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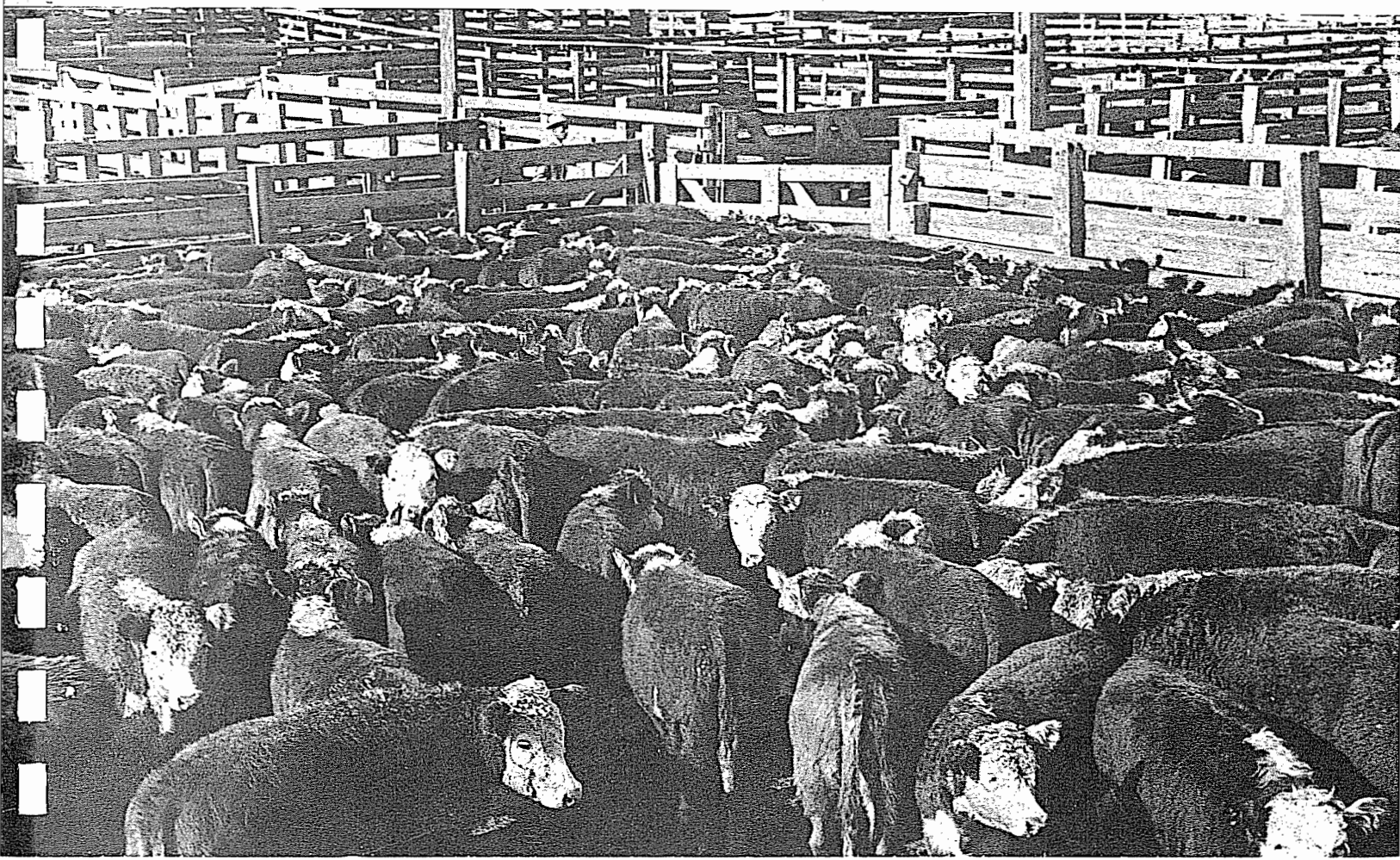
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# Costs and Considerations for Marketing Livestock in North Dakota

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COSTS AND CONSIDERATIONS FOR MARKETING LIVESTOCK  
THROUGH VARIOUS MARKETING CHANNELS IN NORTH DAKOTA

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## FORWARD

The basic objective of this report is to discuss the factors which should be considered and the methods which can be used in the selection of a market for selling livestock.

The figures and discussions which appear in this report are not meant to be inclusive of all weights, grades, and species of livestock to be sold, but are meant to provide examples of the approach which can be used in comparing alternative markets. The figures presented are valid only for the conditions specified so that adjustments for specific seller locations are required. The procedures for making such adjustments and for comparing markets with different levels of costs and prices are also described.

It is hoped that this report will serve as a useful guide in helping North Dakota livestock producers increase net returns due to a better knowledge of the livestock marketing system.

## SUMMARY AND CONCLUSIONS

### SUMMARY

The task of marketing livestock should begin long before the livestock ever leave the producer's farm or ranch. Current and accurate market information is necessary for gearing livestock production practices to expected market conditions.

North Dakota livestock producers receive over \$200 million in gross income each year from the sale of livestock sold direct or through various marketing agencies in North Dakota. Marketing agencies vary in the amount charged and in the prices received from selling livestock, so an opportunity exists for alert producers to increase their net returns by a careful evaluation of alternative markets.

Shrinkage is the marketing cost that is the most variable and, in the majority of cases, is also the most costly to the producers. Although the cost of shrink and other livestock losses cannot be entirely eliminated, they can be reduced by proper management and planning.

Distances of 25 miles and 100 miles from the producer to the terminal market were used to establish costs of marketing at the terminal. An average distance of 25 miles to an auction was used. The 25-mile distance allows a comparison of total marketing costs for producers that are an equal distance from an auction and the terminal. The 100-mile distance allows an identification of costs associated with distance and also provides a basis for determining the additional price needed from marketing livestock through the terminal 100 miles from the producer compared to an auction 25 miles from the producer.

Higher prices are required at the average auction to equal the net return at the terminal for almost all weights and species of livestock considered in this report when the producer is an equal distance from the terminal and the auction. The higher prices are required to overcome higher total marketing costs at the auctions compared to the terminal. When the producer is 25 miles from the auction and 100 miles from the terminal, the opposite is true; a higher price is required at the terminal to overcome higher total marketing costs and to equal the net returns of the average auction.

Although costs are an important consideration, prices received, a assurance of payment, and accurate weights are factors which are equally as important in selecting a market outlet. Factors of lesser importance include availability of feed, water, insurance, and flexibility in marketing.

The livestock seller should be alert to the fact that it is not the market agency that provides the highest gross return nor the agency with the lowest cost that represents the most desirable market outlet. But it is the market agency that provides the seller with the highest net return with assurance of payment and accurate weights.

## CONCLUSIONS

The most limiting factor affecting the competitiveness of a specific livestock market in North Dakota is the distance to the market. Costs associated with the transportation of livestock to a market are generally more important than the actual selling charges of the marketing agency. The importance of transportation costs largely explains why there is a relatively large number of livestock markets within a state, including North Dakota.

The costs of marketing livestock are significant, and differences exist in the level of charges assessed by various markets. Because differences also exist among markets in regard to prices received and marketing costs for various species, weights, and number of livestock sold, the most desirable market at one time may not be the most desirable for another lot of livestock sold at a different time. If net returns are to be maximized, it is necessary to assess the costs and returns each time and for each species of livestock to be sold.

Markets vary in their reputation to receive either higher or more stable prices for specific species or classes of livestock. In addition, it may not require a very large increase in livestock prices to overcome a cost disadvantage of a particular market. Therefore, past experience and the reputation of a specific market for obtaining strong and stable prices for livestock should not be overlooked in an attempt to lower total marketing costs.

Because of the great variability in distance to markets among individual producers, and because markets vary with regard to methods used in determining selling costs, it is essential that the livestock seller obtain selling costs and make adjustments for his specific location when comparing alternative markets.

