producing BEEF for Alaska's railbelt

a summary of expected costs
and possible returns

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The Railbelt area of Alaska consumes 25 to 30,000 beef carcasses a year. Within this area there are vast areas of prime grazing land but less than 500 head of beef cattle of all ages. Why? The reason for this apparent paradox hinges upon two factors, feed costs and marketing.

At the present there are no developed marketing channels for livestock. The small amount of locally produced beef is butchered under primitive conditions and peddled by the producer directly to the purchaser. Because of generally low quality, lack of handling facilities, and sporadic supply, normal retail outlets are not interested in handling locally produced beef. Ranchers on Kodiak and other islands to the Southwest where the major cattle herds are, have the additional problems of small local markets and lack of economical transportation to other areas. Before beef production in any quantity can become feasible an adequate marketing system will have to be developed. This system must provide modern slaughtering facilities with adequate storage and means to provide a dependable, even flow of beef to the retailer. The quality of the beef will also have to be raised to the level of imported beef.

Before marketing facilities are developed, a determination should first be made as to whether or not beef can be produced at a price the market will pay and in what quantity.

The object of this report is to try and determine what it will cost to produce beef in the Kenai Peninsula and other parts of the Railbelt. Because little beef is being produced in this area, it has been necessary to project beef enterprises, rather than to cite actual case studies. The basis used for the individual illustrations are:

Location - These illustrations apply only to the Kenai Peninsula and Railbelt areas. Ranches on Kodiak and other islands of southwestern Alaska are able to run cattle on range for most of the year with a winter feeding period of comparatively short duration.

Length of feeding period - The winter feeding period has been figured at seven months. In some years it may be possible to get by with a shorter period but in other years a longer period will be needed.

Summer range - Summer range must be utilized as long as possible because it provides fast gains at low cost. In these illustrations the grazing period has been set at five months. Range costs have been figured at the rate of five cents per animal-unit-month which is the charge by the Bureau of Land Management on government-owned land. An animal unit is the equivalent of one cow with or without calf up to the age of six months. In the future a large percentage of the range will be under the jurisdiction of the state but to date the state has not set up a grazing fee schedule.

Feed production costs - Feed prices used in these illustrations are the cost of production. These prices are considerably lower than what feed costs on the local market. They are also below what many farmers are presently producing feed for, but are in line with what the most efficient farmers are able to do. In order to produce feed at these prices a farmer must have good land and large fields, and he must be a good manager. Yields and cost of production are:

	Yield per acre	Production cost per ton	Normal selling price
Barley grain . .	1 ton	$60.00	$85.00
Bromegrass hay .	2 1/2 tons	42.50	60.00
Silage	6 tons	15.00	20.00

Cattle prices - Prices for cattle represent a reasonable long-time price for the various types and classes involved:

Breeding cow . . . . $300 per head
Breeding bull . . . $500 per head

Feeder cattle laid down at Kenai or Railbelt points per cwt liveweight

Heifers . . . . 400 pounds $22.00
Steers . . . . 400 pounds $25.00

Grass fat cattle, grading common to low good per cwt liveweight

Heifers . . . . 400 to 800 pounds . . $22.00
Steers . . . . 400 to 1000 pounds . . $25.00

Fattened cattle 90 days or more on grain grading high good to choice per cwt liveweight

Heifers . . . . 800 to 1000 pounds . . $25.00
Steers . . . . 800 to 1000 pounds . . $28.00

COW-CALF OPERATION

This operation is based on a brood herd of 100 cows and 4 bulls. In the average year it would be expected that the herd would gain the equivalent of five months of their feed primarily on leased grazing land. During the remaining seven months of the year the herd would be fed primarily on silage, with a small amount of good quality hay going to the replacement heifers. Calves would be dropped at the start of the pasture season and sold in the fall when the stock was brought in off pasture. Brood cows would be replaced after the sixth calf. Bulls would be used for a maximum of four years. The older stock that was being replaced would also be sold in the fall.

PRODUCTION	
Calf crop @ 85%	85 head
Allowance for death losses -- 3 cows and 2 calves	5 head
Replacement heifers	18 head

AVERAGE YEARLY SALES	
1 bull 1100 pounds @ $15	$ 165
15 cows 1000 pounds @ $18	2,700
23 heifer calves 400 pounds @ $22	2,024
42 steer calves 400 pounds @ $25	4,200
TOTAL ANNUAL SALES	$9,089

COST OF FEED	
Summer pasture, 610 AUM @ 5¢	$ 30.50
Winter feed	
100 cows, 50 pounds silage/day, 210 days, 525 ton @ $15	7,875.00
4 bulls, 50 pounds silage/day, 210 days, 21 ton @ $15	315.00
18 heifers, 20 pounds silage/day, 210 days, 37.8 T @ $15	567.00
8 pounds hay/day, 210 days, 15.1 ton @ $42.50	642.60
TOTAL ANNUAL FEED COST	$9,419.10
Cost of producing feed above sales receipts	330.10

Inasmuch as the annual sales will not cover the annual feed production cost, no consideration was given to other expenses, to investment return and to labor costs.

