

4.3
415



UNIVERSITY OF IDAHO

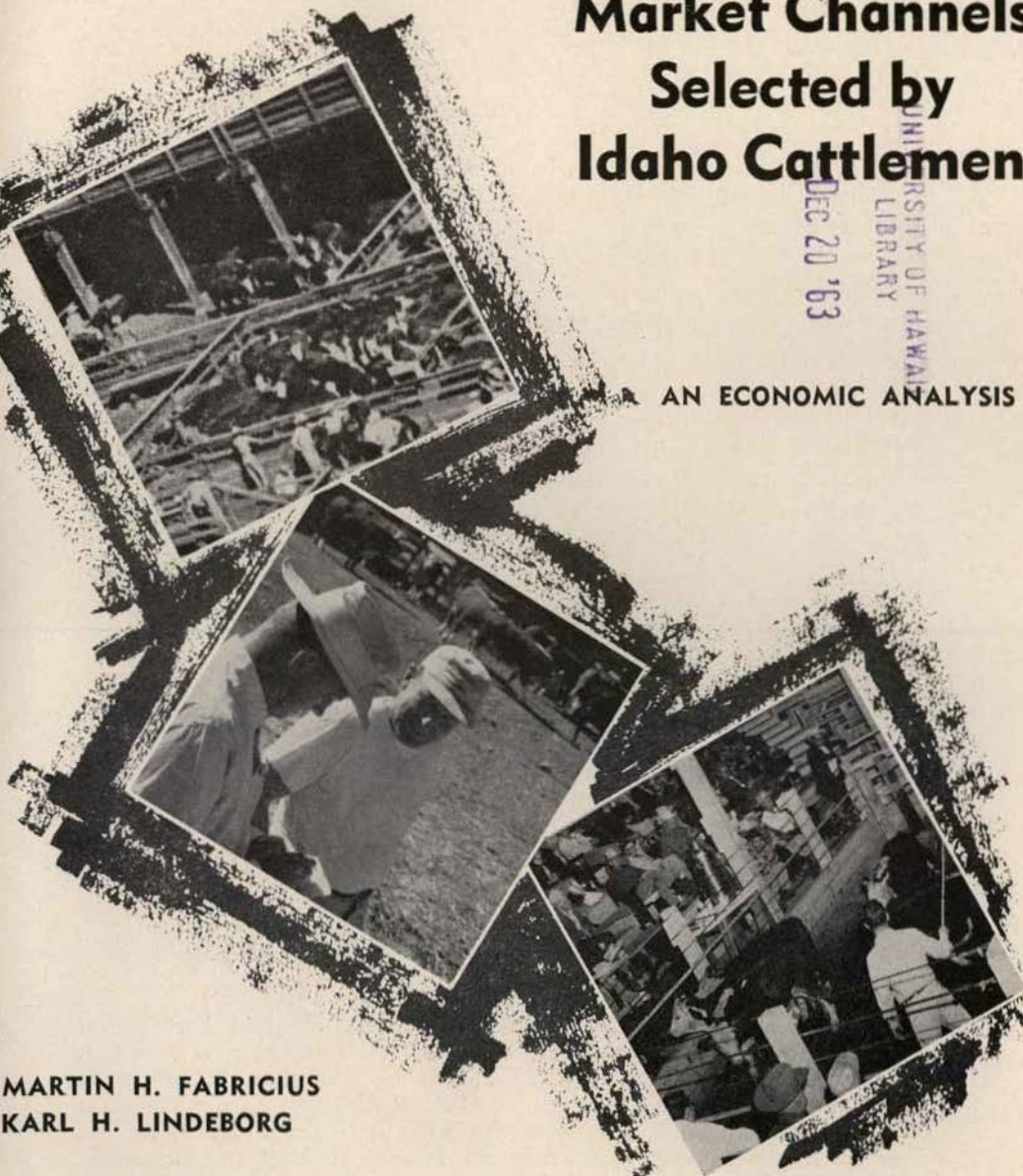
College of Agriculture

Market Channels Selected by Idaho Cattlemen

DEC 20 '63

UNIVERSITY OF HAWAII
LIBRARY

AN ECONOMIC ANALYSIS



MARTIN H. FABRICIUS
KARL H. LINDEBORG

IDAHO Agricultural
Experiment Station

Bulletin No. 415
October 1963

Objectives

This study was designed to (1) determine the relative importance of the direct marketing of feeder and slaughter cattle in Idaho and (2) to set forth the important factors considered by Idaho cattlemen in their choice of markets.

Findings

About 51 percent of Idaho's feedlot operators procured their feeder cattle through direct marketing channels, 44 percent through auction markets, less than 5 percent are raised on the farm and only two-tenths of 1 percent are procured through terminal markets.

Direct market channels account for 85 percent of the slaughter cattle sold, auction markets handle less than 13 percent, and central markets less than 3 percent. In general, the smaller feeder made greater use of the auction markets, the larger marketed directly more often.

Feeder cattle buyers liked buying directly because of the degree of certainty they had in knowing how the feeder cattle were raised.

Feedlot operators believed direct selling meant higher prices, more control over sales and lower marketing costs. Low marketing costs are possible because the buyer usually pays the transportation costs and commission and yardage fees are non-existent when selling directly.

Auction markets were credited with being a very good market for small and uneven lots of cattle. They constitute an important part of the existing market structure in Idaho.

The main sources of market information used by Idaho cattle feeders were the newspapers, local auction quotations, contacts with trading centers in other areas, and radio in order of frequency mentioned.

When procuring feeder cattle it was found that there was no significant difference between prices paid through auction markets and prices paid direct from the producer.

In selling slaughter cattle a significant price difference was found between markets for comparable cattle. Prices received for Choice and Good grade steers and heifers sold direct were significantly higher than prices received for similar animals marketed through auctions. Significant price differences between grades were found at each type market. Both markets reflected price differences due to quality of the cattle being sold.

Authors

Martin H. Fabricius was a former graduate student in Agricultural Economics at the University of Idaho. Karl H. Lindeborg is Assistant Agricultural Economist, University of Idaho Agricultural Experiment Station. The authors are indebted to Glen R. Purnell, former Assistant Agricultural Economist, who gave the impetus to the study under the Western Regional Cooperative Research Project, WM-39, "An Economic Analysis of Alternative Marketing Methods of Cattle and Sheep in the West."

An Economic Analysis of Market Channels Selected by Idaho Cattlemen*

by

Martin H. Fabricius and Karl H. Lindeborg

Introduction

The growth of the cattle feeding industry in Idaho and its importance as a source of income make it imperative that the advantages and disadvantages of alternative market outlets be well understood by feedlot operators and feeder cattle producers in the state. Information concerning the services offered, both monetary and non-monetary, and the costs involved in obtaining these benefits can be of great value to Idaho's cattle industry in evaluating various market outlets.

It may be assumed that cattle feeders and feeder cattle producers are engaged in their business for the purpose of maximizing the returns from these enterprises. To be consistent with this goal, cattle feeders must attempt to minimize the cost of production. Replacement cattle of the desired weight, grade, and class must be obtained at the lowest possible costs. When selling feeder or slaughter cattle they must choose methods of marketing that will return them the highest possible prices after marketing charges have been deducted, or the return will not be at a maximum.

