

# Feeder Calves

# PROFITS: \_\_\_\_\_or\_\_\_\_\_

# Feeder Steers

by Russell Gum & John Wildermuth\*

Table 2. Costs Per Pound of Gain - Calves

Item	Size Category <sup>a</sup>			
	I	II	III	Custom Fed <sup>b</sup>
	cents per pound			
Depreciation	1.32	.62	.45	
Taxes, interest, insurance	1.18	.71	.47	
Total fixed costs	2.50	1.33	.92	
Salaries and wages	2.37	1.78	1.51	
Utilities	.30	.26	.21	
Gas, oil, grease	.26	.15	.14	
Repairs	.56	.32	.37	
Veterinary fees	.43	.21	.33	.41
Nutrition services	.00	.03	.08	
Legal and accounting	.03	.08	.04	
Trucking and freight	.08	.14	.01	
Promotion	.00	.01	.01	
Other costs	.14	.15	.10	
Death loss <sup>c</sup>	.42	.42	.42	.42
Interest on cattle in lot <sup>d</sup>	1.39	1.35	1.34	1.36
Feed costs <sup>e</sup>	14.15	14.15	14.15	17.64
Total variable costs	20.13	19.05	18.71	19.83
Total costs/lb. of gain	22.63	20.38	19.63	19.83

<sup>a</sup> Size category I is less than 4,000 capacity; size category II is 4,000 to 10,000 capacity; size category III is 10,000 to 26,000 capacity. Custom fed cattle are fed in a 10,000 to 26,000 capacity lot with a charge of \$10 per ton of feed fed.

<sup>b</sup> Feed costs plus \$10 per ton of feed fed.

<sup>c</sup> One and one half per cent death loss valued at 29 cents per pound for a 600-pound steer.

<sup>d</sup> Interest on feeders valued at 29 cents per pound plus interest on costs of gains. Interest is at 7 per cent per year rate.

<sup>e</sup> Feed cost calculated assuming an average price of feed at \$41.03 a ton and 1 to 6.9 conversion ration.

All other costs from Gum and Wildermuth, "Cost-Return Comparisons For Finishing Yearling Steers" in *Progressive Agriculture in Arizona*, Nov.-Dec. 1968, pp. 20-21 modified for calves on basis of the ratio of pounds of feed fed in the calf feeding program to the pounds of feed fed in the yearling steer program.

One of the important decisions a cattle feeder must make is whether to feed calves or yearling steers during a particular period. This decision should be based upon sound economic analysis of the conditions which exist at the time of the decision is made. This decision requires knowledge of the relevant cost differences of feeding calves compared to yearling steers, the price differentials inherent in purchasing feeder cattle of different weights, and the fat cattle price expected at the time the cattle will be sold.

In an earlier article,\*\* we presented data relating to the costs and profits of feeding yearling steers.

The purpose of this article is two-fold: (1) to present similar cost and return data for the feeding of steer calves, and (2) to demonstrate how the data in this and the earlier article can be used to decide which enter-

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\*\* Gum, Russell and Wildermuth, John, *Cost-Return Comparisons for Finishing Yearling Steers*. *Progressive Agriculture in Arizona*, Nov-Dec, 1968, pp. 20-21.

