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Feeding Cattle?

HOW MUCH CAN YOU AFFORD TO PAY?

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E. F. FROLIK, DEAN; J. L. ADAMS, DIRECTOR

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FEEDING CATTLE? HOW MUCH CAN YOU AFFORD TO PAY?

By Philip A. Henderson

Extension Agricultural Economist
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A cattle feeder is a businessman and, like every other businessman, he hopes to get a reasonably good return for the use of his capital, labor and management.

As a cattle feeder planning your next year's business, you need to know as accurately as possible what you can get for your finished product and what it will cost to produce the gain. If you had this information, it would be much easier to determine the maximum price you could afford to pay for the "raw material," the feeder animal.

ESTIMATING INCOME

The $64 question for most feeders is: "What will fat cattle bring when mine are ready to go?" Unfortunately, no one can give an exact answer to this question.

Forecasting prices is not that exact a procedure. The nature, magnitude and relative importance of factors affecting prices keep changing. Consequently, as a cattle feeder, you can only *estimate* what the price of cattle will be when you're ready to sell.

Estimates of what cattle will bring in weeks or months ahead are based on information concerning factors which affect prices. These factors can be grouped into supply and demand factors.

Supply factors include numbers of cattle on feed, numbers of cows being slaughtered, supplies of competing meats, imports of meats, weights of cattle going to market, etc.

Demand factors include population trends, employment, wage rates, per capita incomes, tax policies, income distribution, trends in consumer preferences, government purchases, exports and several others.

The demand for beef has been good during the past 10 to 15 years and most economists expect a strong demand for beef in years ahead. With stable demand conditions, week-to-week or month-to-month changes in the price of fat cattle are largely a function of changes in supply factors.

How do you interpret all of this information? How important is the number of cattle on feed compared to an increase (or decrease) in the number of hogs headed for market? Or how do imports affect prices of fed cattle?

Proper interpretation calls for a knowledge of how changes in supply or demand factors have affected prices in the past. Some cattle feeders, after years of experience, acquire considerable skill in appraising market developments but it isn't easy. Since the factors affecting prices are numerous, a statistical analysis is useful in interpreting market developments. This is a job for market analysts.

You may not agree with all that a particular market analyst says or thinks. If you don't, check it against what other analysts are saying. Compare with what people in the trade think. This is the only way you can arrive at a considered estimate of what prices are likely to be when your cattle are ready to go.

The alternatives are to play it blind, rely on hunches or hedge your cattle feeding operations.

Because of the uncertainty of prices in the future, there's a considerable amount of speculation in cattle feeding.

People with small amounts of capital and credit may not be able to stand the large losses which sometimes result from unexpected drops in the price of cattle. Because of this, some people prefer to feed calves which involve less risk than feeding bigger cattle.

Those who feed on a large scale and on a continuous basis try to build in some insurance against the consequences of price changes through their buying programs. When cattle are sold, they try to replace these cattle with feeders bought at a price which would allow a suitable "profit" if they were sold at the same price as the finished cattle they replace. To the extent that prices of fat cattle and feeder cattle move together (both direction and magnitude), this may work reasonably well. This is not always true, however.

There's another way to get some protection against price variations. It's called hedging.

Hedging a cattle feeding operation involves selling one or more contracts for delivery of either 40,000 pounds (Chicago Mercantile Exchange contracts) or 27,600 pounds (Chicago Board of Trade contarcts) of live steers[1] grading choice or better at Chicago.

The Mercantile Exchange contracts call for delivery of:

Steers weighing 1050–1150 pounds with an estimated yield of 61%, or . . .

Steers weighing 1151–1250 pounds with an estimated yield of 62%.

Board of Trade contract requirements are slightly different. They call for steers weighing 1100 to 1200 pounds with 61% estimated yield.

[1] Quantities and specific provisions of the contracts are subject to change. Those shown here are those in effect when this bulletin went to press.

Permitted exceptions to grade, weight and yield specifications are comparatively few and are quite limited in both contracts.

Futures prices quoted in the paper are for Chicago. Omaha delivery prices are 75¢ per cwt. less.