In selecting a market for selling livestock, a producer should use the following procedure:

- a. obtain an itemized list of selling costs from alternative markets being considered;
- b. become familiar with the level of prices being obtained at the various markets for the specific livestock to be sold;
- c. calculate transportation costs, including trucking charges, insurance, and shrink to each of the alternative markets;
- d. determine which channels provide assurance of payment by being bonded. Make provisions for assuring payment from all other buyers or markets being considered that are not bonded;
- e. assure that the scale to be used at each of the prospective markets is registered and inspected, and that the actual weighing is done in the seller's presence or by a bonded weighmaster;

- f. determine the value and cost of additional services provided at each marketing agency;
- g. calculate the gross returns at the alternative markets by multiplying the weights of the animals to be sold by the expected prices at each market;
- h. sum the total costs for marketing at each of the markets, giving consideration for differences in services provided; and
- i. subtract total marketing costs from the expected gross returns to obtain the expected net returns for each market.

The market agency which meets the requirements specified and provides the highest net return would logically be the most efficient for the producer.

# COSTS AND CONSIDERATIONS FOR MARKETING LIVESTOCK THROUGH VARIOUS MARKETING CHANNELS IN NORTH DAKOTA<sup>1</sup>

Edward V. Dunn<sup>2</sup>

## INTRODUCTION

Although North Dakota is primarily known as a grain producing state, approximately 25 percent of the gross farm income in the state is derived from livestock sales. This 25 percent represents an income of over \$200 million to North Dakota livestock producers each year.<sup>3</sup>

To maximize returns from a livestock enterprise, the farmer must not only be an efficient producer, but must also do a superior job of marketing. He must know the various marketing channels that are available, as well as the costs and prices involved in employing these various channels. Livestock producers should also be aware of the advantages and disadvantages associated with using alternative marketing methods.

This report uses current North Dakota figures to analyze in detail the cost factors associated with the various livestock marketing channels so as to provide a basis for comparing alternative markets.

## MARKETING COSTS AT THE TERMINAL AND AT AUCTIONS

One of the major considerations in discussing the total cost of marketing livestock is the fees paid to the marketing firm. Tariff rates (itemized marketing costs) were obtained from all of the livestock auctions in North Dakota and were compared with the tariff of the West Fargo terminal market for comparable services rendered. The figures presented in the following tables represent standard fees paid to the marketing agency by livestock sellers (see Appendix for an itemized listing of the West Fargo terminal and representative auction market tariffs).

No one auction market is the highest cost nor is any one market the lowest cost for all species of livestock. Therefore, the cost figures used

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<sup>1</sup>Recognition is extended to Dennis J. Gustin, undergraduate student in Agricultural Economics, for his assistance in the preparation of this report.

<sup>2</sup>Dunn is an assistant professor, Agricultural Economics Department, North Dakota State University, Fargo, North Dakota.

<sup>3</sup>North Dakota Crop and Livestock Reporting Service, North Dakota Crop and Livestock Statistics, Annual Summary for 1969, United States Department of Agriculture, Statistical Reporting Service, North Dakota Statistical Office, Fargo, North Dakota, May, 1970, p. 77.

for high and low-cost auctions in the tables of this report represent figures taken from several of the 31 auction markets in the state. The two auction market tariffs included in the Appendix have been selected because they are representative of many North Dakota auction markets and because they illustrate different methods used in calculating costs.

### Slaughter Cattle

Selling costs for 1,000 pound slaughter cattle at West Fargo remain constant at \$3 per head for all sized lots of livestock sold (Table 1). Selling costs for the selected auctions, however, vary with the number of animals sold and range from \$3.50 per animal to \$9.45 per animal. The selling charge for the lowest cost auction is still \$.50 per animal more than the selling cost at the terminal market.

TABLE 1. COMPARISON OF SELLING COSTS<sup>a</sup> FOR 1,000 POUND SLAUGHTER CATTLE AT THE WEST FARGO TERMINAL MARKET COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>b</sup>

Sale price/cwt.	No. of head	Terminal	Auctions		
			Avg.	High	Low
- selling cost per head -					
\$20	10 or less	\$3.00	\$5.12	\$6.45	\$3.50
	20	3.00	4.85	6.45	3.50
	50	3.00	4.33	6.45	3.50
25	10 or less	3.00	6.14	7.95	3.50
	20	3.00	5.80	7.95	3.50
	50	3.00	4.95	7.95	3.50
30	10 or less	3.00	7.17	9.45	3.50
	20	3.00	6.69	9.45	3.50
	50	3.00	5.57	9.45	3.50

<sup>a</sup>Selling costs as used in this report refer only to the costs incurred by the producer from the time the livestock are unloaded at the market until the livestock are sold.

<sup>b</sup>For a detailed account of how these selling costs are computed, refer to tariff rates for the terminal and auctions in the Appendix.

### Feeder Cattle

Selling costs for 500 pound feeder cattle (Table 2) also remain constant for all sized lots of livestock sold at the terminal, but again vary for the different auctions.

Selling costs range from \$2 per head to \$5.90 per head for the auction compared to a constant charge of \$3 for the terminal. The cost of selling at the auctions ranges from \$1 less to \$2.90 more than at the terminal for 500 pound feeder cattle.

TABLE 2. COMPARISON OF SELLING COSTS<sup>a</sup> FOR 500 POUND FEEDER CATTLE AT THE WEST FARGO TERMINAL COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>b</sup>

Sale price/cwt.	No. of head	Terminal	Auctions		
			Avg.	High	Low
- selling cost per head -					
\$20	20 or less	\$3.00	\$2.82	\$3.75	\$2.00
	50	3.00	2.68	3.45	2.00
25	20 or less	3.00	3.36	4.20	2.50
	50	3.00	3.12	4.20	2.38
30	20 or less	3.00	4.00	5.00	2.50
	50	3.00	3.54	4.95	2.50
35	10 or less	3.00	4.44	5.90	2.50
	20	3.00	4.35	5.90	2.50
	50	3.00	3.93	5.70	2.50

<sup>a</sup>Selling costs as used in this report refer only to the costs incurred by the producer from the time the livestock are unloaded at the market until the livestock are sold.

<sup>b</sup>For a detailed account of how these selling costs are computed, refer to tariff rates for the terminal and auctions in the Appendix.

#### Slaughter Hogs

A wide variation also occurs in the cost of selling 200 pound slaughter hogs at the terminal compared to auction markets (Table 3). Terminal market selling costs are \$1.05 per animal, compared to a range in costs of \$.50 to \$2.40 for auctions. The average auction market has a lower per animal charge when hog prices are \$18 per hundredweight or less. However, when hog prices are above \$18 per hundredweight, the terminal market has a lower selling cost than the average auction market.

TABLE 3. COMPARISON OF SELLING COSTS<sup>a</sup> FOR 200 POUND SLAUGHTER HOGS AT THE WEST FARGO TERMINAL COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>b</sup>

Sale price/cwt.	No. of head	Terminal	Auctions		
			Avg.	High	Low
- selling cost per head -					
\$15	1-100	\$1.05	\$ .92	\$1.35	\$ .50
18	1-100	1.05	1.03	1.44	.54
21	1-100	1.05	1.17	1.68	.63
24	1-100	1.05	1.29	1.92	.65
27	1-100	1.05	1.37	2.16	.65
30	1-100	1.05	1.53	2.40	.65

<sup>a</sup>Selling costs as used in this report refer only to the costs incurred by the producer from the time the livestock are unloaded at the market until the livestock are sold.

<sup>b</sup>For a detailed account of how these selling costs are computed, refer to tariff rates for the terminal and auctions in the Appendix.

### Feeder Lambs

The comparative costs of selling 75 pound feeder lambs are somewhat different as compared to the other weights and species of livestock discussed previously (Table 4). The average auction market has a lower charge per head for all lamb prices and lot sizes compared to the terminal. Selling costs are as low as \$.26 per head for the lowest cost auction, but reach a high of \$.90 per head for the highest cost auction. Selling costs at the terminal are \$.62 per head for lot sizes of 51-100 head and \$.67 for lot sizes of 1-50 head.

TABLE 4. COMPARISON OF SELLING COSTS<sup>a</sup> FOR 75 POUND FEEDER LAMBS AT WEST FARGO TERMINAL COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>b</sup>

Sale price/cwt.	No. of head	Terminal	Auctions		
			Avg.	High	Low
- selling cost per head -					
\$21 and below	1-50	\$ .67	\$ .53	\$ .80	\$ .31
	51-100	.62	.52	.80	.26
\$24	1-50	.67	.55	.80	.35
	51-100	.62	.53	.80	.35
27	1-50	.67	.58	.81	.35
	51-100	.62	.55	.81	.35
30	1-50	.67	.60	.90	.35
	51-100	.62	.57	.90	.35

<sup>a</sup>Selling costs as used in this report refer only to the costs incurred by the producer from the time the livestock are unloaded at the market until the livestock are sold.

