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THE BEEF FEEDING ENTERPRISE Some Management Considerations

Paul R. Hasbargen

Department of Agricultural and Applied Economics

University of Minnesota
Institute of Agriculture
St. Paul, Minnesota 55108

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THE BEEF FEEDING ENTERPRISE
Some Management Considerations*

by
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I. Outlook For The Beef Industry, 1975 - 1980

- A. Beef production will probably decline from current levels as producers cut back in order that prices can rise enough to cover production costs.
- B. Beef consumption per person will decline from current levels of 115 to 120 pounds, carcass basis, if corn prices hold near \$2.00 a bushel.
- C. But, during the next two or three years, total beef supplies will be higher due to a large slaughter of cows and nonfed animals as cattle numbers are cut back.
- D. The over \$50.00 choice steer prices of June, 1975, will probably not be reached again during the next two years. Average beef prices will probably bottom out in 1976.
- E. Returns to cattle feeders will be more variable than usual during the next two or three years.
- F. Returns to most cow-calf operators will continue to be negative during the next two years.

II. Should We Continue To Feed Cattle In The Northern Corn Belt

- A. Some advantages that cattle feeders in this area have include:
 - 1. Lower priced feed
 - 2. No need to dry corn produced on farm
 - 3. Can utilize manure to save on higher priced fertilizer
 - 4. Can more fully utilize hired help on a year-around basis
- B. Some disadvantages that cattle feeders in this area have include:
 - 1. Poorer feed conversion due to weather
 - 2. Slower gains resulting in higher overhead costs (both feed and nonfeed)

* Paper prepared for Midwest Banking School, Morris, Minnesota, July 1975.

3. Higher cost of facilities to protect cattle from weather and/or greater need for bedding
4. Less opportunity to sell cattle feeding services to others

C. Current cost comparisons with the commercial feedlots in Texas suggest that:

1. Feed costs are lower in this area
2. Nonfeed costs including a desired return to labor and facilities are higher in this area
3. Total production costs vary more among feeders in either area than they do between areas

D. Therefore, feeders with good performance records should be encouraged to consider expansion--those with below average track records might well be encouraged to consider alternatives other than cattle feeding.

III. Evaluating The Past Performance Of A Cattle Feeder

- A. The major factors affecting the profitability of cattle feeding are feed costs and the buying-selling margin realized.
- B. The average of each of these two factors will vary greatly between years depending primarily upon feed prices and cattle price movements.
- C. However, some operators will consistently show lower feed costs due to better feed conversion and higher gross margins due to better buying and selling abilities.
- D. Therefore, each year you should compare your cooperators for gross margins and feed costs per hundred pounds of beef produced. The data in Table 1 show some average performance records for cattle feeders in southern Minnesota over the past ten years.

IV. Planning The Annual Program

- A. Buying and selling decisions are very important since they affect the size of the gross margin--the amount that a producer is paid for each hundred pounds produced.
 1. Decisions on what to buy should be based on the current feeder cattle price differentials, expected fed cattle price differences and expected differences in feedlot costs. See current FBEEF computer budget projection on calves, yearlings and heifers. These comparative budgets along with outlook prices for the coming year can be helpful in making a decision as to what weight, grade and sex of cattle to buy.

Table 1. Prices Paid, Prices Received, Value Produced, Feed Costs and Return Over Feed Costs for Some Minnesota Feeders, 1962 - 1974. ^{1/}

Feeding Year	Price Paid Per Cwt.	Price Received Per Cwt.	Value ^{2/} Produced Per Cwt. of Gain	Feed Costs Per Cwt. of Gain	Residual/Cwt. To Pay For Nonfeed Costs
<u>LONG FED CALVES</u>					
1962-63	\$30.70	\$22.81	\$17.10	\$15.92	\$ 1.18
63-64	26.31	21.90	19.69	15.96	3.73
64-65	22.02	24.22	26.42	18.17	8.25
65-66	24.80	24.55	24.83	20.09	4.74
66-67	27.48	25.06	23.18	17.21	5.97
67-68	27.18	25.38	24.05	15.94	8.11
68-69	28.60	27.73	27.25	19.03	8.22
69-70	32.90	28.27	24.58	18.53	6.05
70-71	33.88	31.56	29.68	18.73	10.95
71-72	38.44	34.62	32.01	20.42	11.59
72-73	46.38	44.86	43.54	29.44	14.10
73-74	54.93	40.72	26.74	42.94	-16.20
1962-68 ave.	26.42	23.99	22.55	17.22	5.33
1968-74 ave.	39.19	34.63	30.63	24.85	5.79
<u>SHORT FED YEARLINGS</u>					
1962-63	\$24.83	\$21.36	\$14.95	\$20.31	\$-5.36
63-64	20.73	19.82	18.83	18.37	.46
64-65	17.83	22.29	29.81	19.74	10.07
65-66	22.79	24.16	27.69	22.51	5.18
66-67	25.32	23.42	20.51	18.80	1.71
67-68	25.29	25.60	26.51	19.28	6.87
68-69	27.39	27.22	26.77	20.78	5.99
69-70	29.91	28.50	25.92	19.76	6.16
70-71	31.28	31.51	31.44	23.53	7.91
71-72	24.56	34.33	35.02	19.77	15.25
72-73	45.72	44.84	41.90	28.09	13.81
73-74	52.55	38.89	20.39	45.20	-24.81
1962-68 ave.	22.80	22.78	23.05	19.84	3.16
1968-74 ave.	36.90	34.22	30.24	26.19	4.05