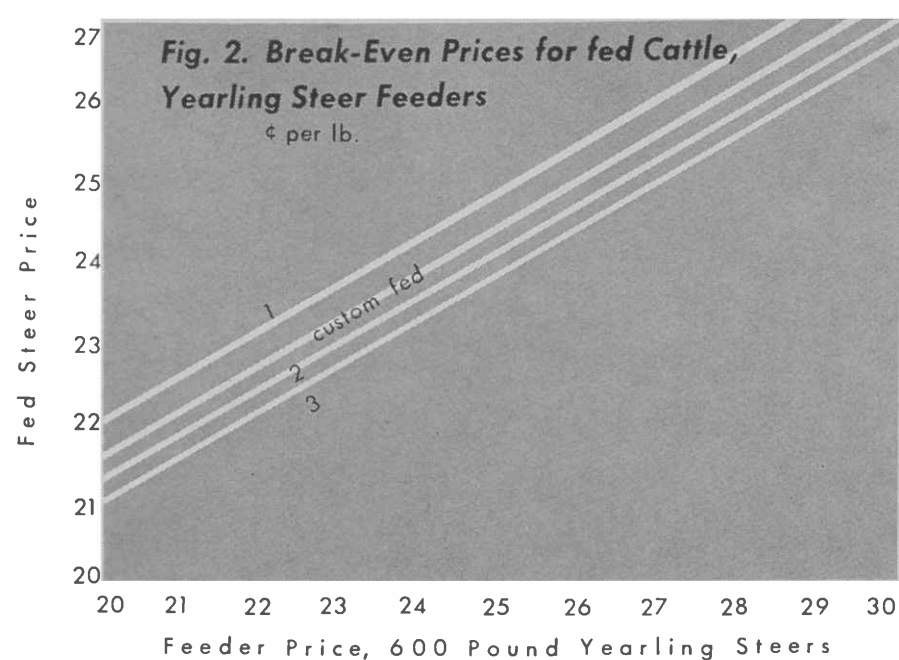
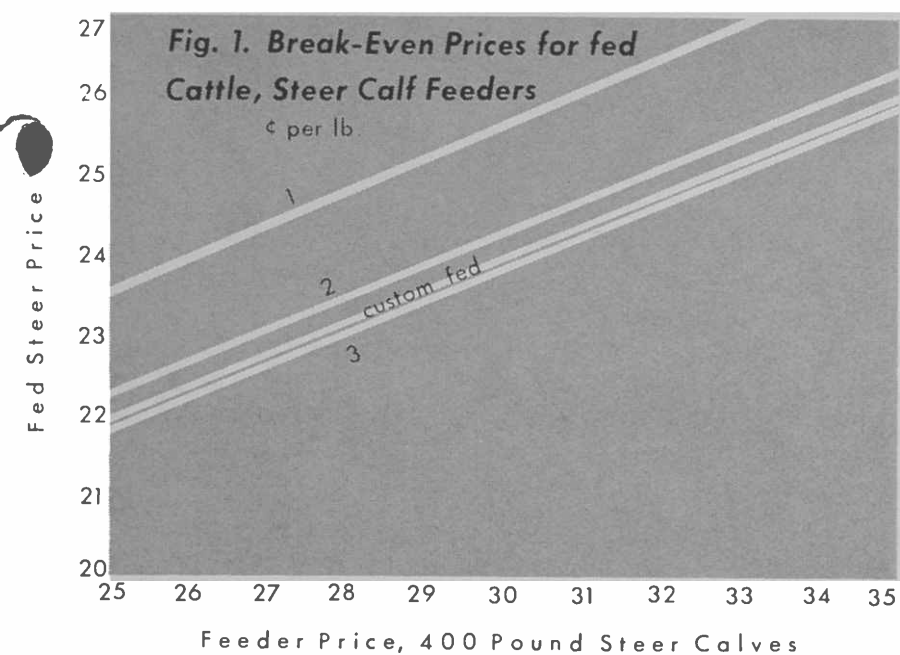


Table. 1. Average Ration for Feeder Calves

Percentage of total Feed Fed	Ingredient	Price per ton (dollars)
37.0	Alfalfa Hay	30
50.3	Milo	44
3.2	Cottonseed pellets	81
.4	Urea	100
.5	Salt	28
.4	Dicalcium phosphate	100
.1	Limestone	15
.1	Trace minerals	350
5.0	Molasses	36
3.0	Fat	130
100.0		\$41.03

prise is more profitable, feeder calves or yearling steers.

### Cost Data

The cost data developed for this article are based upon a specific feeding plan which can be considered "typical" for the feeding of calves in Arizona. Under this plan the calves are placed on feed at 400 pounds and fed for a period of 250 days. During this feeding period four different concentrate rations are fed: 35 percent for 70 days, 55 per cent for 50 days, 75 per cent for 50 days, and 85 per cent for the remaining 80 days.

The average concentrate level of the rations weighted by the number of days each is fed is 63 percent. Therefore, for costing purposes it is possible to assume, as we have in Table 1, that the calves are fed a continuous ration of 63 percent concentrate level. Valued at current average prices, this ration costs \$41.03 per ton, Table 1.

Assuming an average rate of gain of 2.5 pounds per day, the 250 day feeding period results in a total gain of 625 pounds and a final weight of 1,025 pounds. Based on a 1 to 6.9 feed conversion ratio, 4,312 pounds of the

(Turn to page 23)