<sup>b</sup>For a detailed account of how these selling costs are computed, refer to tariff rates for the terminal and auctions in the Appendix.

These tables indicate that a producer who is an equal distance from an auction and the terminal market will have a comparative advantage at the terminal market when livestock prices are relatively high, while the auction charges tend to be less when livestock prices are relatively low. However, selling costs are only part of the costs incurred in marketing livestock.

### TRANSPORTATION

There are 31 auction markets in North Dakota.<sup>4</sup> Therefore, the average distance that livestock sold at an auction in the state must be transported is approximately 25 miles. For purposes of this study, average distances of

<sup>4</sup>Packers and Stockyards Administration, Packers and Stockyards Resume, United States Department of Agriculture, Washington, D. C., Volume 6, Number 21, April 1, 1969, pp. 65-66.

25 miles and 100 miles from the producer to the terminal market were used to establish costs of marketing at the terminal. The 25-mile distance allows a comparison of total marketing costs for producers that are an equal distance from an auction and the terminal. The 100-mile distance allows an identification of costs associated with distance and also provides a basis for determining the additional price needed from marketing livestock through the terminal 100 miles from the producer compared to an auction 25 miles from the producer.

A comparison of commercial trucking costs for a 25-mile haul versus a 100-mile haul was made. These costs are presented in Table 5.

TABLE 5. TRUCK TRANSPORTATION RATES FOR VARIOUS WEIGHTS AND SPECIES OF LIVESTOCK SHIPPED 100 AND 25 MILES, NORTH DAKOTA, 1970<sup>a</sup>

Weight and species	100 miles	25 miles
- transportation rate per head -		
1,000# beef	\$4.00	\$2.50
500# beef	2.00	1.25
200# hog	.80	.50
75# lamb	.38	.19

<sup>a</sup>Trucking rates compiled from confidential tariffs of three major livestock trucking agencies in North Dakota, 1970.

Truck transportation rates vary depending upon the species and weights of the livestock being transported.

Total transportation rates for hauling livestock are higher, of course, for long hauls compared to shorter hauls. However, when transportation rates are expressed on a per mile basis, the rate per mile for hauling livestock 25 miles is approximately 2½ times as much (\$.10 per head per mile compared to \$.04 per mile for 1,000-pound slaughter cattle) as for hauling livestock 100 miles. In other words, as the distance that livestock are transported is increased, the total transportation rate also increases, but the rate per mile decreases.

#### INSURANCE<sup>5</sup>

There are two main types of insurance policies available to commercial truckers and individual livestock sellers in North Dakota: Cargo insurance and full coverage transit insurance.

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<sup>5</sup>The primary source of information included in the following discussion regarding insurance is based upon a telephone interview with a major livestock insuring agency in North Dakota, November 9, 1970.

Livestock that are hauled by a trucker that has cargo insurance basically are only insured for fire, upset, or collision of the vehicle. Cargo insurance does not provide protection against losses from bruises, death, or crippling of animals being hauled unless such injuries result from fire, upset, or collision.

Livestock hauled by a trucker with full coverage transit insurance obtained from almost any of the major livestock insuring agencies are insured against any kind of loss, with understandable exceptions, from the time the animals are loaded until they cross the scale and are sold at the market. Full coverage transit insurance policies, most commonly purchased by the livestock truckers, cover all livestock hauled during the year. Almost all of the commercial livestock truckers carry this type of policy. Cargo and full coverage transit insurance policies for either specific loads or for all livestock hauled during the year are also available to an individual livestock seller that hauls his own livestock to market.

Representative full coverage transit insurance charges for various distances to market are presented in Table 6.

TABLE 6. INSURANCE RATES FOR CATTLE, HOGS, AND SHEEP HAULED VARIOUS DISTANCES TO THE TERMINAL MARKET IN NORTH DAKOTA COMPARED TO AUCTION MARKETS, 1970<sup>a</sup>

Species	Terminal			Auction
	1-50 mi.	51-100 mi.	101-150 mi.	1-50 mi.
	- rate per head -			
Cattle	\$.24	\$.28	\$.34	\$.13
Hogs	.20	.24	.28	.10
Sheep	.15	.17	.20	.08

<sup>a</sup>Source: Major livestock insuring agency in North Dakota, personal interview, February 6, 1970.

The terminal market and almost all auction markets in North Dakota, provide fire and windstorm coverage on livestock while at the yards. Most of these marketing agencies do not have insurance policies that cover losses incurred while the livestock are at the market.

Some auction markets do reimburse the seller for livestock losses incurred while the animals are at the market, while other auctions even extend this coverage to include reimbursement for livestock losses while in transit to the market.

The rules and policies vary from one market to another, so the livestock seller interested in knowing if his livestock are insured should inquire about the extent of the insurance coverage at the markets he employs. Such an inquiry is not necessary, however, if the seller's livestock are insured under full transit insurance.

The fact that most markets do not have an insurance policy to cover livestock losses is due to the fact that full coverage transit insurance is very common. This type of insurance policy provides the livestock seller with protection during the time the livestock are being transported until they are actually sold at the market.

### SHRINKAGE

The last marketing cost to be considered in this report is the one which is greatly variable and, in the majority of cases, the most costly to the producer. Shrinkage in transit is an item which is very important in determining market costs, and yet one in which research results appear to be inconclusive.

The difficulty in obtaining shrinkage estimates is due to the many factors which affect shrink in livestock. Some of the more important factors include: distance, time in transit, temperature, humidity, excitability of the livestock, smoothness of roadbed, number of animals hauled, species, weight, ration fed, length of time off feed prior to shipping, availability of feed at destination, and condition and type of hauling unit.

Due to the many factors that affect shrink in livestock, it is understandable why shrinkage results that are based upon distance alone vary considerably from one load of livestock to another.

The figures in Table 7 illustrate the importance of shrink as a marketing cost item for livestock sellers. Except in rare instances, shrink is the single most important cost item for all classes and weights of livestock sold.

Because livestock shrinkage is related to distance hauled, it is reasonable to expect that the loss due to shrink is greater for livestock hauled 100 miles to market compared to 25 miles. As was true with transportation costs, shrinkage per mile also decreases as the length of haul increases. For that reason, shrinkage from a 100-mile haul is not four times as great as the shrinkage loss on a 25-mile haul.

It should be remembered that shrink resulting from relatively short hauls represents excretory shrink (loss in weight from feces and urine) which can be largely regained by providing feed and water to the livestock at their destination. As the length of time in transit (or time the animals are off feed) increases, the amount of excretory shrink per mile decreases and the amount of tissue shrink increases. Tissue shrink is a loss of body weight due to a loss of moisture from, and actual shrinkage of, body cells. Therefore greater time, feed, and water are required on the part of the buyer of livestock to gain back loss in weight from tissue shrink, compared to excretory shrink. Although no studies are available which compare tissue shrink and excretory shrink, it is felt that tissue shrink is minimal in the first 24-36 hours in transit.<sup>6</sup>

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<sup>6</sup>Williams, Willard F. and Stout, Thomas T., Economics of the Livestock and Meat Industry, The MacMillan Company, New York, 1964, pp. 650-655.

Shrinkage costs can be expected to reach \$10.50 per head for 1,000 pound slaughter cattle transported 100 miles compared to \$6.60 for a 25-mile haul when slaughter cattle prices are around \$30 per hundredweight.

Shrinkage costs for slaughter hogs and feeder lambs will generally range from \$.50 to \$1.00 per head for a 100-mile haul and \$.25 to \$.75 for a 25 mile haul.