A hedging operation is usually started by selling one or more contracts at the same time live feeder cattle are purchased. And, although the futures contract provides for the delivery of steers to fulfill the contract, actual delivery seldom takes place. Instead, the cattle feeder simply buys an offsetting contract which has the same maturity date, thus cancelling the contract which he had previously sold.

The purchase of offsetting contracts is usually done when live cattle are sold and must be done before the close of the last permissible business day specified by the futures contract.

Contracts are terminated in February, April, June, August, October and December. They can be purchased through brokers who are members of the Chicago Mercantile Exchange or Chicago Board of Trade for a fee. This brokerage fee covers both the sale of a contract and the purchase of an offsetting contract. In mid-summer, 1970, the amount of this fee was $36 for Mercantile Exchange contracts and $25 for Board of Trade contracts.

Those who buy or sell futures contracts must put up several hundred dollars as margin money when they place their first order. If the market moves against them (for the hedger, this means a price increase) by some specified amount, additional margin money must be put up to bring the equity in the contract back up to the minimum specified by the broker. At the conclusion of the futures operation, the hedger gets back his margin money plus or minus any profits.

An example of how the hedging operation might have worked in 1969–70 follows: A cattle feeder who normally buys 100 yearling steers in October and sells them the following April contemplated his feeding operation for the year ahead. He looked up the price of April ('70) futures as quoted in the paper and found them to be $29.35. This would mean $28.60 at Omaha.

He can buy 700-pound steers for $29.50 a cwt. (laid in) and past experience tells him that it costs about $95 to feed a steer out with then-current and prospective feed prices. A little pencil pushing indicated that he could probably make about $12 to $13 per head if he were assured a selling price of $28.60. So he decides to buy the cattle and hedge his feeding operation, realizing that the hedge would assure him a selling price of close to $28.60.[2] Here's how it worked out:

[2] If the futures (adjusted to Omaha basis) is not high enough to indicate an income which would more than offset the probable costs involved, the cattle feeder would certainly not hedge and may decide to leave his lots empty. If he puts cattle in the lots despite the income prospects, he is simply betting that the price of cattle will be higher than futures quotations indicate.

		Actual feeding operation
Sale of cattle, 99 choice steers, average 1135 lbs. @ $31 in April		$34,833
Costs, including cost of steers, feed, all other out-of-pocket costs, and labor		29,982
Return to management and fixed resources		$ 4,851
The transactions on the futures market were as follows:		
Sale of futures contracts (3 contracts for 40,000 lbs. each at $29.35) in October		$35,220
Less: Repurchase of contracts in April @ $31.95	$38,340	
Brokerage fee (3 @ $36)	108	
Interest on broker's fee and margin @ 8½%	128	
Total deductions		$38,576
Net loss on futures transaction		–$ 3,356
Less gain on actual feeding operation		$ 4,851
Net gain on both		$ 1,495

Obviously, he would have been better off in this particular year to have carried the risk himself. It should be noted, however, that even though he was unable to make as much as if he had not hedged, he did realize about $15 per head over and above the cost of feed, labor and actual out-of-pocket costs—about what he had expected originally.

Now let's look at the same man's operation back in 1966–67 (when fat cattle prices failed to develop as much strength as anticipated). Again, he was thinking of 100 head of yearling steers, bought in October and sold in March or April. In October of 1966 April futures were selling for $27. This would indicate a price of about $26.25 at Omaha. He could buy 700-pound feeder steers for $24.60 a cwt. and his experience told him that feed, labor and actual out-of-pocket costs would amount to about $95 per head. With these costs and a selling price of $26.25, he figured he'd get paid for the use of his equipment and facilities and have some profit besides so he decided to go ahead with his feeding operation and to hedge.