100 COW HERD, SELLING LONG YEARLINGS

This operation is basically the same as the cow-calf operation, except that the calves are roughed through the winter and sold at the end of the second pasture season as long yearlings. These cattle might move directly to slaughter but would be best suited for putting into a feedlot for future gain and a higher quality finish.

PRODUCTION

Calf crop @ 85%	85 head
Allowance for death losses -- 3 cows, 2 calves, 1 yearling	6 head
Replacements	18 head

AVERAGE YEARLY SALES

1 bull 1100 pounds @ $15	$ 165
15 cows 1000 pounds @ $18	2,700
23 heifers 750 pounds @ $22	3,795
41 steers 800 pounds @ $25	8,200
TOTAL ANNUAL SALES	$14,860

COST OF FEED

Summer pasture 935 AUM @ 5¢	$ 47
Winter feed	
100 cows 50 pounds silage/day, 210 days, 525 tons @ $15	$ 7,875
4 bulls 50 pounds silage/day, 210 days, 21 tons @ $15	315
83 calves 20 pounds silage/day, 210 days, 174.3 T @ $15	2,614
8 pounds hay/day, 210 days, 69.72 tons @ $42.50	2,963
TOTAL ANNUAL COST OF FEED	$13,814
Return of sales above cost of producing feed	$ 1,046

While this operation shows some return over the cost of feed, there are other expenses incurred in running a beef herd.

OTHER EXPENSES

Housing @ $3/head	$ 561
Veterinary @ $5 head of breeding stock	520
Depreciation on breeding herd	2,385
Allowance for other miscellaneous costs @ $5/head	935
TOTAL OTHER EXPENSES	$ 4,401

For the operation to be profitable to the producer it would also need to yield a return on the capital invested and a return to the operator for his labor and management.

MINIMUM INVESTMENT IN BUILDINGS AND CATTLE EQUIPMENT

$10,000 @ 6% interest	$ 600
Average investment in cattle $35,000 @ 6%	2,160
Labor @ 10 hours/head of breeding stock @ $2/hour	2,080

SUMMARY

	Expenses	Return
Annual cattle sales		$14,860
Annual feed production costs	$13,814	
Other non-feed expenses	4,401	
Return on capital investment @ 6%	2,760	
Charges for operators' labor	2,080	
TOTAL	$23,055	$14,860

FEED LOT OPERATION

In this example, it is assumed that 300 head of calves (heifers and steers in about equal number) would be purchased in the fall at 400 pounds weight and be placed in the feedlot for 200 days.

Initial weight . . . . . pounds	400
Final weight . . . . . pounds	800
Total gain . . . . . pounds	400
Feeding period . . . . . days	200
Rate of gain per day . . pounds	2
Total feed per head	
Hay . . . . . pounds	2120
Barley . . . . . pounds	1360

EXPENSES

	Expenses	Return
Hay 318 tons @ $42.50 (cost of production)		$13,515
Barley 204 tons @ $60 (cost of production)		12,240
Other expenses* 300 head @ $9.55		2,865
Feeder calves, 300 calves @ 400 pounds @ $23.50		28,200
TOTAL EXPENSES		$56,820

* Includes interest at 6%, depreciation and upkeep of facilities, veterinary supplies, 1% death loss and labor @ $2 per hour.

RETURNS

Cattle sold 300 head @ 800 pounds @ $26.50	$63,600
Income in excess of expenses	6,780

While this feedlot operation yielded a return of $6,780 over expenses, the operation should be further analyzed as to where the profit was derived. In the past few years barley has sold in the Palmer area at $85 per ton and hay at a minimum of $60 per ton. At these prices:

Selling price of feed used	$36,320
Production cost of feed used	25,755
Difference between selling price and production cost	10,565
Income realized from cattle feeding	6,780
Difference	$3,785

This operator would have realized $3,785 more by selling his feed at going market prices rather than selling it as fed cattle providing a dairy market was available.

In another way of looking at this example, the operator realized the following return on his feed by selling it in the form of fattened cattle.

Hay	$53.58 per ton
Barley	75.79 per ton

Feeding cattle has always been considered one of the more risky farm enterprises. Because profit margins are usually very close, a small change in price during the period when the cattle are on feed can make a large difference in profits or loss. An illustration of risk in this example shows --

Effect of a $1 change in purchase price of feeder stock	$1,200
Effect of a $1 change in selling price of feed stock	2,400
Buying and selling at the same price of $25 in this case would yield a return of	1,380