TABLE 7. SHRINKAGE LOSSES OF SELECTED WEIGHTS AND SPECIES OF LIVESTOCK HAULED 100 AND 25 MILES TO MARKET

Weight and species	Price/cwt.	100 miles		25 miles	
		% Shrink	\$/Head	% Shrink	\$/Head
1,000# slaughter cattle <sup>a</sup>	\$20	3.5	7.00	2.2	4.40
	25	3.5	8.75	2.2	5.50
	30	3.5	10.50	2.2	6.60
500# feeder cattle <sup>b</sup>	\$20	3.0	3.00	2.0	2.00
	25	3.0	3.75	2.0	2.50
	30	3.0	4.50	2.0	3.00
	35	3.0	5.25	2.0	3.50
200# slaughter hogs <sup>c</sup>	\$15	1.6	.48	.7	.21
	18	1.6	.58	.7	.25
	21	1.6	.67	.7	.29
	24	1.6	.77	.7	.34
	27	1.6	.86	.7	.38
	30	1.6	.96	.7	.42
75# feeder lambs <sup>d</sup>	\$21	4.0	.63	3.0	.47
	24	4.0	.72	3.0	.54
	27	4.0	.81	3.0	.61
	30	4.0	.90	3.0	.68

<sup>a</sup>Williams, Willard F. and Stout, Thomas T., Economics of the Livestock and Meat Industry, The MacMillan Company, New York, 1964, pp. 650-655.

<sup>b</sup>Doane's Agricultural Report, "Livestock Shrink Losses," Volume 32, No. 30-7, October 16, 1969, p. 244.8.

<sup>c</sup>Ives, Russell J., The Livestock and Meat Economy of the United States, American Meat Institute, Ann Arbor, Michigan, 1966, p. 70.

<sup>d</sup>Based upon shrink records for lambs hauled various distances by Peterson Sheep and Cattle Company, feeder livestock distributors, Spencer, Iowa, in personal letter from Stanley L. Schoelerman to author, May 20, 1970.

### TOTAL MARKETING COSTS

Total costs of marketing livestock through the various channels are computed by summing the four individual costs previously discussed; selling costs of the marketing firm, trucking costs, insurance charges, and shrinkage losses. These totals express the total per-head costs incurred by a producer when marketing through these given agencies.

#### Slaughter Cattle

The figures in Table 8 illustrate that the total costs for marketing 1,000 pound slaughter cattle through the terminal market are less than the costs for all auctions for producers located an equal distance from the terminal and auction (25 miles to both terminal and auction). Costs range from \$10.14 to \$12.34 per head for the terminal depending upon the price of livestock. Marketing costs range from \$11.36 to \$16.40 for the average auction and range from \$10.53 for the low cost auction to \$18.68 for the high cost auction for various cattle prices.

Total marketing costs for slaughter cattle are somewhat higher at the terminal market for all lot sizes and cattle prices for producers 25 miles from an auction and 100 miles from the terminal. Total marketing costs range from a low of \$10.53 per head for the lowest cost auction to \$16.40 for the highest cost auction and reach a high of \$17.81 for cattle sold at the terminal. Selling and insurance costs for cattle sold at the terminal are the same for all lot sizes and cattle prices; therefore, the difference in marketing costs between lower and higher priced cattle is due to the additional loss from shrink.

TABLE 8. TOTAL COSTS INCURRED IN MARKETING 1,000 POUND SLAUGHTER CATTLE AT THE WEST FARGO TERMINAL COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>a</sup>

Sale price /cwt.	No. of head	Terminal		Auctions (25 miles)		
		25 mi.	100 mi.	Avg.	High	Low
- selling cost per head -						
\$20	10 or less	\$10.14	\$14.31	\$12.15	\$13.48	\$10.53
	20	10.14	14.31	11.88	13.48	10.53
	50	10.14	14.31	11.36	13.48	10.53
25	10 or less	11.24	16.06	14.27	16.08	11.63
	20	11.24	16.06	13.93	16.08	11.63
	50	11.24	16.06	13.08	16.08	11.63
30	10 or less	12.34	17.81	16.40	18.68	12.73
	20	12.34	17.81	15.92	18.68	12.73
	50	12.34	17.81	14.80	18.68	12.73

<sup>a</sup>Figures in this table are based upon cost figures presented in previous tables of this report.

### Feeder Cattle

The total marketing costs for 500-pound feeder calves (Table 9) are comparable to the average auction for producers that are an equal distance 25 miles from the auction and terminal. However, the marketing costs at the terminal are consistently higher than the low-cost auction and consistently lower than the high-cost auction for all ranges in lot sizes and calf prices.

With the exception of feeder calf prices above \$35 per hundredweight, the total cost of marketing 500-pound calves through the terminal is higher than for all auctions for producers 25 miles from an auction and 100 miles from the terminal. The range in costs of selling feeder calves is from \$5.38 per head for the low-cost auction with calf prices below \$25 per hundredweight, to \$10.78 per head for the high-cost auction with calf prices at \$35 per hundredweight. Terminal market costs ranged from \$8.31 to \$10.56, depending upon the sale price per hundredweight.

TABLE 9. TOTAL COSTS INCURRED IN MARKETING 500-POUND FEEDER CALVES AT THE WEST FARGO TERMINAL COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>a</sup>

Sale price/cwt.	No. of head	Terminal		Auctions (25 miles)		
		25 mi.	100 mi.	Avg.	High	Low
- selling cost per head -						
\$20	20 or less	\$6.49	\$ 8.31	\$6.20	\$ 7.13	\$5.38
	50	6.49	8.31	6.06	6.83	5.38
25	20 or less	6.99	9.06	7.24	8.08	6.38
	50	6.99	9.06	7.00	8.08	6.26
30	20 or less	7.49	9.81	8.38	9.38	6.88
	50	7.49	9.81	7.92	9.33	6.88
35	10 or less	7.99	10.56	9.32	10.78	7.38
	20	7.99	10.56	9.23	10.78	7.38
	50	7.99	10.56	8.81	10.58	7.38

<sup>a</sup>Figures in this table are based upon cost figures presented in previous tables of this report.

### Slaughter Hogs

The total marketing cost for slaughter hogs is much less than for slaughter or feeder cattle. Hog marketing costs are only about one-third the cost of marketing feeder calves and about one-sixth the cost of marketing slaughter cattle (Table 10).

The results of a cost comparison between the terminal and an auction which are equal distances from the producer are the same for 200-pound slaughter hogs as for 500-pound feeder calves; total marketing costs are comparable between the terminal and the average auction for all ranges in hog prices but the terminal costs are higher than the low-cost auction and lower than the high-cost auction for all ranges in lot sizes and hog prices.

The total cost of marketing slaughter hogs is quite comparable between the terminal and the high-cost auction when the distance to the terminal is 100 miles. It costs approximately \$.60 more per hog to market through the terminal compared to the average of the auction and approximately \$1.30 more for the terminal compared to the lowest-cost auction for producers located 25 miles from the auction and 100 miles from the terminal.

TABLE 10. TOTAL COSTS INCURRED IN MARKETING 200-POUND SLAUGHTER HOGS AT THE WEST FARGO TERMINAL COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>a</sup>

Sale price/cwt.	No. of head	Terminal		Auctions (25 miles)		
		25 mi.	100 mi.	Avg.	High	Low
- selling cost per head -						
\$15	1-100	\$1.96	\$2.59	\$1.73	\$2.16	\$1.31
18	1-100	2.00	2.69	1.88	2.29	1.39
21	1-100	2.04	2.78	2.06	2.57	1.52
24	1-100	2.09	2.88	2.23	2.86	1.59
27	1-100	2.13	2.97	2.35	3.14	1.63
30	1-100	2.17	3.07	2.55	3.42	1.67

<sup>a</sup>Figures in this table are based upon cost figures presented in previous tables of this report.

#### Feeder Lambs

The results of cost comparisons for 75-pound feeder lambs are quite different from those discussed for the other species of livestock (Table 11). The total marketing cost for the terminal is significantly higher than those for both the low-cost and the average-cost auction when the producer is an equal distance from the terminal and auction. Costs for the high-cost auction, however, are consistently above those for the terminal for all ranges in prices considered.

The figures in Table 11 also reveal that the total marketing costs for feeder lambs, without exception, are higher for the terminal compared to all auctions when the distance to the terminal is 100 miles compared to 25 miles to the auction. The total marketing cost for feeder lambs ranges from a low of \$1 for the low-cost auction when lambs are selling for \$21 per hundredweight to a high of \$2.14 per head at the terminal when feeder lamb prices are at \$30 per hundredweight.