Here's how it worked out in 1966–67:

	Actual feeding operation
Sale of cattle, 99 choice steers, average 1120 lbs. @ $23.65 in April	$26,223

Costs, including cost of steers, feed, all other out-of-pocket costs and labor	27,368
Return to management and fixed resources	$–1,145 (loss)

The transactions on the futures market were as follows:

Sale of futures contracts (4 contracts for 25,000 lbs.[a] each @ $27 in October	$27,000
Less: Repurchase of contracts in April @ $25.27	$25,270
Brokerage fee (4 @ $25)[a]	100
Interest on broker's fee and margin @ 7%	46
Total deductions	$25,416
Net gain on futures transaction	$ 1,584
Less loss on actual feeding operation	$ 1,145
Net gain on actual feeding and futures	$ +439

He did not realize as large a return over feed, labor and direct costs as he had expected when he started his feeding operation in October (about $20 to $22 per head) but he did wind up with a small positive return ($439) which was better than taking a loss of $1,145 which he would have had without the hedge.

These two examples serve to point out that hedging can protect a feeder from the full severity of a price drop but *it also prevents him from realizing all the speculative gain in years when the price of slaughter cattle happens to go higher than expected.*

In other words, the cattle feeder who hedges must be willing to settle for a price about the same as that indicated in the futures contract he sells (adjusted to his local market) whether the price of cattle actually goes above or below this.

A hedging operation does not guarantee a specific price or a specific dollar profit.

There are at least three reasons why the hedge may not work perfectly:

1. The bases (difference between Chicago and Omaha prices) changed, becoming greater or less than the expected difference.

2. Actual costs may turn out to be higher or lower than the feeder had budgeted.

3. Overhedging or underhedging. In 1966–67, the four contracts protected only 100,000 pounds of live steers, while he expected to market about 110,000–112,000 pounds. Had he used a fifth contract, he would have been overhedged. In this particular instance, this would have been to his advantage. In 1969–70, his 3 contracts covered

[a] Requirements pertaining to Mercantile Exchange contracts were changed in 1969. Contracts now call for 40,000 pounds, the brokerage fee was increased from $25 to $36 and the amount of margin money required was increased.

120,000 pounds, so he was overhedged. In this case, overhedging was a disadvantage.

Since feed accounts for 65–75% of the total cost of feeding cattle, additional protection can be achieved by hedging the cost of grain. This would involve buying corn futures when the feeding operation is started and selling them again at the time the corn is actually acquired.

TWO KINDS OF COSTS

Costs of production can be divided into fixed costs and variable costs.

Fixed costs (depreciation, interest, taxes, and insurance on the improvements and equipment) do not vary with the number of cattle fed in any particular year. These costs are largely determined by the size and kind of lots and equipment used for cattle feeding. The annual costs of maintaining these facilities tend to be about the same whether facilities are used to full capacity or not. In fact, these costs would occur even if lots were left empty.

Investments in feedlot facilities vary widely—from as little as $20 or $30 per head capacity to as much as $125 to $150 per head capacity. Table 1 illustrates how differences in levels of investments in facilities and turnover or total amount of gain produced affect costs of gain.

Higher investments mean higher annual fixed costs of course. And the higher the investment, the more important it becomes to fully utilize lots and equipment. High investments in specialized facilities tend to make an operation less flexible in response to price changes and the introduction of new technologies which are related to the kind of facility. More elaborate facilities requiring comparatively high investment seldom provide enough advantage to offset higher annual fixed costs.

Variable costs are those which increase in proportion to the number of cattle fed. These costs include the cost of the feeder animal, feed, taxes on the animal itself, veterinary and medicine, death loss, interest on the money invested in animals, and other operating expense such as buying and selling costs.

If labor is hired specifically for cattle feeding or if the operator has alternative job opportunities, labor should also be considered as a variable cost.

In the long run, *all* costs of production must be met if the cattle feeder is to stay in business. Fences, bunks, water systems, etc., must be replaced as they wear out. But in the short run (any one bunch of cattle or in any one year), cattle prices may be such that it would be impossible to cover all costs; yet a cattle feeder very logically may continue to feed cattle. If he thinks the income from the sale of his cattle will be enough to pay for all variable costs plus a little

Table 1. Examples of differences in investments in feedlot facilities and impact on costs of gain.