Cattlemen generally have some degree of control over such items as the time of buying and selling, choice of marketing outlets, and weights of the animals to be marketed. Seasonal and cyclical price fluctuations are factors beyond the control of the individual cattlemen.

It should be pointed out that using the study conducted in 1952, as a comparison between methods of marketing in that year and the years 1959, 1960, and 1961, was not without complication. The terminal markets located at Los Angeles, California, and Spokane, Washington, have ceased to operate since 1952. However, the number of livestock auctions operating within Idaho has remained nearly constant. The number of cattle and calves in Idaho has increased from 1.2 million head in 1950 to 1.4 million head in 1960. Since terminal markets handled a very small portion of Idaho cattle in 1952, it is doubtful that the closure of the two terminals have had a significant effect on the marketing

* Part of a thesis submitted to the University of Idaho in partial fulfillment of requirements for the M.S. Degree.

structure of Idaho cattle. The overall increased volume handled by all markets, due to larger numbers of cattle, has probably not been sufficient to change their relative importance, although the percentages handled by each may have changed slightly.

Earlier Market Studies

From regional marketing research studies it was found that, during 1955, direct sales accounted for 50 percent of all cattle sales made in the eleven western states compared with 29 percent going through terminal markets, 15 percent through auctions, and 6 percent went through other types of market outlets.¹

From a study conducted in 1952 on the marketing of western feeder and slaughter cattle it was found that direct sales comprised an even greater portion of the total sales. This study included 211,979 head of feeder animals placed in Idaho feedlots, fed to a finished condition, and sold as slaughter cattle.

It was found that direct purchases from cattlemen accounted for 35 percent of the feeder cattle source compared with 48 percent from auctions, less than one-half of 1 percent from terminal markets, 2 percent from order buyers, approximately 1 percent from miscellaneous sources, and 14 percent from breeding herds owned by cattle feeders.

When the animals were sold as slaughter cattle direct sales to packers made up 66 percent compared with 28 percent for auctions, 4 percent for terminals, 1 percent to independent buyers, and 1 percent to other feedlots.²

In terms of total cattle marketed, it is apparent that direct marketing was the most important method used followed by auction and terminal markets, in that order.

Procedure

This study deals only with the beef breeds, and the primary emphasis is on heifers and steers since most of the cattle placed in feedlots fall into these categories. The study includes the marketing channels the feedlot operators are utilizing in procuring feeder animals and the channels used in marketing slaughter cattle. However, because purchases by the cattle feeders are necessarily sales in some form by the ranchers, an analysis of the selling practices of the ranchers is examined.

The study includes market prices received by ranchers and market prices received by feedlot operators through each of the major marketing channels. A comparison of the prices for similar cattle is made be-

¹ USDA, Agricultural Marketing Service, Market Outlets for Livestock Producers, Report No. 216, Washington, D. C., March 1958, p.16.

² Frank S. Scott Jr., Marketing Aspects of Western Cattle Finishing Operations, Nevada Agricultural Experiment Station in Cooperation with the Agriculture Experiment Stations of the Western States and the U.S.D.A., Bulletin No. 100, 1955, p. 53-59.

tween direct marketing and other marketing methods to establish the desirability of using market prices as a basis for buying and selling directly.

Marketing costs due to shrinkage, transportation, yardage, and commissions are charged against the market prices paid, or received where applicable. Expenses incurred by the operator for traveling to and from the market place, employing a buying or selling agent, or for equivalent costs in time spent at the market place, are also charged when such costs are present. As a result of this procedure, net prices are obtained and a more realistic comparison of prices is possible.

Feedlot Survey

A list of feedlots registered with the State Bureau of Animal Health was used as the basis for drawing a sample of 94 from a total of 272 registered feedlots. The 272 feedlots were stratified as to the capacity of each feedlot as illustrated in Table 1.

TABLE 1. Stratification of 272 Feedlots by Estimated Capacity for the Year 1960.*

Stratum	Estimated Capacity Head of Cattle	Total Number of Feedlots	Sample Size	Sample as % of lots in each Stratum
1	0-150	166	16	10
2	151-250	44	16	36
3	251-500	19	19	100
4	501-1000	18	18	100
5	Over 1000	25	25	100
Total		272	94	.....
Average		.....	....	35

* Sample size determined as a percentage of the lots in each stratum.

The purpose of this sampling procedure was to obtain a good representation of feedlots of various capacities and numbers of cattle being fed. To provide information on a larger number of cattle marketed in Idaho, the sample was concentrated on the feedlots which handle large numbers of animals. This explains the variation in the sample percentage among strata.

Rancher Survey

Using 1959 census figures, the various counties in the state were weighted by the number of beef cattle in the county. Beef cattle numbers by county were estimated by subtracting number of milk stock from "all cattle" in the county. Thus the relative importance of each county was determined in terms of beef cattle. A sample of 7 counties was drawn so that those counties with the heavier concentrations of cattle within them had a greater probability of being included.

Again from within these seven counties a sample of 140 cattle producers was selected on a proportional basis of the number of cattle produced in each county. The Brand Record Book of Idaho was used to obtain a population list for each of the seven counties.

Definition of Terms

In order to be clear about the interpretation of the meaning of the

different methods of marketing the following definitions are used:

Terminal markets are livestock trading centers having facilities for receiving, caring for, and handling livestock. Purchases and sales made through this type of market are on a private treaty basis.

Auction markets are trading centers with facilities for receiving and holding livestock. Buying and selling of animals at these markets is on the basis of public bidding to the buyer offering the highest price.

Direct Marketing includes those purchases and sales of cattle conducted outside of the organized terminal and auction markets. Cattle bought on ranches and farms by cattle feeders, order buyers, and other livestock dealers, would be termed direct purchases. Direct buying would also include those purchases made by cattle feeders, or their representative buyers, from livestock dealers who hold title to the livestock being exchanged, or from other feedlot operators having partially finished animals for sale. Livestock bought at terminal and auction markets by order buyers acting on behalf of the cattle feeders would not be considered direct purchases. Direct selling includes at the plant sales to packers, sales originating at the feedlot to packers, packer buyers, livestock dealers, local butchers, or to ultimate consumers of the livestock.

Idaho's Cattle Feeding Industry

The ninety-four feedlot operators were questioned as to whether their feeding enterprises would be considered commercial feedlots, or farmer-feedlots. Commercial feedlots included all of the operations where the sale of slaughter cattle was the only source of income. Where farming or ranching activities were carried on in addition to the feeding enterprise, the feedlot was considered to be a farmer-feedlot type of operation. The table below shows the combination of these two types of operations.

On the basis of numbers only, the farmer type of feedlot operation would appear to be the most important segment of the cattle feeding industry in Idaho. However, the commercial feedlots account for about 42 percent of the total slaughter cattle marketed, because of their concentration around capacities of over 500 head of cattle. The last column in Table 2 gives an indication of how long cattle feeding has been a part of agriculture in Idaho. An average of sixteen years in operation

TABLE 2. Size, Type and Age of Feedlots Studied.