^{1/} Source: Annual Agricultural Economics Reports entitled "Feeder Cattle Costs and Returns" prepared by Truman Nodland, et. al.

^{2/} The value produced figure is usually about 50¢ lower per cwt. of gain than the gross margin calculation because death losses are included in the former.

Price differentials on fed cattle of different grade and sex are as follows:

	<u>Normal</u>	<u>June, 1975</u>
Choice vs. Good	-\$1.50/cwt.	\$5.50
Steer vs. Heifer	-\$1.00/cwt.	\$1.50
Choice Beef vs. Good Holstein	-\$3.00/cwt.	\$8.00

2. Decisions on when to buy or sell can be given very little help by study of seasonal price indexes because seasonal price patterns are not very consistent--especially for fed cattle. Therefore, cattle feeders must keep in touch with changing supply and demand conditions. Besides University outlook reports, other publications which might be obtained for this purpose are:

Livestock, Meat and Wool Market News, Weekly Summary and Statistics. (Order from Livestock Division, Consumer and Marketing Service, USDA, Washington, D.C. 20250)

Feedlot and Range Sales Reports. (Order from Livestock Market News Service, 403 Livestock Exchange Building, Denver, Colorado 80216)

Livestock and Meat Situation. (Order from Economic Research Service, USDA, Washington, D.C. 20250)

Cattle and Calves on Feed. (Order from Crop Reporting Branch, Statistical Reporting Service, USDA, Washington, D.C. 20250)

3. Decisions on where and how to sell should not be routine ones. Different markets and methods of marketing must be compared. In order to make comparisons among markets, feeders must become familiar with factors affecting shrink, dressing percentage, and carcass-liveweight price ratios. Recent research at Iowa State suggests that to minimize shrink losses to the entire industry, cattle should go from feedlot to slaughter in minimum amount of time.

B. Decisions which influence feed costs

1. Price paid for feed--or market value of home produced feed--is a major determinant of feed costs per unit of beef produced. This area of the country has the lowest feed prices in the nation--especially when wet shelled corn and corn silage are the basic feed ingredients.
2. Conversion rate of feed to beef is the other determinant of feed costs. Research results suggest that the following factors increase feed conversion efficiency:

Faster daily gains
Less hay and corncob in ration
Lighter marketing weights
Less market finish
Improved breeding and crossbreeding
Flaking or high moisture grain

Standards for feed conversion are:

	<u>Calves</u>	<u>Yearlings</u>
	pounds of air dry feed/pound of gain*	
Excellent	8.0 - 9.0	8.5 - 9.5
Average	9.5 - 10.5	10.0 - 11.0

* Dry corn, concentrate and hay plus 1/3 of corn silage weight. This amounts to feed requirements of about 10 bushels of corn per cwt. of gain on calves and 12 bushels on yearlings. Forage needs are usually met with about .5 tons of corn silage per cwt. of gain on calves and .4 tons on yearlings (or .2 tons of hay for calves and .16 for yearlings). Protein supplement is usually fed at a pound per day.

C. Decisions which influence nonfeed costs

1. The major components of nonfeed costs and their relative importance are shown in Table 2. Some areas of the country can save about \$2.00 per hundredweight because they do not need housing nor bedding, and labor requirements are lower. Somewhat similar conditions might exist on some lots in southern Minnesota and South Dakota.
2. Ration type influences nonfeed costs. Higher roughage rations result in higher storage and handling costs as well as increases in those costs associated with length of stay in feedlot. (Electricity, interest, bedding, labor and facility overhead.) Thus, although high silage rations reduce feed costs with current high grain prices, they increase nonfeed costs and slow down the feedlot turn-over rate. High silage rations are most desirable if only one lot of cattle is to be fed each year (see Table 3).

V. Planning Feedlot Expansion

- A. The cattle feeder who has a good performance record in cattle feeding may be considering several different types of housing as part of an expansion program.