	Low investment		High investment	
Number head at one time	200		200	
	Investment	Annual cost	Investment	Annual cost
Receiving, treating, shipping facilities	$ 350	$ 65	$ 2,400	$ 444
Regular lot fences, gates	1,150	213	1,550	287
Paved areas	.....	.....	3,000	360
Feeding & watering equipment (including bunks, augers, share of tractor & self-unloading wagon, auger & tube, concrete pad, tanks, heater, etc.)	4,435	697	4,986	798
Grain & supplement bins	2,000	210	500	52
2 gas-tight silos	.....	.....	10,800	1,998
Manure handling equipment	1,750	325	1,750	325
Feed processing equipment	1,450	268	1,450	268
Total	$11,135	$1,778	$26,436	$4,532
Per head fed out				
200 calves (1 bunch/year)	$56.00	$ 8.89	$132.00	$22.66
450 yearlings (2¼ bunch/year)	$25.00	$ 3.95	$ 59.00	$10.07
Per cwt. gain				
Calves (600 lb. gain/hd.)	$ 9.28	$ 1.48	$ 22.03	$ 3.78
Yearlings (400 lbs. gain/hd.)	$ 6.19	$ .99	$ 14.68	$ 2.52
Per cwt. original weight				
400# calves	$13.92	$ 2.22	$ 33.04	$ 5.67
700# yearlings	$ 3.53	$ .56	$ 8.39	$ 1.44

more (but not enough to cover all fixed costs) he is financially better off to make use of lots, bunks and other facilities than to let them stand idle.

A break-even price (as used here) would be the amount a feeder could pay for feeder cattle and still pay all variable costs, including labor.

There is no long or short run justification, however, for putting salable feed into an animal or for spending money for protein, medicine or anything else unless it is fairly certain that the income will be more than enough to cover such costs.

It may be, of course, that other kinds of cattle might return more for the use of these facilities than the particular kind of cattle to which he is accustomed or which he originally had in mind. If so, the use that would return the most money for the facilities and for his labor and management would be the logical choice.

If the cattle feeder is faced with a break-even situation or worse, he should reassess his feeding program by asking the following questions:

If prices of feeder cattle appear high, does it seem likely that they could be bought at a lower price later on?

Will delayed marketings mean a higher or a lower sale price?

What effect would a delay in buying have on the time of marketing and expected income in relation to costs?

Would savings which might be made from a delayed purchase be offset by inability (either because of time or weather) to make use of cornstalks or other low cost roughages to cheapen gains?

ESTIMATING VARIABLE COSTS

Feed costs make up a large proportion of the total costs of feeding cattle. The use of feeds produced on the farm helps to keep costs of gain at a minimum since no costs of hauling to the farm are involved. In addition, costs of gain can sometimes be reduced by using corn stalks, milo stubble or other by-product feeds. The alternative use value of these feeds is frequently low compared to the actual feed value.

In estimating the cost of gain use your own figures for feed requirements if they are available. Otherwise the figures in Table 2 can be used as a guide.

Similarly, in estimating labor costs, you should use your own figures if you know what they are. If not, the figures in Table 3 can be used as a guide for estimating labor costs.

Data obtained in a survey of cattle feeders in eastern Nebraska indicate that a substantial part of the potential gain in labor efficiency is achieved by feeders who handle as few as 200–300 head at a time. Labor requirements were slightly under 1 hour per cwt. of gain for these feeders. Additional labor savings (on a per head basis) were comparatively small as the number of cattle fed increased.

Table 2. Guides for estimating comparative feed costs for six different kinds of cattle feeding enterprises.[a]

	Corn (equiv.) (bu.)	Alfalfa hay (tons)	Corn silage (or equiv.) (tons)	Protein (lbs.)	Pasture-days	Average daily gain (lbs.)
500# growthy steer calves, fed grain, 230 days on farm	63	.4	....	190	40	2.6
425# steer calves fed liberal roughage to 700# then grain; 300 days on farm	40	.3	2.5	285	40	2.1
425# steer calves fed liberal roughage, pastured, then grain; 340 days on farm	36	.25	2.4	160	120	1.8
400# heifer calves fed silage, then grain; 250 days on farm	25	.15	2.2	220	...	1.9
650# yearling heifers fed grain, 120 days on farm	38	.2	..	100	...	2.6
700# yearling steers fed grain, 140 days on farm	48	.2	..	140	...	2.9

[a] Provided by Paul Guyer, Extension Livestock Specialist.