Size of Feedlot No. of Head	No. of Feed- lots in Sample	Type of Feedlot				No. of Years in Operation (average)
		Commercial No.	Percent	Farmer-Feedlot No.	Percent	
0-150	16	0	0	16	100	15.6
151-250	16	5	31	11	69	12.7
251-500	19	2	11	17	89	16.7
501-1000	18	5	28	13	72	17.0
Over 1000	25	12	48	13	52	18.0
Total	94	24	.....	70	.....	.....
Averages			26		74	16.0

for all feedlots indicates cattle feeding has gained its level of importance by rapid growth since the end of World War II. The size of operation does not appear to be closely related to the number of years in the cattle feeding business. Apparently, some of the larger cattle feeding businesses began operating on a relatively large scale without going through a process of growth from a small operation to their present status. As might be expected a greater percentage of the farmer feeders were concentrated in the smaller capacity groups. The fact that these individuals must divide their resources among several enterprises very likely accounted for the farmer feedlots being smaller than the commercial lots, in general.

Number of Cattle Fed

The feedlots included in the sample seem to be operating somewhat below their existing capacities. If a typical feeding period of 180 days per animal were assumed, it would be possible to feed twice as many animals per year in each feedlot as the maximum capacity indicates. On this basis, even the larger feedlots were feeding below their potential. Undoubtedly the larger number of operators feeding on a part time basis in groups one, two and three, explained the low ratio of turnover to capacity in these categories. Based on this analysis, it appears that an expansion of the cattle feeding industry could take place in Idaho without adding new facilities. However, lack of capital and labor may limit some operators from carrying on feeding on a year around basis. Another limiting factor might be the lack of an adequate feeder cattle supply during certain times of the year. The 94 feeders normally fed 103,775 head of cattle per year. This is approximately 46 percent of the 227,000 head of cattle and calves that were fed and marketed in Idaho during 1959.³

TABLE 3. Maximum Capacity, Number of Head Normally Fed Per Year by Size Group, 1959.

Size of Feedlot (number of Head)	Number of Feedlots in Sample	Size of Feedlots			
		Maximum Capacity at any one time		Number of Head Normally fed per year	
		Total	Per Lot	Total	Per Lot
0-150	16	2,170	136	1,475	92
151-250	16	3,270	204	3,100	194
251-500	19	8,842	465	7,375	388
501-1000	18	11,150	619	12,425	690
Over 1000	25	51,500	2,060	79,400	3,176
Total	94	76,932		103,775	

Class of Cattle Fed

The relationship between the size of operation and the preferences toward the sex of animals being fed did not appear to be significant. Undoubtedly, there is a number of reasons why feedlot operators included different classes of animals in the same operation, but a number

³ United States Department of Agriculture, Agricultural Marketing Service, Livestock and Meat Statistics, Supplement for 1960 to Statistical Bulletin No. 230, Washington, D. C., June 1961. p. 15.

of operators gave prices as being the main reason. They felt that a variety of animals permitted them to spread the risk of a price decline for a certain class of cattle over the entire feeding operation. Within each class the feeding period depends upon the grade of the animal being fed, the ration fed, and the degree of finish that is desired. By feeding a variety of animals, the feedlot operator can market his livestock over a longer period of time and reduce the effects of seasonal price variations.

TABLE 4. Sex, Weight and Grade of Animals Placed on Feed, by 94 Feedlot Operators.

Sex of Animals:	Percent
Steers only	13
Heifers only	6
Both Heifers and Steers	81
Weight of Animals Placed on Feed:	
Start animals under 500 lbs.	38
Start animals 700 lbs. and over ..	16
Start both light and heavy feeders ..	46
Grades of Cattle Fed:	
Fed Good and Choice grades	51
Fed Common grade only	8
Fed both Good and Common grades ..	41

Table 4 shows that a larger percentage of light animals were preferred to those weighing over 700 pounds, but the most common practice was to feed both light and heavy cattle. Thirty-eight per cent started animals under 500 pounds. This practice was mostly found among the small operators. These individuals stated that it ordinarily required less money to buy the lighter animals and since capital was normally limited in small operations, buying light cattle was the best practice to follow. Also, lighter animals on feed allowed for more leeway in the decision making of the operator. Thus, he could feed for rapid gains in weight and earlier marketing if expected future prices appeared unfavorable. If current prices were low and the expected future prices looked more desirable, he could slow down the feeding program and market his livestock at a later date without running the risk of getting the animals too heavy for market demand. By placing both light and heavy livestock in the feedlot, the cattle feeder accomplished essentially the same thing by lengthening the marketing period.

The operators feeding different grades of cattle were found mostly among the small feedlots. Limited capital was the primary cause inducing them to feed Common grade cattle that could be procured for less money than the Good and Choice grades. The large operators preferred a high percentage of Good and Choice animals.

Feeding Arrangements

The majority of cattle feeding done in Idaho appeared to be on the basis of a year around program. In general, the larger cattle feeders tended to operate continuously while feedlot operators feeding less than 250 head per year fed during the winter months only.

The reasons for feeding in the winter months only were given to be the utilization of surplus labor and home grown feeds. The larger

TABLE 5. Feeding Season by Size of Operation, and Slaughter Condition of Animals.

Size of Feedlot (Number of Head)	Number of Feedlots in Sample	Feeding Season		Slaughter Conditions	
		Percent of Operators feeding year around	Percent of Operators Feeding in Winter	Percent of cattle fed to a finished condition	Percent of total cattle warmed up
0-150	16	6	94	97	3
151-250	16	44	56	80	20
251-500	19	83	17	93	7
501-1000	18	94	6	99	1
Over 1000	25	75	25	89	11
Average		60	40	92	8

cattle feeders were in the business for profit maximization, so therefore, they operated on a continuing basis.

Most operators fed their cattle to a finished condition, and only a small percentage of the animals was partially finished and sold to other feedlot operators for further feeding. See table 5.

Custom Feeding

Only six feedlot operators fed some cattle in their lots on a custom basis. These cattle feeders custom fed approximately 17,500 head in 1959, or about 17 per cent of the 103,775 head of cattle accounted for in this study. Custom feeding made up 66 per cent of the total operations of the feedlots involved. This is an average of about 2900 head per feedlot.

Future of Idaho's Cattle Feeding Industry

Feedlot operators were quite optimistic with regard to continued growth of the cattle feeding industry in Idaho. Thirty-three percent of the 94 operators expected to expand their operation, 66 percent anticipated no change, and 1 percent planned on contracting their cattle feeding activities.

Eighty-five per cent believed that Idaho could favorably compete with other western states in feeding cattle, 7 percent believed they could not compete, and 8 percent were not sure. Idaho's competitive advantages were believed to be found in better feed supplies and greater availability of feeder cattle. In addition such factors as better climate for feeding cattle and closeness to consumer markets were given as the reason for Idaho's favorable position.

The attitudes with respect to Idaho being able to compete with the Midwest in cattle feeding were also optimistic. Seventy-two percent felt they could compete with the Midwest, 16 percent felt they could not compete and 12 percent said they were not sure. The reasons for Idaho's favorable position were believed to be better feed supplies, closeness to consumer markets, better supplies of feeder cattle, and better climate, in that order.

Comparing Feeder Cattle Markets

Selling Activities by Ranchers

From the information obtained from the ranchers in the seven counties included in the sample the results of the selling activities are tabulated in table 6.