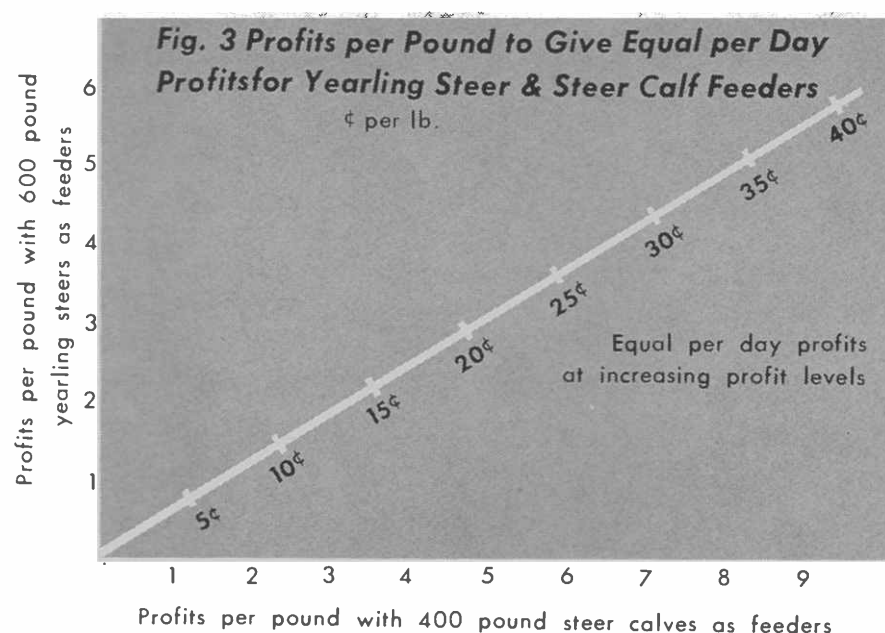


Table 3. Break-even Prices of Fed Cattle

Feeder Calf Price	Category			
	I	II	III	Custom Fed
	cents per pound			
25	23.56	22.18	21.73	21.85
26	23.95	22.57	22.12	22.24
27	24.34	22.96	22.51	22.63
28	24.73	23.35	22.90	23.02
29	25.12	23.14	23.29	23.41
30	25.51	24.13	23.68	23.80
31	25.90	24.52	24.07	24.19
32	26.29	24.91	24.46	24.58
33	26.78	25.30	24.85	24.97
34	27.17	25.69	25.24	25.36
35	27.56	26.08	25.63	25.75

# PROFITS:

## Feeder Calves or Feeder Steers

(From page 19)

average ration are required during the feeding period. The resulting feed cost on a per pound of gain basis is 14.15 cents (4,312 pounds of feed costed at \$41.03 per ton divided by the 625 pounds of gain).

The above feed costs have been incorporated into the budgets presented in Table 2. The total cost of gain is presented for four different operating situations: Feedlot capacities of (1) less than 4,000 head, (2) 4,000 to 10,000 head, (3) 10,000 to 26,000 head and (4) custom fed. All assumptions relating to these budgets are detailed in the footnotes to Table 2.

### *Break-Even Price Comparisons*

Using the above data it is possible to determine the exact price which must be received for the finished animals in order to equate total returns and total costs. These "break-even" prices are presented for each of the four operations budgeted in Table 2 and under a number of alternative feeder cattle prices.

For example, at a feeder cattle price of 30 cents per pound, the break-even prices are 25.51 cents, 24.13 cents, 23.68 cents and 23.80 cents for type I, II, III and custom fed, respectively. The break-even prices for other alternative feeder cattle prices are presented in Table 3 and also presented graphically, Figure 1. Given the assumed holding, feeding and marketing costs, and the feeder cattle prices, a price received for the finished animals anywhere above the relevant line in Figure 1 will lead to a net operating profit. Total profits can, of course, be found by multiplying the per unit profit (difference between the price received and the break-even price) times the number of units sold (pounds of live animals).

### *Comparison Between Feeder Calves and Yearling Steers*

In order to make decisions on which type of feeder cattle to place on feed, the feeder must compare the profit potentials of the various types of feeder cattle. We

now set out to make this comparison between feeder calves and yearling steers. From our earlier article we draw the break-even prices for yearling steers, Figure 2.

Given the two feeder cattle prices and the two fat cattle price expectations, the profits per pound of both feeding plans can now be calculated from Figures 1 and 2. For example, a feeder whose feedlot capacity is 20,000 head (Type III) estimates the fat cattle price to be 26 cents 157 days from now and 27 cents 250 days from now. Assuming that the feeder cattle prices are 24 cents for 600 pound yearling steers and 30 cents per pound for 400 pound calves the expected profits are calculated as follows: the profit from feeding calves is 3.3 cents per pound, (27 cents - 23.7 cents) Figure 1, and the profit from feeding yearling steers is 2.8 cents per pound, (26 cents - 23.2 cents) Figure 2.

Thus the expected profit per pound is 3.3 cents per pound for the feeding of calves and 2.8 cents per pound for the feeding of yearling steers. However, to make the decision of which type of animals to feed, the differences in the length of the feeding period must be considered. Since the feeding of calves ties up the feedlot facilities for 250 days versus only 157 days for the feeding of yearling steers, the total profits per pound do not reflect the possible yearly profits of a specified feeding plan. Assuming equal carrying capacity, these profits are made comparable by determining the profits per pound of each feeding plan which give equal per day profits, Figure 3.

For example, a profit of 2.4 cents per pound for calves or 1.5 cents per pound for yearling steers will yield a 10 cents per day profit for both feeding plans. Returning to the example presented above, the profits of 3.3 cents per pound for calves would yield a profit of 13.5 cents per day while the profit of 2.8 cents per pound for yearling steers would yield a profit of 18.3 cents per day. Therefore, the yearling steers should be fed under these conditions.

The above analyses emphasize the importance of feeder cattle prices and expected fat cattle prices in determining which type of feeder cattle to feed. This information has been provided in hopes that it will be useful to Arizona feeders in the making of just such a comparison.