Table 3. Approximate labor requirements for various kinds and sizes of cattle feeding programs.

Kind of feeding enterprise	Number of head in lot			
	40–50[a]	100–125[a]	400–500[b]	1000[c]
	Hours per animal			
500# growth steer calves fed grain, 230 days on farm	6⅓	4½	3	2¼
425# steer calves fed liberal roughage to 700# then grain, 300 days on farm	8¾	5¾	3⅔	2¾
425# steer calves fed liberal roughage, pastured, then grain, 340 days on farm	9	5½	3⅔	...
400# heifer calves fed silage, then grain, 250 days on farm	8	5⅓	3	2⅓
650# yearling heifers fed grain, 120 days on farm	4	2¾	1¾	1¼
700# yearling steers fed grain, 140 days on farm	5	3½	2¼	1½

[a] Based on "Labor Used in Cattle Feeding," Station Bulletin 451, March, 1960, by R. G. Johnson and T. R. Nodland, University of Minn.

[b] Based on "Cattle Feeding Costs in Nebraska by System of Feeding and Size of Operation," Station Bulletin 496, January, 1968, by Ralph D. Johnson and Alfred R. Eckert.

[c] Based on "Improved Methods and Facilities for Commercial Cattle," AMS, USDA, Washington 25, D.C. The 1000-head lot used a self-mixing, self-unloading truck method of feeding.

A method for determining the maximum price that could be paid for feeder cattle if all variable costs are to be covered is shown in the example budget which follows:

Income and Credits			*Your Figures*
Sale of finished animal			
1,100# @ $30 = $330			_____
Value of manure recovered			
2.5 tons[a] @ 2.40 =	6		_____
Total	$336		_____
Variable Costs			
Feed costs			
48 bu. corn @ 1.10[b] =	52.80		
140# protein @ 4.50 =	6.30		
0.2 T. alfalfa @ $20 =	4.00		
		$63.10	_____
Marketing costs			
1,100# @ 60¢/cwt.		6.60	_____
Cost of buying feeder			
Commission	2.00		

Vaccination	.50		
Trucking	1.00		
		3.50	_____
Labor			
3.5 hours @ $2		7.00	_____
Taxes		2.41	_____
Interest on feed			
$\frac{\$63.10}{2} \times \frac{140 \text{ days}}{365 \text{ days}}$ @ 8½%		1.03	
Truck, tractor & equipment operating cost (40¢/cwt. gain)		1.60	
Miscellaneous variable costs per day			
Veterinary	$.003		
Salt and Min.	.002		
Rep and Misc.	.009		
	$.014 x 140 days = $1.96		_____
Total variable non-feeder costs other than death loss and interest on animal $87.20			_____
Amount left to cover (1) death loss, (2) interest on investment in animal, and (3) cost of animal $336 minus $87.20		$248.80	_____
Amount available for purchase of animals [c]		$238.54	_____
Maximum (break-even price per cwt., that can be paid if all *variable* costs (including death loss and interest on animal investment) are to be met			
$\frac{\$238.54}{700 \text{ lb. (purchase wt.)}}$ =		$34.08 per cwt.	_____

[a] Assumes that only about ⅓ of manure produced is actually salvaged. No value was included for potash or organic matter content.

[b] For purchased feed use the price delivered to the farm. For home produced feed use the cash value at the farm.

[c] The $248.80 must be divided btween the three items as follows:

Interest for 140 days = $\frac{140}{365}$ x 8½% =	3.3%
Death loss	1.0
Cost of feeder	100.0
Total	104.3

$\frac{\$248.80}{104.3} = \$238.54$

Less: Fixed costs (see Table 1)	.56
Allowance for profit	1.40
Break-even price, fixed costs and profit margin considered	$32.12

In the tables which follow, the maximum prices that could be paid for feeder cattle have been calculated by the method illustrated using the quantities of feed and labor indicated in the preceding tables.