Direct marketing was found to be the most important marketing outlet used by ranchers followed by auction markets, with the central markets playing a very small role.

TABLE 6. Number and Percentages of Feeder Cattle Sold Through Different Channels by 137 Ranchers, 1960.

Type of Market	Number of Cattle	Percentage
Central	126	0.6
Auction	7,230	33.7
Direct	14,064	65.7
Total	21,420	100.0

Buying Activities by Feedlot Operators

Data were obtained on 94,353 head of feeder cattle placed in feedlots by the 94 operators during 1958, 1959, and 1960. Lack of adequate records on sources of origin prevented a complete enumeration on all animals procured by feedlot operators during these years. Consequently, data were collected on only those cattle where operators were positive of the origin. Table 7 shows the distribution of cattle among the different types of marketing outlets.

TABLE 7. Sources of Feeder Cattle Procured by 94 Idaho Feedlot Operators in the Years 1958, 1959 and 1960.

Type of Market	Size of Operation			
	Under 500 head		Over 500 head	
	Number	Percent	Number	Percent
Central markets	200	1.74	0	0
Auction markets	8,886	77.25	32,285	38.97
Direct buying	2,152	18.71	46,194	55.76
Raised own feeders	265	2.30	4,371	5.27
Total	11,503	100.00	82,850	100.00

Direct buying accounts for about 51 percent of all buying by the feedlot operators. This is an average of small as well as large operators. When those feedlot operators handling over 500 head are considered alone direct buying accounts for 56 percent. This is still less than the 66 percent that the ranchers said they were selling direct. The practice of raising their own feeder cattle does not seem to be of great importance for a majority of cattle feeders.

Auction Versus Direct Selling

In order to determine the favorable and unfavorable characteristics of markets for selling and buying feeder cattle the ranchers and the feedlot operators were asked to give their opinions. These are given in table 8.

TABLE 8. Advantages and Disadvantages of Auction and Direct Selling for 137 Ranchers.¹

Advantages and Disadvantages	Percentage of those responding ²	
	Type of Market	
	Auction	Direct
Advantages		
Higher prices received	12%	48%
More bidders and more competition	35	....
Always a market for our cattle	20	....
Good market for small and odd lots	15	....
Less trouble and not time consuming	12	17
Better handling and less sorting, and disease control .....	....	18
Less Shrinkage	5	....
More control over sale .....	....	17
Only market available in area	5	....
Lower marketing costs	1	52
Disadvantages		
No market for small and odd lots .....	....	13
Lower prices received	3	7
Excessive sorting	13	7
Higher marketing cost	57	12
Buyers manipulation of the market	20	16
Price uncertainty and lack of flexibility	27	....
Do not sell cattle as they come in	8	....
Lack of bidders and competition	8	48

¹ Approximately 50 percent responded to the questions.

² Percentages do not add to 100, some operators stated several advantages and disadvantages.

The central market outlets are not included, because only five out of 137 ranchers responded to the questions and none of the five ranchers gave definite answers. It should be noted that direct selling of feeder cattle is associated with lower marketing costs and also with higher prices received, while some of the advantages of auction markets turn out to be disadvantages for direct markets. Thus, one of the main advantages of auction markets is that there are more bidders and more competition in the auction market than in direct markets. Even though some of the ranchers thought that there was a lack of bidders and competition in the auction markets, this complaint was generally the greatest disadvantage associated with direct markets.

As might be expected the advantage of lower marketing costs for direct marketing is one of the main disadvantages of auction markets. At first glance some of the advantages and disadvantages listed in table 8 and tables 9 and 10 may appear to be in conflict. The reason for this is that there is some disagreement among the operators within a given market. Consequently, the response given for lowering marketing costs

as an advantage and higher marketing costs as a disadvantage within the same market had to come from different individuals. Also, it is quite logical that a rancher or feedlot operator buying or selling directly might feel that higher marketing costs prevail through this method of marketing, but certain beneficial factors incurred offset the disadvantage of higher marketing costs.

In tables 9 and 10 the advantages and disadvantages are given for the marketing channels used in procurement of feeder cattle by the feedlot operators. Most of the favorable and unfavorable factors listed represent combinations of similar response. For example, several answers such as better quality, more uniform animals obtained, more selectivity, and better sorting conditions may all be included under "better quality."

TABLE 9. Advantages and Disadvantages of Buying Feeder Cattle Direct, by Size of Operation, in Percentage.¹

Advantages and Disadvantages	Size of Operation	
	Less than 500 Head Yearly (50 feedlots)	More than 500 Head Yearly (42 feedlots) ²
Advantages		
High quality animals	52%	86%
Favorable asking prices	12	4
Low buying costs	18	26
Satisfactory experience with livestock in past periods.....	20	36
Good supply of specific classes and grades	4	2
Disadvantages		
Excessive buying costs	14	19
High asking prices	20	12
Inadequate supply	18	26
No disadvantages found	4	....

¹ Percentages do not add to 100 since some operators stated several advantages and disadvantages.

² Two Feedlot operators did not respond.

TABLE 10. Advantages and Disadvantages of Buying Feeder Cattle Through Auction by Size of Operation, in Percentages.¹

Advantages and Disadvantages	Size of Operation	
	Less than 500 Head Yearly (50 feedlots)	More than 500 Head Yearly (42 feedlots) ²
Advantages		
High quality animals	8%	5%
Favorable asking prices	18	12
Assurance of supply	54	45
Market for small lots	6	12
Low buying costs	34	40
Disadvantages		
Poor quality animals	26	37
High prices paid	20	40
Excessive buying costs	14	21
Prevalence of disease	32	28
Inadequate supply	...	7
No disadvantage found	8	5

¹ Percentages do not add to 100 since some operators stated several advantages and disadvantages.

² Two feedlot operators did not respond.

Advantages of Buying Direct

One of the more frequently mentioned advantages associated with buying directly was that of obtaining high quality animals. High quality, as it is used here, means uniform livestock as a result of good selectivity and sorting conditions. Many operators felt they could purchase feeder cattle at favorable prices through direct channels. These prices might be in the form of low asking prices as a result of less price competition, or personal acquaintance with the rancher leading to a better bargaining position. In addition, favorable prices might be obtained indirectly through good weighing conditions. Low buying costs were associated with direct purchasing by a number of the cattle feeders. The low costs could be a result of no commission costs, a saving in time spent for purchasing activities, or little shrinkage cost in getting the animals from the source of purchase into the feedlot.

Knowledge of the breeding background of the animals, feed conditions under which the livestock were raised, and freedom from disease were factors listed as advantages of buying feeders from the same source. About fifty of the feedlot operators went back year after year to buy from the same ranchers who supplied them before. The reasons given were mainly personal acquaintance with the ranchers and the beneficial effects this had on obtaining animals of similar quality and gaining ability.

Disadvantages of Buying Direct

Some operators indicated that there were excessive buying costs associated with buying through direct channels. These excessive costs might be a result of poor weighing conditions, excessive time required to seek out the sources of supply, and transportation and shrinkage costs involved in moving the animals long distances from the source of purchase to the feedlot.

Asking prices were also mentioned as being too high because less price competition existed in direct buying which might cause the ranchers to demand excessive prices for their animals. The biggest disadvantage with buying direct was the seasonal aspect of the supply of feeder cattle. A large supply was available in the fall, but during other seasons of the year, feedlot operators were forced to seek out other sources of feeder animals.