TABLE 11. TOTAL COSTS INCURRED IN MARKETING 75 POUND FEEDER LAMBS AT THE WEST FARGO TERMINAL COMPARED TO NORTH DAKOTA AUCTIONS, 1970<sup>a</sup>

Sale price/cwt.	No. of head	Terminal		Auctions (25 miles)		
		25 mi.	100 mi.	Avg.	High	Low
- selling cost per head -						
\$21 and below	1-50	\$1.48	\$1.87	\$1.27	\$1.54	\$1.05
	51-100	1.43	1.82	1.26	1.54	1.00
24	1-50	1.55	1.96	1.36	1.61	1.16
	51-100	1.50	1.91	1.34	1.61	1.16
27	1-50	1.62	2.05	1.46	1.69	1.23
	51-100	1.57	2.00	1.43	1.69	1.23
30	1-50	1.69	2.14	1.55	1.85	1.30
	51-100	1.64	2.09	1.52	1.85	1.30

<sup>a</sup>Figures in this table are based upon cost figures presented in previous tables of this report.

#### ADDITIONAL PRICE REQUIRED TO EQUALIZE NET RETURNS

It has been determined that markets vary in the level of costs assessed for selling livestock. Markets also vary in their reputation to receive either higher or more stable prices for different species or classes of livestock sold. When selecting the most economical market, it is necessary to consider both costs and returns. One method of comparing alternative markets is to determine the additional price required at the higher-cost market to equal the net returns received from marketing at a lower-cost market.

#### Equal Distance to Terminal and Auction

The figures in Table 12 are the additional prices per hundredweight required at the terminal and various auctions to provide an equal net return to a livestock producer. The negative values represent situations in which the total marketing costs at the terminal are less than at the auction. In these cases the price of livestock at the terminal could be lower than the price at the auction and still provide an equal amount of net return to the livestock producer.

The figures in Table 12 re-emphasize that one type of market will not always return the highest net return to a livestock seller for all species, prices, and weights of livestock sold.

A higher price is required at the average auction to equal the net return at the terminal for almost all weights and species of livestock considered when the producer is an equal distance from both types of markets. The additional price required at the average auction is as high as \$.41 per hundredweight for slaughter cattle when such cattle are selling for \$30 per hundredweight. The opposite is true, however, for 75-pound feeder lambs. An additional \$.16 to \$.28 per hundredweight is required at the terminal to equal the net returns at the average auction for 75-pound feeder lambs.

TABLE 12. ADDITIONAL PRICE PER HUNDREDWEIGHT REQUIRED AT THE TERMINAL MARKET 25 MILES FROM THE PRODUCER TO, EQUAL THE RETURNS FROM THE SALE OF VARIOUS WEIGHTS AND SPECIES OF ANIMALS MARKETING AT AUCTIONS 25 MILES FROM PRODUCER, NORTH DAKOTA, 1970

Weight and species	Sale price/cwt.	Number of head	Terminal vs. average auction costs price/cwt.	Terminal vs. high cost auction price/cwt.	Terminal vs. low cost auction price/cwt.
1,000# cattle	\$20	10 or less	\$-.20	\$-.33	\$-.04
		20	-.17	-.33	-.04
		50	-.12	-.33	-.04
	\$25	10 or less	-.30	-.48	-.04
		20	-.27	-.48	-.04
		50	-.18	-.48	-.04
	\$30	10 or less	-.41	-.63	-.04
		20	-.36	-.63	-.04
		50	-.25	-.63	-.04
	AVERAGE		-.25	-.48	-.04
500# feeder cattle	\$20	20 or less	.06	-.13	.22
		50	.09	-.07	.22
	\$25	20 or less	-.05	-.22	.12
		50	.00	-.22	.15
	\$30	20 or less	-.18	-.38	.12
		50	-.09	-.37	.12
	\$35	10 or less	-.27	-.56	.12
		20	-.25	-.56	.12
		50	-.16	-.52	.12
	AVERAGE		-.09	-.34	.15
200# slaughter hog	\$15	1-100	.12	-.10	.33
	\$18	1-100	.06	-.15	.31
	\$21	1-100	-.01	-.27	.26
	\$24	1-100	-.07	-.39	.25
	\$27	1-100	-.11	-.51	.25
	\$30	1-100	-.19	-.63	.25
			-.03	-.34	.28
75# feeder lamb	\$21 and below	1-50	.28	-.08	.57
		51-100	.23	-.15	.57
	\$24	1-50	.25	-.08	.52
		51-100	.21	-.15	.45
	\$27	1-50	.21	-.09	.52
		51-100	.19	-.16	.45
	\$30	1-50	.19	-.21	.52
		51-100	.16	-.28	.45
			.22	-.15	.51
	AVERAGE				

A higher price is required at the high-cost auction for all species and prices of livestock to equal the net returns at the terminal. The additional price required at the high-cost auction ranges from \$.07 per hundredweight for \$.25 feeder cattle to \$.63 for \$.30 slaughter cattle and slaughter hogs.

The terminal market has a \$.04 price advantage over the low-cost auction for slaughter cattle but has a disadvantage for all other weights and livestock prices considered. The additional price required at the terminal to equal the net returns at the low-cost auction reaches a high of \$.33 for slaughter hogs and \$.57 for feeder lambs.

#### 100 MILES TO TERMINAL AND 25 MILES TO AUCTION

The figures in Table 13 indicate that it generally does not require a very large increase in price at the terminal market 100 miles from the producer to equal the net returns from the sale of livestock marketed at auctions 25 miles from the producer.

For feeder cattle and slaughter hogs, the average additional price required at the terminal to equalize net returns of the average auction is \$.35 per hundredweight. The additional price required at the terminal is only \$.23 for slaughter cattle, but is \$.78 for feeder lambs compared to the average auction.

When the terminal market is compared to the high-cost auction, the average additional price required is insignificant for slaughter and feeder cattle and for slaughter hogs (\$.00, \$.12, and \$.05 per hundredweight, respectively). An average of an additional \$.41 per hundredweight is required for feeder lambs.

The additional price required at the terminal compared to the low-cost auction is quite significant and ranges from an average of \$.44 per hundredweight for slaughter cattle to an average of \$1.07 for feeder lambs.

More important than the average additional price required at the terminal is the variation in additional prices required for different sized lots and livestock prices. The actual differences range from -\$.18 for \$30 slaughter hogs to +\$1.12 for \$30 feeder lambs. This variation indicates that the additional price required varies widely, depending upon species, lot size, and livestock prices. These price differences will vary widely when different auctions are compared to the terminal because of the different levels of costs and methods used by individual auction market owners in determining market costs.

#### OTHER CONSIDERATIONS

Thus far this analysis has been mainly directed at costs of marketing livestock. Although costs are quite important, they are not the only factors that should be considered when selecting a livestock market outlet. Many of the other factors that are not normally thought of as marketing costs can certainly affect the net returns of livestock sellers.

TABLE 13. , ADDITIONAL PRICE PER HUNDREDWEIGHT REQUIRED AT THE TERMINAL MARKET 100 MILES FROM THE PRODUCER TO EQUAL THE RETURNS FROM THE SALE OF VARIOUS WEIGHTS AND SPECIES OF ANIMALS MARKETED AT AUCTIONS 25 MILES FROM PRODUCER, NORTH DAKOTA, 1970<sup>a</sup>

Weight and species	Sale price/cwt.	Number of head	Terminal vs. average auction costs price/cwt.	Terminal vs. high cost auction price/cwt.	Terminal vs. low cost auction price/cwt.
1,000# cattle	\$20	10 or less	\$.22	\$.08	\$.38
		20	.24	.08	.38
		50	.30	.08	.38
	\$25	10 or less	.18	.00	.44
		20	.21	.00	.44
		50	.30	.00	.44
	\$20	10 or less	.14	-.09	.51
		20	.19	-.09	.51
		50	.30	-.09	.51
	AVERAGE		.23	.00	.44
500# feeder cattle	\$20	20 or less	.42	.24	.59
		50	.45	.30	.59
	\$25	20 or less	.36	.20	.54
		50	.41	.20	.56
	\$30	20 or less	.29	.09	.59
		50	.38	.10	.59
	\$35	10 or less	.25	-.04	.64
		20	.27	-.04	.64
		50	.35	.00	.64
	AVERAGE		.35	.12	.60
200# slaughter hog	\$15	1-100	.43	.22	.64
	\$18	1-100	.41	.20	.65
	\$21	1-100	.36	.11	.64
	\$24	1-100	.33	.01	.65
	\$27	1-100	.31	-.09	.67
	\$30	1-100	.26	-.18	.70
			.35	.05	.66
75# feeder lamb	\$21 and below	1-50	.80	.44	1.09
		51-100	.75	.37	1.09
	\$24	1-50	.80	.47	1.07
		51-100	.76	.40	1.00
	\$27	1-50	.79	.48	1.09
		51-100	.76	.41	1.03
	\$30	1-50	.79	.39	1.12
		51-100	.76	.32	1.05
	AVERAGE		.78	.41	1.07

<sup>a</sup>Figures in this table are based upon figures presented in previous tables of this report.