In this illustration, a credit is shown for manure. Such a credit is justified only if the manure is hauled out and utilized in the cropping program. The costs of cleaning the lots and hauling the manure are included in the costs shown. Larger cattle feeding operations are frequently faced with the costs of disposing of manure without any opportunity to realize any benefit from its fertility value. The costs used in this example are not intended to fit any particular feeding operation and must be adjusted to reflect your situation. Space is provided for this purpose.

To illustrate how the tables can be used, let's assume that your feeding operation is similar to the first (Table 4) and you expect to get $30 a hundred for your finished cattle. Your feed costs are estimated at $16 per hundred pounds of gain and you will be feeding approximately 120 head.

Table 4. Approximate break-even prices for 500# good to choice growthy steer calves fed liberal grain, 230 days on farm, sold at 1100# and choice grade with various slaughter prices, feed costs, and numbers of head per lot when all variable costs (including 2% death loss, interest at 8½% per year and wages at $2 per hour) are covered.

No. Head	Feed cost ($)	Slaughter prices ($)					
		24	26	28	30	32	34
40	12	30.95	35.05	39.15	43.25	47.35	51.45
	16	26.36	30.46	34.56	38.66	42.76	46.86
	20	21.77	25.87	29.97	34.07	38.17	42.27
120	12	31.64	35.74	39.84	43.94	48.04	52.14
	16	27.05	31.15	35.25	39.35	43.45	47.55
	20	22.46	26.56	30.66	34.76	38.86	42.96
500	12	32.20	36.30	40.40	44.50	48.60	52.70
	16	27.61	31.71	35.81	39.91	44.01	48.11
	20	23.02	27.12	31.22	35.32	39.42	43.52
1000	12	32.48	36.58	40.68	44.78	48.88	52.98
	16	27.89	31.99	36.09	40.19	44.29	48.39
	20	23.30	27.40	31.50	35.60	39.70	43.80

Fixed costs. In order to allow for fixed costs, similar to those in Table 1, these prices should be reduced by $1.20 (low investment and 1½ bunches) to $4.50 (higher investment and only 1 bunch).

Profit margin. The above figures allow for an 8½% return to capital and $2 an hour for labor. But if you wish to realize an actual profit of approximately $10 per head, the above prices would need to be reduced by another $2 per cwt. of original weight.

Fixed costs and profit. Thus if allowances are made for both fixed costs and profits, the figures in the above table should be reduced by at least $3.20, i.e., $30.95 less $1.20 and $2 leaving $27.75.

Table 5. Approximate break-even prices for 425# good to choice steer calves fed liberal roughage to 700# then grain, 300 days on farm, sold at 1055# and choice grade with various slaughter prices, feed costs and number of head per lot when all variable costs (including 2% death loss, interest at 8½% per year and wages at $2 per hour) are covered.

No. Head	Feed cost ($)	Slaughter prices ($)					
		24	26	28	30	32	34
40	12	31.41	35.96	40.51	45.06	49.61	54.16
	16	25.78	30.33	34.88	39.43	43.98	48.53
	20	20.15	24.70	29.25	33.80	38.35	42.90
120	12	32.70	37.25	41.80	46.35	50.90	55.45
	16	27.07	31.62	36.17	40.72	45.27	49.82
	20	21.44	25.99	30.54	35.09	39.64	44.19
500	12	33.61	38.16	42.71	47.26	51.81	56.36
	16	27.98	32.53	37.08	41.63	46.18	50.73
	20	22.35	26.90	31.45	36.00	40.55	45.10
1000	12	33.99	38.54	43.09	47.64	52.19	56.74
	16	28.56	32.91	37.46	42.01	46.56	51.11
	20	22.93	27.28	31.83	36.38	40.93	45.48

Fixed costs. In order to allow for fixed costs the above prices should be reduced. Using the figures in Table 1 as an example, the allowance for fixed costs would range from $1.75 (low investment with 1.2 bunches a year) to $5.35 (high investment and only 1 bunch a year).

Profit margin. The above figures allow for an 8½% return to capital and $2 an hour for labor. But if you wish to realize an actual profit of approximately $10 per head, the above prices would need to be reduced by another $2.35 per cwt. of original weight.

Fixed costs and profit. Thus if allowances are made for both fixed costs and profits, the figures in the above table should be reduced by at least $4.10, i.e., $31.41 less $1.75 and $2.35 leaving $27.31.