Advantages of Buying Through Auction

Many more feedlot operators offered opinions on the advantages of buying through auction markets than was true for direct buying. This was largely due to a greater response from the smaller cattle feeder.

Only a small percentage felt high quality could be obtained through auction markets. These usually gave good selectivity and sorting as reasons for the superior quality available.

Thirty percent indicated that favorable asking prices prevailed in

auctions because interaction between supply and demand determine the prices.

The biggest advantage of buying through auctions was the assurance of an available supply of cattle throughout the year. Auctions also are good sources for small and odd lots to fill out larger groups already in their feedlots.

Low buying costs, other than low market prices paid, were ranked high as an advantage for purchasing feeders through the auctions. The low costs were possible because less time was spent in seeking out animals for sale. Also, transportation and shrinkage costs were small because, in general, the auction is located close to the feedlot of the buyer.

Disadvantages of Buying Through Auction

A major disadvantage with auction purchases was the poor quality of the animals offered for sale. The cattle feeders submitting this as an unfavorable factor indicated that non-uniform animals were a result of poor sorting practices. Also it was difficult to determine the background of breeding and type of feed that the cattle had been on prior to sale. A large number of operators indicated that excessive prices were paid for feeders going through auctions. These individuals said that this might be the result of auction owners bidding up the prices of cattle moving through their own facilities, "gypo-buyers" bidding up the price, more price competition from other cattle feeders and an excessive demand for a limited supply of cattle during certain periods.

Excessive buying costs in the form of high commissions and excessive shrinkage after purchase, due to abusive handling, were rated high among the disadvantages for buying through auctions.

A fairly consistent complaint among all feedlot operators was the greater risk of obtaining diseased animals through auction markets than through direct purchases.

Contract Purchases

The practice of contracting to buy feeder cattle did not appear to be widespread among the cattle feeders purchasing through direct channels. Of the sixty-nine operators, 32 percent indicated they bought on contract whenever it was advantageous to do so. The remaining 68 percent stated they never contracted to buy feeder cattle.

Anticipated price rise and assurance of supply were mentioned with equal frequency as being advantages associated with buying feeder cattle on contract. More uniform animals could be obtained by contracting rather than waiting and being forced to buy from herds of cattle that had been picked over by other buyers.

The possibility of a price decline was the disadvantage most frequently associated with buying on contract. Other factors advanced as disadvantages were, the sellers not fulfilling their contract obligations, and the livestock not meeting the expected quality standards at time of delivery.

Comparing Slaughter Cattle Markets

Market Channels Used for Selling

Sales data were collected from the ninety-four sample members on their selling activities for the years 1958, 1959, and 1960. Records were not available on all of the cattle sold by the sample members during the period of time studied. As a result, information was obtained on only those animals where the cattle feeders were certain of the marketing methods used. Under these conditions, data were collected for 93,835 head of cattle.

It will be noted from Table 11 that direct sales were the most important method of selling slaughter cattle; 85 percent of the cattle sold were going through direct channels.

The use made of direct market channels was associated with the size of feeding operation. The larger cattle feeders marketed a higher percentage of their cattle direct than did the small operators. Auction markets became more important as the size of the operation decreased, but direct sales remained the predominant method of selling for all sizes of operation.

TABLE 11. Sales of Slaughter Cattle by Channel for 94 Idaho Feedlot Operators in the Years 1958, 1959, and 1960, Sales in Actual Numbers, by Percentage within Size of Operation and Percent of Overall Totals.

Size of Operation		Sales in Number of Head		
Number of Head	Terminal	Auction	Direct	Totals
0-150 .....	.....	638	697	1,335
151-250 .....	.....	1,169	1,931	3,100
251-500 .....	.....	2,513	4,362	6,875
501-1000	280	2,697	9,448	12,425
Over 1000	2,270	4,858	62,972	70,100
Total	2,550	11,875	79,510	93,835

Size of Operation		Sale Within Size Group in Percent		
Number of Head	Terminal	Auction	Direct	Totals
0-150 .....	.....	48	52	100
151-250 .....	.....	38	62	100
251-500 .....	.....	37	63	100
501-1000	2	22	76	100
Over 1000	3	7	90	100

Size of Operation		Sales in Percent of Total		
Number of Head	Terminal	Auction	Direct	Totals
0-150 .....	.....	1	1	2
151-250 .....	.....	1	2	3
251-500 .....	.....	3	5	8
501-1000 .....	.....	3	15	13
Over 1000	2	5	67	74
Total	2	13	85	100

Advantages and Disadvantages of Sales Channels

Only those feedlot operators selling 50 percent or more of their slaughter cattle through a specific market channel were questioned on the advantages and disadvantages of using that market outlet. By following this procedure, it was felt the information obtained would be more realistic as the cattle feeders advancing the opinions would be highly familiar with the market channels being discussed.

Advantages of Selling Direct

It was found that sixty-four of the sample members were selling more than 50 percent of their cattle through direct channels. The advantages and disadvantages given by both large and small feeding operators are given in Table 12.

TABLE 12—Advantages and Disadvantages of Direct Selling Listed by Sixty-Four Feedlot Operators Selling over 50 Percent of Their Slaughter Cattle through Direct Channels.

Advantages and Disadvantages	Frequency of Response	Percentage of 64 Operators ¹
Advantages:		
High prices received	44	69
Low marketing costs	24	37
More control over sale	29	45
Markets for all grades and classes	6	9
Disadvantages:		
Low prices received	2	3
No market for small and odd lots	10	16
High marketing costs	8	12
No control over sale	10	16
No disadvantage found	6	9

¹ Percentages do not equal 100 since some operators stated several advantages and disadvantages.

A higher price was the most frequently mentioned advantage associated with direct selling. One of the reasons for this was that once a good reputation was established the buyers were willing to pay premium prices for cattle of known quality and dressing percentage. Also, some of the cattle feeders believed better prices were obtained through more competitive bidding and the indirect effects of better weighing conditions.

More control over sales ranked high as an advantage given for direct selling. Many cattle feeders felt keeping cattle in the feedlot until an acceptable offer was obtained resulted in a more favorable bargaining position than was true when the cattle were committed for sale in one of the public markets.

Disadvantages of Selling Direct

The percentage of operators listing disadvantages for direct selling were found to be much less than for those given advantages. This might

be expected as cattle feeders marketing 50 percent, or more, of their cattle direct would obviously feel that the advantages gained would outweigh any disadvantage incurred.

Advantages of Selling Through Auction

Twenty-eight of the sample members were found to be selling more than 50 percent of their cattle through auction markets. Their responses to selling in this manner are given in Table 13.

TABLE 13—Advantages and Disadvantages of Auction Selling Listed by Twenty-Eight Feedlot Operators Selling over Fifty Percent of Their Slaughter Cattle through Auction Markets.

Advantages and Disadvantages	Frequency of Response	Percentage of 28 Operators ¹
Advantages:		
High prices	12	43
Low marketing costs	3	11
Market for small lots and all grades and classes	14	50
Some control over sale	3	11
Disadvantages:		
Low prices received	4	14
High marketing costs	5	18
No control over sale	6	22
No disadvantage found	2	7

¹ Percentages do not add to 100 since some operators stated several advantages and disadvantages.

