1. Cost delivered.
2. Use past experience or estimate from published studies - average about 16¢ to 17¢ per pound of gain for steer calves.
3. Use 2% of cost of cattle for calves, 1% for yearlings.
4. Interest - use 6% or 7% times cost times fraction of year in feeding period.
5. Marketing and miscellaneous - your own estimate or \$5 to \$8 per head.
7. Five to eight hours per head for long-fed cattle times wage rate. Less for short-fed cattle.
8. Estimate at 12% of current investment in buildings and feeding equipment. It is assumed that the price of feed pays for feed storage facilities.