On the basis of these anticipated costs and returns, the maximum price which you could pay for 500-pound steer calves of good to choice grade would be $39.35 (Table 4, $30 slaughter price column, 5th line down). This would permit you to pay variable costs comparable to those shown in the example budget *but it would not allow for anything to cover fixed costs or profits.*

Annual charges for fixed investments may amount to as little as 25¢ or as much as $6 or more per cwt. of feeder steer weight or $1 to $4 per cwt. of gain. They vary considerably from one situation to another, depending on the kind of feeding facilities and the number of cattle fed. The higher the investment in lots and equipment per steer, the higher the annual fixed costs will be.

Highly mechanized operations have higher fixed costs but smaller labor requirements; in order to keep annual fixed costs on such facilities at a minimum (per hundred pounds of beef produced), it is important that they be fully used.

Table 6. Approximate break-even prices for 425# good to choice steer calves fed liberal roughage, pastured, then grain, 340 days on farm, sold at 1035# and choice grade with various slaughter prices, feed costs and numbers of head per lot when all variable costs (including 2% death loss, interest at 8½% per year and wages at $2 per hour) are covered.

No. Head	Feed cost ($)	Slaughter prices ($)					
		24	26	28	30	32	34
40	12	30.40	34.83	39.26	43.69	48.12	52.55
	16	24.96	29.39	33.82	38.25	42.68	47.11
	20	19.52	23.95	28.38	32.81	37.24	41.67
120	12	31.90	36.33	40.76	45.19	49.62	54.05
	16	26.46	30.89	35.32	39.75	44.18	48.61
	20	21.02	25.45	29.88	34.31	38.74	43.17
500	12	32.69	37.12	41.55	45.98	50.41	54.84
	16	27.25	31.68	36.11	40.54	44.97	49.40
	20	21.81	26.24	30.67	35.10	39.53	43.96

Fixed costs. In order to allow for fixed costs the above prices should be reduced. Using the figures in Table 1 as an example, the allowance for fixed costs would range from $1.90 (low investment with 1.1 bunches a year) to $5.35 (high investment and only 1 bunch a year).

Profit margin. The above figures allow for an 8½% return to capital and $2 an hour for labor. But if you wish to realize an actual profit of approximately $10 per head, the above prices would need to be reduced by another $2.35 per cwt. of original weight.

Fixed costs and profit. Thus if allowances are made for both fixed costs and profits, the figures in the above table should be reduced by at least $4.25, i.e., $30.40 less $1.90 and $2.35 leaving $26.15.

Table 7. Approximate break-even prices for 400# good to choice heifer calves fed silage, then grain, 250 days on farm, sold at 875# and choice grade with various slaughter prices, feed costs and numbers of head per lot when all variable costs (including 2% death loss, interest at 8½% and wages at $2 per hour) are covered.

No. Head	Feed cost ($)	Slaughter prices ($)					
		24	26	28	30	32	34
40	12	28.94	32.99	37.05	41.11	45.17	49.23
	16	24.40	28.45	32.51	36.57	40.63	44.69
	20	19.86	23.91	27.97	32.03	36.09	40.15
120	12	30.17	34.23	38.29	42.35	46.41	50.47
	16	25.63	29.69	33.75	37.81	41.87	45.93
	20	21.09	25.15	29.21	33.27	37.33	41.39
500	12	31.25	35.31	39.37	43.43	47.49	51.55
	16	26.71	30.77	34.83	38.89	42.95	47.01
	20	22.17	26.23	30.29	34.35	38.41	42.47
1000	12	31.56	35.62	39.68	43.74	47.80	51.86
	16	27.02	31.08	35.14	39.20	43.26	47.32
	20	22.48	26.54	30.60	34.66	38.72	42.78

Fixed costs. In order to allow for fixed costs, the above prices should be reduced. Using the figures in Table 1 as an example, the allowance for fixed costs would range from approximately $1.50 (low investment and 1.5 bunches a year) to $5.65 (high investment and only 1 bunch a year).