Most of the cattle feeders who sold through auction markets were found among the smaller feedlot operators. The reasons for selling through auctions were mainly the high prices received. Good sorting of cattle and competition among the bidders resulted in top prices being received.

Low marketing costs were a result of close proximity to auctions which resulted in very little shrinkage due to transporting and handling.

Auction markets as a place where small and odd lots of cattle can be sold was the biggest advantage of the market. It was felt that buyers purchasing slaughter cattle in auction markets were willing to pay top prices for small lots. This was true because a sufficient number of comparable cattle were available each sale day permitting the buyer to complete his order requirements. Consequently, the buyers were not faced with the possibility of obtaining part of their needs and having to absorb holding and shrinkage costs on the cattle already purchased until a sufficient number were available for shipment to the slaughtering facilities.

Some control over sales was to be found in this type of market. Owners of the cattle could bid on their own cattle and retain ownership if the prices offered were not satisfactory.

Disadvantages of Selling Through Auction

The percentage of cattle feeders listing disadvantages of auction selling was considerably less than the percentage given advantages in favor of this method of marketing. Just as was the case with feedlot operators selling direct, the individuals marketing more than 50 percent of their livestock through auction markets could be expected to feel that any disadvantages would be more than offset by the advantages gained in doing so.

When Direct Sales Are Made

It was found that large cattle feeders normally depended on the same direct buyers to purchase their cattle. Over 76 percent of the cattle feeders in all size groups indicated they sold to the same buyers. The percentage of large cattle feeders being contacted regularly by buyers was greater than for the smaller operators. This may partially explain why the larger feedlot operators tended to market more of their cattle through the same buyers than was the case for smaller cattle feeders. The small cattle feeders were very likely faced with a lack of direct buyer contacts and had to seek out a number of different individuals in an effort to sell their cattle through direct channels.

Contract Sales

Twenty-six cattle feeders indicated they sold some of their cattle on contract. Of these, 38 percent used this system as a common practice, whereas the remaining 62 percent only used contract selling occasionally.

Sources of Market Information

The sources of market information used by cattle feeders in determining the time and method of selling their cattle were not much different between the small and large sizes of operation. No attempt was made to differentiate the operators normally selling through direct channels from those utilizing other market outlets. The market news preferences for feedlot operators are outlined in table 14.

TABLE 14—Sources of Market Information Used by the Ninety-Four Sample Members in Their Selling Activities, Percentages.*

Sources of Market Information	Size of Operation		Overall Percentage for 94 Feedlots
	Less than 500 Head Per Year (50 Feedlots)	More Than 500 Head Per Year (44 Feedlots)	
Radio	34%	26%	32%
Commercial Outlook Sources	28	26	28
Television	2	7	4
USDA Outlook Reports	34	29	32
Newspaper	46	26	37
University of Idaho Outlook Report	2	2	2
Other Sources	40	19	30
Do Not Use Any Source	4	2	3

* Percentages do not add to 100 because some operators listed more than one source of market information.

Newspapers were mentioned the most frequently as a source of market information. Small cattle feeders tended to stress the importance of newspapers as a source of market news to a greater degree than large feedlot operators.

Items placed under the "other sources" category were the second most important sources listed by the small operators. Included in this group were market reports issued by local auctions, actual attendance at local auctions to determine market trends, and contacts with buyers and dealers at large livestock trading centers in other areas.

Outlook reports published by the United States Department of Agriculture were a major factor in the decision making by operators regardless of size. Commercial outlook publications were also a major source of information regardless of size.

Radio was a very important source of market news. The importance of the outlook reports from the University and U. S. Department of Agriculture increased considerably as a news source as the local radio market news is based heavily on these reports. The same can be said about the newspapers. The feedlot operators who do not read these reports, but get the market news through radio and newspapers, in reality are receiving the same information as those who read the reports. Only three cattle feeders did not use any sources of market information. They would market their cattle whenever the desired degree of finish had been reached and paid no attention to the current market conditions in an effort to determine the most beneficial method of selling.

Central Markets

Only two feedlot operators marketed more than 50 percent of their cattle through central markets. One of these individuals felt sales made through central markets helped to establish the market prices received throughout the area. The other operator stated that a sufficient number of livestock were handled by central markets to prevent overloading during peak periods of marketing. As a result, seasonal price fluctuations were not as severe in central markets relative to some of the other market outlets. Both operators stated that large transportation costs involved in moving livestock to central markets were disadvantageous.

Comparing Prices Received

In order to determine whether the prices paid and received for comparable cattle through different market channels were significantly different, purchase and sales data were collected from 137 ranchers and 94 feedlot operators.

The problem was to determine whether there was true difference between auction markets and direct markets with respect to price for comparable cattle.

The prices paid or received through direct channels were considered as one sample, and prices paid or received through auction markets for comparable cattle were considered as a second sample. The null hypothesis to be tested is that the two population means are equal. An alternative hypothesis is that the mean of direct market is greater than the mean of auction markets. If the null hypothesis is rejected, the alternative hypothesis is accepted which indicates a true difference between the prices received or paid in the two types of markets.

It was assumed that the two populations had equal variances. The actual data verified this as a valid assumption since the F-test indicated no significant difference between the variances of the two samples.

Since the buying and selling activities of the cattle feeders were concentrated in Choice and Good grades of feeder and slaughter cattle, the analysis is restricted to these grades of animals.

Sufficient data were not available to compare prices paid and received through terminal markets with those of direct marketing and auction purchases and sales. In order to reduce the effect of price seasonality between the two market channels the comparable prices were taken as close as possible within the same time period. That means that a price quotation taken from direct market would be compared to a price quotation from auction markets, both prices taken within the same period of time. It is assumed that no individual sale was large enough to influence any other sales made at the same time; in other words the number of cattle marketed at one time from one individual had no influence on the number marketed nor the price received by another individual.

Adjustment of Purchase Price

All price and cost figures were calculated on a per hundredweight basis.

Actual transportation charges were used when available and the Idaho Public Utilities Commission tariff rates shown in Appendix Table I were utilized when these costs were not known by the sample members.

Trade costs were added to purchase prices to account for payment to buying brokers and commission agents, where applicable. For equivalent expenses incurred by the buyers attending auctions and buying direct, travel costs of the operator were added to the purchase prices. The rates used were \$1.00 per head on cattle weighing under 500 pounds and \$1.25 per head on those weighing over 500 pounds.

Assuming that the animals continued to shrink after purchase during shipment to the feedlot, a charge was added to the purchase price at rates indicated in Appendix Table II. For overnight stands, a 4 percent shrink was charged on grass fat feeders weighing under 500 pounds. Dry lot cattle were charged with a 3 percent shrink unless the animals were being fed on wet beet pulp in which case a rate of 4 percent was used. A 3 percent shrink was charged against range cattle coming off from grass pasture during the fall months.

If shipment after direct purchases caused shrinkage in excess of the 3 percent pencil shrink allowance normally taken by the buyer, the rates given in Appendix Table II were used to compute the extra shrinkage charge against the buyer. If actual shrink loss was less than the pencil shrink allowance, a discount was made on the purchase prices accordingly.