### Assurance of Payment

Perhaps the most important factor to be considered in selecting a market outlet is the assurance that the producer will get paid for the livestock that he sells.

Livestock dealers, auction, and terminal markets that engage in interstate buying or selling of livestock, are required by law to post bond with the United States Department of Agriculture (USDA). Bonding of these agencies assures payment to the livestock seller. Livestock dealers that buy and sell livestock within the boundaries of a state (intrastate) are required to post bond by state law in North Dakota and Minnesota but not in South Dakota. All terminal and auction markets in North Dakota, South Dakota, and Minnesota are required to be bonded.

Packer buyers are not required to post bond under federal law, but they are required to be bonded under state law in 13 states, including North Dakota, but not in Minnesota or South Dakota.

A livestock producer that is considering the selling of livestock to an individual buyer should investigate the buyer carefully. If there are any questions concerning the financial status or business ethics of the buyer, then it would be advisable for the livestock seller to insist upon a registered check, money order, cash, or other assurances of payment before the livestock are loaded and shipped.

### Accurate Weights

The reliability and accuracy of the scale being used obviously will have a substantial influence on the amount of money a producer receives from the sale of livestock. All scales at terminals and auctions are checked periodically by the Packers and Stockyards Administration of the USDA. Before accepting scale weights for livestock to be sold to a private buyer, the seller should check to see that the scale to be used is inspected and that the actual weighing is done in the seller's presence or by a bonded weighmaster.

### Feed, Water, and Insurance

The availability of feed and water and insurance coverage at the market are other considerations which should be taken into account when selecting a market. If one or more of these services are not available at a particular market, then the seller should add the value or the cost of providing feed and insurance to obtain a market cost value that can be used in comparing alternative markets.

### Flexibility

Flexibility in selling livestock should also be considered. Many markets only operate one or two days per week, so if a livestock seller is dissatisfied with what he has been offered for his livestock, he has no

alternative but to return the livestock to his farm or to transport them to another market to be sold the next day.

The West Fargo terminal market has an advantage with respect to flexibility in that livestock can be retained at the yards up to a week without additional charge except for feed. In addition, the West Fargo terminal has an auction barn that livestock can be sold through if a price offered previously in private treaty is not satisfactory to the seller. Livestock can also be offered for sale at the auction barn and returned to the alleys to be sold in private treaty if a satisfactory offer is not obtained at the auction. The additional cost of selling through the auction market is \$.35 per head, but only slaughter, stocker, and feeder animals are allowed to be sold through the auction ring.

#### MARKETING INTELLIGENCE

The task of marketing livestock should begin long before the livestock ever leave the producer's farm or ranch. Familiarity with market prices and trends can be a rewarding influence on the returns that a livestock producer receives. Knowledge of factors affecting livestock prices, such as range conditions, crop outlook, number and weight of livestock on feed, and seasonal price movements can be useful to a producer in gearing his individual production practices to these expected market conditions.

As the selling date approaches, the producer should be making preparation for marketing his livestock. Such preparation should include a comparison of costs and considerations of alternative markets and the preparation of livestock for transit. It might also be useful to consult with commission men and contact potential buyers a week to a month before livestock are sold.

The largest marketing cost factor, shrink, can be reduced by proper management and planning. (See Appendix for suggestions in reducing losses from shrink, bruises, and death.)

#### DIRECT MARKETING

Most livestock producers find it difficult to make a valid comparison of direct marketing<sup>7</sup> with other marketing channels. The main reason for this difficulty is that all terms of trade are usually negotiable between the buyer and seller when livestock are sold direct. In other words, the conditions of sale, including a listing of costs and services available, are not standardized in direct marketing as they are in auction and terminal marketing channels.

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<sup>7</sup>Direct marketing as used in this report refers to direct-to-packer sales, sales among producers, and country purchases of dealers, order buyers, and feedlot operators.

Livestock producers are often under the impression that costs associated with terminal or auction markets are eliminated when livestock are sold direct. It is impossible to completely eliminate marketing costs. Costs of marketing can be reduced by intelligent marketing decision, but many of the costs associated with marketing are usually only shifted from one individual to another.

When livestock are sold direct, the seller does not incur commission, feed, and yardage costs. But the seller does incur a certain amount of costs because of time spent contacting and negotiating with the buyer on the terms of sale. Many of these costs to the seller are repeated, depending upon the number of buyers that are contacted.

The livestock buyer also incurs certain costs that are associated with locating and observing livestock that he expects to purchase. Individual livestock buyers do not purchase every lot of livestock that they negotiate for, so many of these costs are also repeated. The buyer must take the costs that he incurs from locating and observing livestock on many farms and apply these costs to the livestock that he does purchase. The buyer attempts to get reimbursed for his costs of buying livestock by offering a lower price to the seller and/or requesting the seller to accept certain marketing costs, such as shrink and transportation.

The fact that the conditions of sale for direct marketing are not standardized does not mean that it is impossible to compare this method of selling with other methods, but it does require that a different method of comparison be used.

The first step required in comparing direct to nondirect marketing is a specification and agreement with the buyer on the nonprice conditions of trade. Or, if the price is negotiated first, then all other nonprice conditions should also be specified and agreed upon before the sale is finalized. The nonprice conditions should include an agreement on which party is responsible for shrink, transportation, and insurance costs. The location at which the livestock are weighed and a request for an overnight stand without feed should be included in agreeing upon shrinkage costs.

Unless livestock are weighed prior to hauling and again at the destination, it is impossible to know the exact amount, or percent, that animals will shrink. For this reason, direct buyers often use a "pencil shrink" to estimate the expected loss in weight and value from loading and hauling livestock. This method deducts a given expected shrink from the "on-the-farm" weight as the basis for determining a selling weight.<sup>8</sup> The shrinkage figure offered by the livestock buyer should be compared with former experience and actual data on shrink to determine the reasonableness of the offer.

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<sup>8</sup>Williams, op. cit., p. 655.

Livestock producers often use a pricing reference from an established market, such as a terminal, auction national provisioner ("yellow sheet"), or Cattle-Fax (cattle prices provided by the American National Cattlemen's Association). Livestock price quotations from various sources are available by radio, television, newspapers, market newsletters, telephone, teletype, and by mail.

By using pricing references and by making adjustments for location, a producer has a reliable basis for estimating the price and net returns he would experience from marketing his livestock through one of the established markets, usually an auction or terminal. If the seller does not receive offers from direct buyers which provide a net return equal to or greater than that expected from the established market, the seller would logically reject these offers and employ the established market to sell his livestock.

Assuming the objective of the livestock seller is to maximize his net returns (total returns from the sale of livestock minus the total costs of marketing livestock), there is a procedure which can be used to compare a direct market offer with the net returns of alternative market outlets.

For purposes of explaining the way that a direct market offer may be analyzed, three possible conditions have been selected:

#### Condition 1

Condition 1 represents a situation in which the buyer accepts all marketing costs. To compare net returns from a direct buying offer under this condition, the seller should first determine the difference in the total marketing costs of the established market (terminal or auction) compared to the direct marketing costs. Under this situation the difference is equal to the total marketing costs of the established market because direct market costs are zero. The difference in total marketing costs is then divided by the average weight of the animals to be sold and multiplied by 100. This will express the difference in marketing cost on a per hundred-weight basis. Subtracting the cost per hundredweight for marketing from the expected price at the established market will yield the price per hundred-weight needed from direct marketing to equal the net returns that would be obtained from the established market.