Table 2. Nonfeed Costs Per Calf Fed in Conventional Feedlots of 200 Head Capacity

Resource	Resource Requirement Per Head	Rate or Price	Annual Cost Per Head
Capital in feedlot	\$ 60.00	12.0% ^{1/}	\$ 7.20
Capital in equipment	40.00	18.0% ^{2/}	7.20
Bedding	400 lb.	0.9¢/lb.	3.60
Interest on animal	\$225.00	8%	18.00
Materials handling	--	--	2.00
Veterinary expense	--	--	4.00
Insurance and telephone	--	--	1.50
Death loss	225.00	2%	4.50
Labor	4 hr.	\$3.00	12.00
Total			\$60.00 ^{3/}

^{1/} Annual rate, as a percentage of investment, calculated as follows: depreciation, 5%; interest, 4%; repairs, 1%; taxes and insurance, 2%.

^{2/} Annual rate, as a percentage of investment, calculated as follows: depreciation, 10%; interest 4%; repairs, 4%.

^{3/} This equals \$10 per cwt. of gain if 600 lbs. are added per head. If manure is used in field, the manure credit would cut net cost to about \$9.00 per cwt. of gain.

Table 3. Effects of Capacity Use and Type of Ration on Costs and Returns

Item	Unit	One Lot Per Year		Capacity Use
		All Silage Ration	Full Feed Ration	Full Feed Ration
Nonfeed costs ^{1/}	\$/cwt.	6.24	5.01	4.44
Net return ^{2/}	\$/cwt.	3.94	3.31	3.79
Total added return	\$	11,598	9,928	16,467

^{1/} Excludes labor costs which are higher for the all silage program.

^{2/} Calculated from computer results.

1. Table 4 shows the performance of cattle at our different Morris, Minn. beef housing units.
 2. Table 5 shows average returns and capitalized values of four different housing systems.
- B. Our research on beef housing suggests that:
1. The open lot appears most economical for the once a year feeder who has adequate bedding available so that the top of the mound can be kept dry.
 2. The conventional system will probably remain more popular than the open lot since most farmers want to provide some housing. However, the Morris results show no particular advantage for this system.
 3. Animal performance has been the best in the manure scrape confinement barn but labor and bedding requirements are the highest in this unit.
 4. The cold slat confinement system will become more economically desirable as bedding and labor increase in cost. If the cold slat unit is built it should be fully utilized the year around.

VI. Summary

- A. There will be less cattle feeding and sporadic returns to feeding during the next few years as total beef production is adjusted downward to meet demand at a higher cost structure.
- B. Current high feed and energy costs improve the comparative position of the midwest cattle feeder, who already has invested in facilities and feeding equipment, relative to the southwest commercial feedlots.
- C. Creditors should keep minimal performance records on cattle feeding clients. Those with below average abilities in controlling feed costs or in obtaining favorable gross margins should be discouraged from expansion.
- D. Annual planning of the feeding enterprise requires a knowledge of feed requirements, nonfeed cash costs and current grain and cattle price outlook.
- E. If cattle feeding facilities are to be expanded, the relative availability of labor, bedding and credit should be considered before deciding upon the type of housing to construct.

Table 4. Average Daily Gains and Feed Conversions for Beef Cattle by Housing Systems

	<u>Beef Calves, 5 Years</u>	<u>Yearling Steers, 1 Year</u>
	<u>Average Daily Gain</u>	
Open lot	2.41	3.29
Conventional	2.43	3.54
Manure scrape	2.53	3.57
Cold slat	2.47	3.29
Warm slat	2.51	3.54
	<u>Dry Matter/100 Pounds of Gain</u>	
Open lot	619	592
Conventional	606	557
Manure scrape	584	555
Cold slat	598	559
Warm slat	593	523

Table 5. Average Returns and Capitalized Building Values by System Assuming One Set of Calves Each Year and One Set of Calves per Year Plus One Set of Yearlings Every Other Year

	<u>Open Lot</u>	<u>Conventional</u>	<u>Manure Scrape</u>	<u>Cold Slat</u>
<u>One Set of Calves Only</u>				
Return over feed cost/cwt. gain	\$ 7.73	\$ 8.01	\$ 8.83	\$ 8.58
Return/head to labor & housing	8.94	10.26	15.11	17.39
Return to housing, per head*	3.60	4.66	8.95	12.91
Capitalized building value:				
Value over 20 years life	30.00	38.83	74.58	107.58
Repayment maximum, 7 yrs. (with no labor costs)	44.23	50.77	74.76	86.05
<u>One Set of Calves Plus 1/2 Set of Yearlings</u>				
Return per unit of housing*	11.92	14.57	17.88	22.68
Capitalized building values:				
Value over 15 years life	79.43	96.73	119.19	151.20
Repayment maximum, 7 yrs.	91.74	108.51	128.06	141.37
Original cost, 1969 basis	25.00	68.00	78.00	111.00
Current estimate	40.00	80.00	100.00	190.00

* Labor costs of \$1/cwt. of gain in the conventional barn. Manure scrape takes 10% more labor, the open lot takes 10% less labor and the cold slat building about 20% less.