On auction purchases a flat rate of 2 percent shrink was added

to the buyer's cost. This was based on an average shipping time of less than two hours from the auctions to feedlots of the buyers. In addition, a certain amount of shrink would have been undergone by the cattle before the sale was made. Therefore, the 2 percent rate was considered to be sufficient.

A delivered price figure was then obtained by adding transportation, travel and trade, and buyers shrinkage costs to the market prices paid. This delivered price represented the total cost to the buyers for procuring feeder cattle through each of the market channels.

Adjustment of Sale Price

All selling prices and selling costs were computed on a per hundred-weight basis. Transportation costs incurred for selling were computed in the same manner as for the purchase data.

Travel costs of the operator were charged only on sales made through auction markets. A straight \$0.05 per hundredweight rate was used regardless of the weight of animals being sold. Similar charges were not made against direct sales since less time of the seller is generally involved in making this type of sale.

Commission and yardage costs incurred when selling through the auction were based on actual information received from the sample members, or were computed on the basis of the following rates when data were not available. Animals weighing less than 500 pounds were charged at the rate of \$1.50 per head and those weighing over 500 pounds at the rate of \$2.50 per head.

Shrinkage of the animals during marketing was charged at the rate of 2 percent for auction sales based on the information contained in Appendix Table II. A 3 percent shrink was charged on direct sales unless specified otherwise by the sample members. However, these shrinkage costs were not deducted from sale prices since it was felt that buyers prices reflected the fill condition of the animals and additional charges for shrinkage would constitute a double cost for this factor.

Net prices received were then derived by subtracting the costs of transportation, travel and trade commissions, and yardage from market prices received. These net prices represented the actual returns to the cattlemen irrespective of the marketing methods used in selling their livestock.

Ranchers Selling Feeder Cattle

From the data gathered from the 137 ranchers it was found that

TABLE 15—Test of Significant Differences Between Prices Received Through Direct Channels and Auction Markets for Choice and Good Grade Steers and Heifers (1960 data).

	Feeder Cattle	
	Steers	Heifers
	Direct—Auction	Direct—Auction
Mean difference	0.0696	0.6515
Pooled variance	6.33083	8.11265
Pooled degrees of freedom	23	17
t-value	0.0691*	0.4809*

* Not significant at the 5 percent level of significance.

there was no significant difference between prices received through auction markets and direct sales. This was also true when considering feeder steers and feeder heifers separately. This is illustrated in table 15. From this it can be concluded that any benefits gained by selling cattle of this type through direct channels would have to be of a non-monetary nature.

Buying Feeder Cattle

The selling activities of the ranchers are closely associated with the buying activities of the feedlot operators.

Analyzing the prices paid by the feedlot operators for cattle, it was found that no significant price differences existed between auction and direct markets. See tables 16 and 17.

This is the same conclusion that was reached in table 15. However, it should be noted that the data represent two different years, 1958 and 1960. This does not change the relationship of the price data within the year, but merely means that no pecuniary gains were to be made by favoring either market in the two years 1958 and 1960.

TABLE 16—Test of Significant Differences Between Prices Paid Through Direct Channels and Auction Markets for Choice and Good Grade Steers (1958 data).

	Feeder Steers Direct—Auction
Mean differences	0.0315
Pooled variance	2.4413
Pooled degrees of freedom	57
t-value	0.0766*

* Not significant at the 5 percent level of significance.

TABLE 17—Test of Significant Difference Between Price Paid Through Direct Channels and Auction Markets for Choice and Good Grade Heifers. (1958 data).

	Feeder Heifers	
	Under 500 pounds	500 to 700 pounds
	Direct—Auction	Direct—Auction
Mean differences	1.4556	0.6246
Pooled variances	2.2721	2.4726
Pooled degrees of freedom	17	39
t-value	1.6328*	1.2300*

* Not significant at the 5 percent level of significance.

Slaughter Cattle

The results of a price comparison between the two markets for slaughter cattle were quite different from the feeder cattle market. There was found to be a very significant difference between prices received through direct sales and sales made through auction markets for both Choice and Good grade slaughter steers and heifers weighing 900 to 1100 pounds. See tables 18 and 19. It can be concluded that feedlot operators selling these types of cattle, under the given conditions, were receiving a greater net return when marketing directly

than when selling through the auction markets. Evidently, the cattle feeders giving "better prices received" as the reason for selling slaughter cattle directly were not without a firm basis for that statement.

TABLE 18—Test of Significant Differences between Prices Received through Direct Channels and Auction Markets for Choice and Good Grade Slaughter Steers Weighing 900 to 1100 Pounds (1959 data).

	Slaughter Steers	
	Choice	Good
	Direct—Auction	Direct—Auction
Mean differences	1.1569	1.7400
Pooled variances	0.8349	2.3233
Pooled degrees of freedom	126	48
t-value	4.9781**	3.2288**
Confidence limits (t 0.02) of mean differences	0.6089-1.7049	0.434-3.045

**Significant at the 1 percent level of significance.

TABLE 19—Test of Significant Differences between Prices Received through Direct Channels and Auction Markets for Choice and Good Grade Slaughter Heifers Weighing 900 to 1100 Pounds.

	Slaughter Heifers	
	Choice	Good
	Direct—Auction	Direct—Auction
Mean differences	0.7650	1.1611
Pooled variances	0.7603	2.6598
Pooled degrees of freedom	76	48
t-value	3.6885**	2.2087*
Confidence limits (t 0.2) of mean differences	0.2693-1.2607	0.0987-2.2235

* Significant at the 5 percent level of significance.

** Significant at the 1 percent level of significance.

The price differences between Choice and Good steers and heifers within a market channel were found to be highly significant. That means that price differences, due to grade, were commonly reflected in each of the two marketing channels. Choice grade slaughter steers and heifers brought consistently higher prices than did the same types of animals grading Good within both markets. This situation is illustrated in tables 20 and 21.

TABLE 20—Test of Significance of Price Difference between Choice and Good Grade Slaughter Steers Weighing 900 to 1100 Pounds, for Direct and Auction Sales (1959 data).

	Slaughter Steers	
	Direct Sales	Auction Sales
	Choice—Good	Choice—Good
Mean differences	1.2992	1.8823
Pooled variances	0.8043	2.1751
Pooled degrees of freedom	118	56
t-value	4.3877**	4.4956**
Confidence limits (t 0.02) of mean differences	0.6010-1.9974	0.8816-2.8830

** Significant at the 1 percent level of significance.

TABLE 21—Comparison of Price Differences Between Choice and Good Grade Slaughter Heifers Weighing 900 to 1100 Pounds, for Direct and Auction Sales (1959 data).

	Slaughter Heifers	
	Direct Sales	Auction Sales
	Choice—Good	Choice—Good
Mean differences	2.2768	2.6729
Pooled variances	0.7368	2.2545
Pooled degrees of freedom	62	62
t-value	8.5401**	7.0358**
Confidence limits (t 0.02) of mean differences	1.6396-2.9140	1.7649-3.5808

**Significant at the 1 percent level of significance.

The large number of cattle feeders stating they were able to receive higher selling prices, where marketing slaughter cattle directly, were apparently justified in this belief with respect to the slaughter animals covered in this study. Extrapolating the result of this finding to other time periods and for other classes and grades of cattle should be done with the same precautions used in any marketing outlook work.