For example, if a producer who is located 100 miles from the terminal market expects \$25 per hundredweight for 1,000 pound slaughter steers at the terminal market, he would need \$23.39 per hundredweight on the farm (see Table 14) assuming the buyer accepts all marketing costs including shrink:

$$\text{TOTAL MARKETING COST IN \$ PER CWT.} = \frac{\text{Total marketing cost/animal at the terminal market}}{\text{Weight per animal}} \times 100$$

$$\text{TOTAL MARKETING COST IN \$ PER CWT.} = \frac{\$16.06}{1,000\#} \times 100 = \$1.61$$

$$\text{"ON-THE-FARM" PRICE IN \$ PER CWT.} = \$25.00 - \$1.61 = \$23.39$$

$$\text{"ON-THE-FARM" PRICE IN \$ PER CWT.} = \underline{\underline{\$23.39}}$$

The \$23.39 is the "on-the-farm" price needed from direct marketing to equal the net returns from a sale price of \$25.00 per hundredweight at the terminal market.

The figures in Table 14 suggest the price needed from direct marketing which will equal the net returns at the terminal market when the buyer assumes all marketing costs and does not apply a pencil shrink. For the direct market prices in the table to be valid, the livestock would need to be weighed at the seller's farm. Too often a seller will accept a certain pencil shrink and then agree to keep the livestock off feed for a certain number of hours and to weigh them on a scale some distance from the seller's farm. If such an agreement is made, the pencil shrink figure agreed upon should reflect the fact that livestock shrink the most during the first few hours off feed and the first few miles in transit.

Shrinkage is usually the single-most important cost item in marketing livestock. Therefore, it should be noted that the sizable differences in the prices at the terminal compared to the needed direct market prices are largely due to the cost of shrink.

The fact that very few sellers have scales located on the farm for weighing livestock, and that buyers are understandably reluctant to accept weights from privately-owned scales, makes this marketing condition very uncommon. However, it is still necessary to determine the direct price needed when the buyer accepts all marketing costs because the prices computed provide the necessary basis for developing other conditions of sale.

#### Condition 2

Condition 2 represents a situation in which the buyer accepts all costs of marketing except shrink.

Tables are available which provide the expected loss in price per hundredweight due to shrink. However, if a producer does not have access

TABLE 14. PRICE NEEDED FROM DIRECT MARKETING TO EQUAL NET RETURNS OBTAINED AT THE TERMINAL MARKET WHEN THE BUYER ACCEPTS ALL MARKETING COSTS AND DOES NOT APPLY A PENCIL SHRINK, NORTH DAKOTA, 1970<sup>a</sup>

Species and weight	Expected price/cwt. at terminal	Direct marketing price/cwt. needed
1,000# slaughter cattle	\$20	\$18.57
	25	23.39
	30	28.22
500# feeder cattle	20	18.34
	25	23.19
	30	28.04
	35	32.89
200# slaughter hog	15	13.70
	18	16.65
	21	19.61
	24	22.56
	27	25.51
	30	28.46
75# feeder lamb	15	12.51 <sup>b</sup>
		12.57 <sup>c</sup>
	18	15.51 <sup>b</sup>
		15.57 <sup>c</sup>
	21	18.51 <sup>b</sup>
		18.57 <sup>c</sup>
	24	21.39 <sup>b</sup>
		21.45 <sup>c</sup>
	27	24.27 <sup>b</sup>
		24.33 <sup>c</sup>
	30	27.15 <sup>b</sup>
		27.21 <sup>c</sup>

<sup>a</sup>Figures in this table are based upon cost figures presented earlier in this report and assume a distance of 100 miles to the terminal.

<sup>b</sup>1-50 head in consignment.

<sup>c</sup>51-100 head in consignment.

to such tables, a simple formula can be applied to determine the loss due to various shrink percentages. That formula is:

$$\text{SHRINKAGE COST IN DOLLARS PER CWT.} = \text{SALE PRICE PER CWT.} \times \% \text{ SHRINK}$$

Factors discussed earlier with respect to shrink should be considered in deciding upon the "percent shrink" figure to be used in the above formula. The percent shrink figure should also be based upon the actual distance to the direct buyer's location and not the distance to the terminal market.

The shrink cost in dollars per hundredweight is then added to the needed return from direct marketing, such as in Table 14. The resulting figure is the price needed from direct marketing to equal the net returns from the established market when the seller agrees to incur shrink losses. For example, if a 3 percent pencil shrink is deducted, the seller would apply the formula below:

$$\text{SHRINK IN \$ PER CWT.} = \text{Price per cwt.} \times \% \text{ shrink}$$

$$\text{SHRINK IN \$ PER CWT.} = \$25.00 \times 3\% = \$.75$$

$$\text{"ON-THE-FARM" PRICE IN \$ PER CWT.} = \$23.39 + \$.75 = \$24.14$$

$$\text{"ON-THE-FARM" PRICE IN \$ PER CWT.} = \underline{\underline{\$24.14}}$$

The \$24.14 is the price now needed to equal the net returns from the \$25 per hundredweight price at the terminal when the buyer accepts all marketing costs except shrink.

### Condition 3

Condition 3 represents a situation in which the seller accepts all costs of marketing including shrink, transportation, and insurance.

Under this condition the only marketing costs that the seller does not pay are the selling costs, which include commission, yardage, feed, and bedding.

The direct price needed when the seller accepts shrink, transportation, and insurance costs is determined by dividing the total transportation and insurance cost by the total weight of the livestock to be sold (or could also be obtained by dividing the transportation and insurance cost per animal by the average weight of animals to be sold) and multiplying by 100. This calculation will express the transportation and insurance cost on a per hundredweight basis. The transportation and insurance cost per

hundredweight is then added to the previous price needed when the buyer accepts all marketing costs except shrink, which was calculated under Condition 2.

For example, assume that 1,000-pound slaughter cattle are to be sold, the direct buyer is 100 miles from the seller, a 3 percent shrink figure is used, and similar cattle at the terminal market are selling for \$25 per hundredweight. By using figures from Tables 5 and 6 the total transportation and insurance cost is computed to be \$4.28 per head. Applying the formula:

$$\text{TRANSP. AND INS. IN \$ PER CWT.} = \frac{\text{Transp. \& ins. per animal}}{\text{Average weight of animals X 100 to be sold}}$$

$$\text{TRANSPORTATION AND INSURANCE COST IN \$ PER CWT.} = \frac{\$4.28}{1,000\#} \times 100 = \$.43$$

$$\text{"ON-THE-FARM" PRICE IN \$ PER CWT.} = \$24.14 + \$.43 = \$24.57$$

$$\text{"ON-THE-FARM" PRICE IN \$ PER CWT.} = \underline{\underline{\$24.57}}$$

The \$24.57 is the price now needed to equal the net returns from the \$25 per hundredweight price at the terminal when the seller accepts all costs of marketing including shrink, transportation, and insurance.

If the seller employs a livestock commission man to sell his livestock to a direct buyer, the cost of this commission can be added to the additional price needed from direct sale in the same manner that transportation and insurance costs were added. Such an addition will bring the needed direct market price and the terminal market price even closer together.

The \$.43 differential between the \$25 per hundredweight at the terminal and the \$24.57 from the direct buyer for 1,000-pound cattle represents a cost saving from commission, yardage, feed and bedding which would have been incurred by the seller at the terminal. It has been discussed, however, that the buyer incurs costs in direct buying, so it is reasonable to expect that the direct buyer must purchase the livestock at a price somewhat below the price per hundredweight at the terminal or auction in order to cover his costs of locating and negotiating for livestock that are purchased direct.

The livestock seller should also add a certain value per hundredweight to the direct price needed in order to get reimbursed for time and expenses incurred in contacting and negotiating with potential buyers.

The price differential between the terminal market price and the needed direct market price represents a negotiable price area for the buyer and seller. It will be difficult for the seller to negotiate a price at, or very near, the terminal market price because of the need of the buyer to cover his costs of direct buying. However, the seller should never accept a price below the needed direct market price. Accepting such a price will only result in a lower net return to the seller than could have been obtained from selling at the terminal or auction.