Profit margin. The above figures allow for an 8½% return to capital and $2 an hour for labor. But if you wish to realize an actual profit of approximately $10 per head, the above prices would need to be reduced by another $2.50 per cwt. of original weight.

Fixed costs and profit. Thus if allowances are made for both fixed costs and profits, the figures in the above table should be reduced by at least $4, i.e., $28.94 less $1.50 and $2.50 leaving $24.94.

Table 8. Approximate break-even prices for 650# good to choice yearling heifers fed grain intensively 120 days on farm, sold at 960# and choice grade with various slaughter prices, feed costs and numbers of head per lot when all variable costs (including 1% death loss, interest at 8½% per year and wages at $2 per hour) are covered.

No. Head	Feed cost ($)	Slaughter prices ($)					
		24	26	28	30	32	34
40	12	25.93	28.78	31.63	34.48	37.33	40.18
	16	24.07	26.92	29.77	32.62	35.47	38.32
	20	22.20	25.05	27.90	30.75	33.60	36.45
120	12	26.30	29.15	32.00	34.85	37.70	40.55
	16	24.44	27.29	30.14	32.99	35.84	38.69
	20	22.57	25.42	28.27	31.12	33.97	36.82
500	12	26.60	29.45	32.30	35.15	38.00	40.85
	16	24.74	27.59	30.44	33.29	36.14	38.99
	20	22.87	25.72	28.57	31.42	34.27	37.12
1000	12	26.75	29.60	32.45	35.30	38.15	41.00
	16	24.89	27.74	30.59	33.44	36.29	39.14
	20	23.02	25.87	28.72	31.57	34.42	37.27

Fixed costs. In order to allow for fixed costs, the above prices should be reduced. Using the figures in Table 1 as an example, the allowance for fixed costs would range from approximately 50¢ (low investment and 3 bunches a year) to $3.50 (high investment and only 1 bunch a year).

Profit margin. The above figures allow for an 8½% return to capital and $2 an hour for labor. But if you wish to realize an actual profit of approximately $10 per head, the above prices would need to be reduced by another $1.54 per cwt. of original weight.

Fixed costs and profit. Thus if allowances are made for both fixed costs and profits, the figures in the above table should be reduced by at least $2.04, i.e., $25.93 less 50¢ and $1.54 leaving $23.89.

Table 9. Approximate break-even prices for 700# good to choice yearling steers fed grain intensively 140 days on farm, sold at 1100# and choice grade with various slaughter prices, feed costs and numbers of head per lot when all variable costs (including 1% death loss, interest at 8½% per year and wages at $2 per hour) are covered.

No. Head	Feed cost ($)	Slaughter prices ($)					
		24	26	28	30	32	34
40	12	26.74	29.75	32.76	35.77	38.78	41.79
	16	24.51	27.52	30.53	33.54	36.55	39.56
	20	22.28	25.29	28.30	31.31	34.32	37.33
120	12	27.15	30.16	33.18	36.19	39.21	42.22
	16	24.92	27.93	30.95	33.96	36.98	39.99
	20	22.69	25.70	28.72	31.73	34.75	37.76
500	12	27.49	30.51	33.52	36.54	39.55	42.57
	16	25.26	28.28	31.29	34.31	37.32	40.34
	20	23.03	26.05	29.06	32.08	35.09	38.11
1000	12	27.70	30.71	33.73	36.74	39.76	42.77
	16	25.47	28.48	31.50	34.51	37.53	40.54
	20	23.24	26.25	29.27	32.28	35.30	38.31

Fixed costs. In order to allow for fixed costs, the above prices should be reduced. Using the figures in Table 1 as an example, the allowance for fixed costs would range from approximately 50¢ (low investment and 2.5 bunches a year) to $3.24 (high investment and only 1 bunch a year).

Profit margin. The above figures allow for an 8½% return to capital and $2 an hour for labor. But if you wish to realize an actual profit of approximately $10 per head, the above prices would need to be reduced by another $1.40 per cwt. of original weight.

Fixed costs and profit. Thus if allowances are made for both fixed costs and profits, the figures in the above table should be reduced by at least $1.90, i.e., $26.74 less 50¢ and $1.40 leaving $24.84.