Summary and Conclusions

Over 75 percent of the feedlot operators in Idaho carry on ranching and farming enterprises in addition to their cattle feeding activities. However, large commercial feedlot operators are responsible for a much greater portion of the total slaughter cattle marketed than their small numbers indicate. The most common practice is to feed a variety of cattle with respect to types, grades, and weights on a year around basis although many of the small farmer-feeders operate during the winter months only.

About 51 percent of the feedlot operators procured their feeder cattle through direct marketing channels, 44 percent through auction markets, less than 5 percent are raised on the farm and only two-tenths of 1 percent are procured through terminal markets.

In selling slaughter cattle, direct marketing channels account for 85 percent of the cattle marketed, auction markets handle less than 13 percent, and central markets less than 3 percent. In general, cattle feeders operating on a relatively small scale utilize the auction markets to a greater degree than do the large feedlot operators.

The main reasons for selling and buying through direct marketing channels were, for procuring feeder cattle, the degree of certainty the buyers thought they had in knowing the environment in which the cattle were raised. Feedlot operators believed that they received higher prices, had more control over sales, and lower marketing costs. These low marketing costs are possible because the buyer usually pays the transportation costs and commission and yardage fees are non-existent when selling directly. The main complaint against selling direct is the lack of an adequate demand for small and odd lots of livestock. On the other hand, auction markets are credited with being a very good

market for small and uneven lots of cattle. No control over sales after the cattle are committed for marketing, and high commission and yardage costs are features of selling through auctions disliked by Idaho's cattle feeders.

The main sources of market information utilized by Idaho cattle feeders are newspapers, local auction quotations, contracts with livestock trading centers in other areas, and radio, in order of the frequency mentioned. Commercial outlook publications and similar information are sources of market information which are used in long run planning.

Even though auction markets are not utilized to a high degree by cattle feeders in their buying and selling activities, these markets constitute an important part of the existing market structure in Idaho. For a large number of small scale operators, purchases and sales made through auctions are the main marketing methods relied upon.

In procuring feeder cattle, it was found that no significant differences between prices paid through auction markets and prices paid direct by feedlot operators existed in 1958. The same was true for selling feeder cattle by feeder cattle producers during 1960.

In selling slaughter cattle significant price differences were found between markets for comparable cattle. Prices received for Choice and Good grade steers and heifers sold direct were significantly higher than prices received for similar animals marketed through auctions. In addition, there were found to be very significant price differences between grades within each type of marketing outlet. This signifies that both markets reflected price differences, due to the quality of cattle being marketed, during the time period of the study.

Appendix

TABLE I — Rates Used for Computing Transportation Costs When Actual Charges Were Not Available.

Over	Miles	Not Over	Minimum Weight in Pounds		
			10,000	20,000	25,000
			(Cents per Hundred Pounds)		
0		5	7	6	5
5		10	9	8	7
10		15	11	10	9
15		20	13	12	11
20		25	15	14	13
25		30	17	16	15
30		35	19	18	17
35		40	21	20	19
40		50	25	22	21
50		60	27	24	23
60		70	29	26	25
70		80	31	29	28
80		90	34	32	31
90		100	40	36	34
100		110	44	40	37
110		120	48	44	40
120		130	52	48	42
130		140	56	51	44
140		150	60	54	46
150		160	64	56	48
160		170	68	58	50
170		180	72	60	52
180		190	76	63	56
190		200	80	66	58
200		210	84	68	60
210		220	85	70	62
220		230	86	72	64
230		240	87	74	66
240		250	88	75	68
250		260	89	76	70
260		270	90	78	72
270		280	91	80	74
280		290	92	82	76
290		300	99	84	78
300		310	102	86	80
310		320	103	88	82
320		330	104	90	84
330		340	106	92	86
340		350	109	94	88
350		360	110	96	90
360		370	113	98	92
370		380	117	101	94
380		390	118	103	97
390		400	124	105	100
400		410	125	107	102
410		420	127	109	105
420		430	130	112	107
430		440	135	116	111
440		450	139	120	115

For distances beyond 450 miles the rate will be 60 cents per loaded mile for a solo truck and 70 cents per loaded mile for truck and full trailer.

Source: Idaho Public Utilities Commission No. 8, Idaho Motor Tariff Bureau, Freight Tariff No. 3-A, Item 2140. Boise, Idaho (June, 1958).

TABLE II — Rates Used for Computing Shrinkage Costs Incurred While Cattle Are in Transit, or on Overnight Stands.

Hours in Transit	Calves	Percent Shrinkage	
		Fat Cattle	Feeder Cattle
1	2.06	1.70	1.85
2	2.06	4.24	3.74
3	2.06	4.98	3.76
4-6	4.93	5.42	3.77
7-9	3.50	5.06	5.98
10-17	6.66	6.20	8.20
18-35	9.97	9.63	7.18
35-59	8.17	7.53	10.14
60-83	11.92	8.60	10.44
84 and over	9.96	10.81	12.44

For overnight stands the following rates were used:

Calves, cows, and grass fats = 4 percent.

Dry lot cattle = 3 percent (4 percent if on wet beet pulp)

Range cattle off fall grass = 3 percent.

Source: Neff Tippetts, Ira M. Stevens, C. B. Brotherton, and Harold Abel, **In-Transit Shrinkages of Cattle**, University of Wyoming Agricultural Experiment Station, Mimeograph Circular No. 78, (Laramie, Wyoming: Feb. 1957) pp. 27, 49 and 57.

Canada

AGRICULTURAL RESEARCH FOR IDAHO

UNIVERSITY OF IDAHO
COLLEGE OF AGRICULTURE EXPERIMENT STATION

MOSCOW—Home Station. 1,100 acres; Elevation 2,564 feet; Established 1892. Basic and Applied Research in all fields.

SANDPOINT—Branch Station. 98 acres; Elevation 2,100 feet; Established 1912; Research on The Cut-over Lands of Northern Idaho.

LEWISTON—Field Station. 22 acres; Elevation 1,413 feet; Established 1948. Basic and Applied Research on Fruits and Vegetables.

PARMA—Branch Station. 60 acres; Elevation 2,274 feet; Established 1935. Onion and Carrot Hybrids, plus research on other vegetables and fruits.

CALDWELL—Branch Station. 320 acres; Elevation 2,375 feet; Established 1906. Beef, Dairy Cattle and Sheep Nutrition and Management Research.

TWIN FALLS—Branch Station. 80 acres; Elevation 3,745 feet; Established 1950. The "Bean" Station with Research on New Varieties and Cultural Practices.

ABERDEEN—Branch Station. 238 acres; Elevation 4,400 feet; Established 1911. Potato Varieties, Disease and Storage and Cereal Grain Research, Wheat Quality Lab also located here.

TETONIA—Branch Station. 590 acres; Elevation 6,200 feet; Established 1919. Production and Maintenance of Foundation Seed Stocks of Grains, Grasses and Potatoes.

DUBOIS—U.S. Sheep Experiment Station - Western Sheep Breeding Lab. Established 1915. Nutrition Research and Breed Improvement—U. of I. cooperating.