APPENDIX

APPENDIX TABLE 1. COSTS OF MARKETING LIVESTOCK AT WEST FARGO TERMINAL MARKET, WEST FARGO, NORTH DAKOTA, FEBRUARY, 1970<sup>a</sup>

Item	Yardage	Commission
Bulls (700# plus)	\$2.15	\$2.20
Cattle (400# plus)	1.38	1.42
Calves (300-400#)	.72	1.42
Calves (under 300#)	.72	.85
Hogs	.45	.50
Sheep (1st 50 head)	.27	.38
Sheep (2nd 50 head)	.27	.28
Sheep (next 125 head)	.27	.13
(Max. of \$40 yardage on 225 sheep in one consignment)		
OTHER CHARGES		
Bedding (varies with species and stay)	2-5¢ per head	
Feed (varies with species and requests)	0-30¢ per head	
Ring fee (all animals passing through auction)	35¢ per head	
Brand inspection (cattle only)	20¢ per head	
Transit insurance (paid to commission firm based on mileage of haul)		
VETERINARY SERVICES AVAILABLE		
Dehorning	\$1.00 per head	
Castrating	1.00 per head	
Short-term Bangs test	1.00 per head	
Long-term Bangs and T.B. test	1.00 per head	
Pregnancy test	1.25 per head	
Blackleg vaccination	.30 per head	
Bangs inspection (all she stock)		
North Dakota	.25 per head	
Minnesota	.50 per head	
Other vaccinations	.90-2.00 each	

<sup>a</sup>The charges used for this report are as follows:

	<u>1,000# Cattle</u>	<u>500# Cattle</u>	<u>200# Hogs</u>	<u>75# Lambs</u>
Commission	\$1.42	\$1.42	\$ .50	\$ .38
Yardage	1.38	1.38	.45	.27
Feed and bedding	.20	.20	.10	.02
TOTAL	\$3.00	\$3.00	\$1.05	\$ .67

APPENDIX TABLE 2. COSTS OF MARKETING LIVESTOCK AT A SELECTED AUCTION MARKET  
IN NORTH DAKOTA, 1970

COMMISSIONS:

Cattle:

- |  |             |
|--|-------------|
| 1. a. First \$3,000  | 2.5%        |
| b. Next \$3,000  | 2.0%        |
| c. Next \$4,000  | 1.5%        |
| d. Over \$10,000   | 1.0%        |
| e. Minimum per head (commercial)   | \$1.00/head |
| f. No maximum per head   |             |
| 2. Cow-calf pairs, dairy, etc. (specials)  | 3.0%        |
| 3. Registered cattle rates worked out between<br>consignor and auction. . . (depend on<br>advertising done by market for consignor,<br>etc.) |             |

Hogs:

- |  |                  |
|--|------------------|
| 1. Feeder and slaughter                  | 3.0%             |
| --Minimum charge per head                | \$ .50/head      |
| 2. Exception: breeding boars and females | \$1.50/head min. |

Sheep:

- |                              |                  |
|------------------------------|------------------|
| 1. All sheep                 | 3.0%             |
| --Minimum charge per head    | \$ .50/head      |
| 2. Exception: breeding bucks | \$1.00/head min. |

Horses:

- |  |             |
|--|-------------|
| 1. All classes                                   | 5.0%        |
| 2. Minimum charge per slaughter or<br>work horse | \$3.00/head |
| 3. Minimum charge per saddle horse               | \$6.00/head |

YARDAGE:<sup>a</sup>

Cattle:

- |               |             |
|---------------|-------------|
| 1. All cattle | \$ .45/head |
|---------------|-------------|

Sheep:

- |              |             |
|--------------|-------------|
| 1. All sheep | \$ .10/head |
|--------------|-------------|

Hogs:

- |             |             |
|-------------|-------------|
| 1. All hogs | \$ .10/head |
|-------------|-------------|

Horses:

- |               |             |
|---------------|-------------|
| 1. All horses | \$ .45/head |
|---------------|-------------|

FEED:<sup>b</sup>

Cattle:

- |               |             |
|---------------|-------------|
| 1. All cattle | \$ .45/head |
|---------------|-------------|

Hogs:

- |             |           |
|-------------|-----------|
| 1. All hogs | No Charge |
|-------------|-----------|

Sheep:

- |              |             |
|--------------|-------------|
| 1. All sheep | \$ .10/head |
|--------------|-------------|

Horses:

- |               |             |
|---------------|-------------|
| 1. All horses | \$ .45/head |
|---------------|-------------|

<sup>a</sup>Feed and yardage are charged whether cattle are sold or not.

<sup>b</sup>Consignor can provide extra feed for show stock, etc.

APPENDIX TABLE 3. COSTS OF MARKETING LIVESTOCK AT ANOTHER SELECTED AUCTION MARKET, NORTH DAKOTA, 1970

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COMMISSIONS:

Cattle:

1. a. First \$3,000	2.5%
b. Next \$3,000	2.0%
c. Next \$4,000	1.5%
d. Over \$10,000	1.0%
e. Minimum per head (commercial)	\$1.00/head
f. Maximum per head (commercial)	\$4.00/head
2. Stock cows, cow-calf pairs, dairy cows	3.0%
3. Registered cattle:	4.0%
Minimum per head (bulls)	\$15.00
Minimum per head (females)	\$7.50

Hogs:

1. Ordinary	3.0%
2. Breeding boars - bred gilts	5.0%
3. Minimum per head	\$ .50

Sheep:

1. Lambs	\$ .50/head
2. Ewes (selling less than \$10.00 per head)	\$ .50
3. Ewes (selling more than \$10.00 per head)	\$1.00
4. Rams (selling less than \$15.00 per head)	\$1.00
5. Rams (selling more than \$15.00 per head)	\$1.50
6. Registered sheep (all types) (over \$20.00 per head)	\$2.00

Horses:

1. All classes	5.0%
2. Minimum per head	\$3.00

YARDAGE:

Cattle:

1. Ordinary (no charge under 150#)	\$ .45/head
2. Bulls (over 800#)	\$1.00/head

Hogs and Sheep:

1. All classes	\$ .15/head
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Horses:

1. All classes	\$ .50/head
----------------	-------------

FEED:

Cattle:

1. All classes (no charge under 150#)	\$ .45/head
---------------------------------------	-------------

Hogs:

1. All classes (no charge for weaning pigs)	\$ .15/head
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Sheep:

1. All classes	\$ .15/head
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Horses:

1. All classes	\$ .50/head
----------------	-------------

(Grain fed to cattle, sheep and horses at consignor's request at cost plus 20%.)

BRANDING:

First 20 head	\$ .50/head
All over 20 head	\$ .35/head

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METHODS OF REDUCING LIVESTOCK LOSSES  
FROM SHRINK, BRUISES, AND DEATH

1. Taking livestock off feed and water approximately six hours will reduce the chance of the livestock getting sick from traveling and will result in cleaner looking livestock when unloaded. The livestock will also be in better condition to eat and drink and, therefore, gain back part of the excretory shrink through refill if feed and water are available at the destination. Providing water and adding or increasing the portion of native hay in the ration for cattle and sheep prior to hauling will also reduce shrinkage.
2. Pens and equipment should be used that allow livestock to be sorted and loaded with a minimum amount of excitement and without injury.
3. Hauling livestock in an open-topped unit in cold weather causes considerable stress and discomfort to the livestock and increases shrinkage. Transportation units that have the front and top completely enclosed and have slotted sides for cross ventilation cause the least amount of stress to livestock.
4. Sand bedding provides a desirable floor cover particularly for warm weather transportation. Wetting the sand is a very desirable practice for hauling hogs during warm weather.
5. Cold water should never be sprayed on livestock that are hot from being transported during warm weather. A very fine mist of water is acceptable, but a practice of applying water to the floor of the transportation unit is more desirable, particularly for hogs.
6. Partitions should be used to separate species of livestock hauled on the same load.

7. Livestock should be loaded so that the animals are neither overcrowded nor is there excess space provided. If excess space does occur, partitions should be used.
8. Partitions should be installed every 10-12 feet for sheep and hogs to prevent piling and smothering. Cattle should also be partitioned, particularly if the transportation unit is not adequately loaded so that shifting of the animals occurs when the unit is started or stopped.
9. Animals that are crippled or badly bruised should be penned separately from the rest of the animals on the hauling unit.
10. Smooth and careful driving practices result in less shrink, bruise, and death losses of livestock.
11. When the weather is warm, sellers should consider early morning or late evening transportation because livestock tend to shrink less when hauled during cooler temperatures.
12. The seller should assure that the person hauling the livestock has insurance, not only on the vehicle, but also on the cargo of livestock as well (refer to the discussion on insurance presented in the text of this report).

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