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PRICE INFORMATION AND MEAT MARKETING IN TEXAS AND OKLAHOMA

U.S. DEPARTMENT OF AGRICULTURE / ECONOMIC RESEARCH SERVICE
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CONTENTS

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HIGHLIGHTS

Recent developments in the livestock and meat industry in the Southern Plains (Texas and Oklahoma) necessitate changes in the marketing information available to producers and meat handlers in that area. Economic forces generating such changes include (1) a rapidly expanding cattle feeding industry, (2) the production and consumption of large volumes of relatively light beef carcasses for which adequate market information is often not available, and (3) the changing structure of the Southern Plains meat industry.

In 1964, meat wholesalers and retailers in the Southern Plains used four to five principal sources of price information, depending upon size of firm, type of meat handled, type of customer, and purchasing and sales area. The primary sources of price information were other packers, the National Provisioner (Yellow Sheet), local chains and retailers, and price reports issued by the Market News Service of the U.S. Department of Agriculture.

Significant variation existed in beef prices between selected pairs of markets, including Southern Plains and non-Southern Plains markets, on a less-than-carload basis for specified weights and grades of beef from 1960 to 1964. Although transport costs are an important factor in establishing price differences among major markets, the existence of significant fluctuations in monthly price differences suggests that local supply and demand considerations may alter some of the effects of transport cost differences. Price quotations from competing markets, therefore, frequently are not representative of local supply and demand conditions.

The principal price-making firms in the Texas meat industry were the larger packing firms, the large-volume retail firms, and associated retail groups. Most packers used rail costs as a basis for establishing prices at the slaughter level. Retailers were dependent primarily upon price quotations from competing packers and upon their own bargaining position in the market when negotiating prices at the wholesale level.

The meat industry in the Southern Plains is primarily beef oriented. Sufficient volumes of beef and calf were merchandised by packers, wholesalers, and retailers during 1964 for establishing an accurate, comprehensive, and timely price reporting system. Volumes of veal and lamb handled were generally considered inadequate to reflect representative and accurate prices on a continuous basis.

In 1964, beef, calf, veal, and lamb were merchandised mostly in carcass form at the wholesale level. Substantial quantities of beef, however, were also merchandised in primal cuts, or as hamburger or boneless beef. Consequently, many firms stated a strong preference for price quotations for both beef carcasses and primal cuts, and for boneless beef and hamburger meat at a stated level of fat and other additive materials. Calf prices quoted in carcass form were preferred.

Daily selling and buying patterns differed by type of firm in 1964. Packers sold 80 percent of their weekly requirements on Monday, Wednesday,

and Thursday. Prices quoted on a weekly basis, consequently, were considered inadequate for daily pricing decisions.

This report suggests a price reporting system that would include daily quotations for the Dallas-Fort Worth and Oklahoma City markets, supplemented by weekly quotations for the Dallas-Fort Worth, Houston, San Antonio, Amarillo-Lubbock, Tulsa, and Oklahoma City markets. This system would combine features of both daily and weekly systems, would satify the timeliness criterion, and appears economically feasible.

PRICE INFORMATION AND MEAT MARKETING IN TEXAS AND OKLAHOMA

by

Raymond A. Dietrich 1/

INTRODUCTION

Orderly and competitive pricing of livestock and meat in a dynamic market is directly linked to the information buyers and sellers can obtain on current market prices and the supply and demand factors producing these prices. In the past two decades, livestock and meat marketing has undergone considerable change, resulting in a demand for updated marketing information services.

Traditionally, market news has consisted primarily of information on price and, to some extent, on volume for designated commodities and markets. Accurate, comprehensive, and timely price information is essential in a free competitive marketing system if prices are to guide production and the flow of products through the various marketing channels from producer to consumer.

If accurate, timely, and comprehensive market information is available, packers, jobbers, retailers, and other firms buying or selling meat and meat products can make timely alterations in their sales territory and their method of shipment or packaging to minimize losses or take advantage of favorable prices. Accurate and timely market information also serves as a price stabilizer by facilitating trading and fostering competition among local as well as more distant buyers and sellers. For example, representative price information allows firms to analyze the quality, type, and form of meat demanded in a particular market for a given time period.

This study was initiated to evaluate existing price reports in the Southern Plains with respect to adequacy of product coverage, reflection of price determining forces, and timeliness of dissemination; and to provide guidelines for establishing a more comprehensive, accurate, and timely market news system there.

An examination of the physical characteristics of the livestock and meat products produced and marketed in the Southern Plains and an analysis of purchase and distribution patterns of firms in this region had to be made.

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Procedure

In 1964, slaughtering firms, jobbers, and retail meat handling firms in Texas and Oklahoma were surveyed to determine the source, type, and adequacy of price information available. Data were also obtained on volumes of meat handled, and procurement and selling practices. 2/ Data were obtained from grocery retail firms with 10 or more supermarkets or affiliated stores in Texas and Oklahoma and all slaughtering firms in Houston, San Antonio, Dallas-Fort Worth, Oklahoma City, and Tulsa. The remaining slaughtering firms, grocery retail firms, and jobbers were interviewed on a stratified random-sample basis.

Wholesale price data for dressed beef in the major metropolitan areas of Texas and Oklahoma in 1963-64 were obtained in order to analyze the pricing structure within the Southern Plains. Monthly wholesale prices of dressed steer beef for 1960-64, published by the U.S. Department of Agriculture, were also obtained by weight and grade for carload and less-than-carload lots to compare the price structure of this beef market with that of other major markets in the United States.

SOURCES AND ADEQUACY OF PRICE INFORMATION

The general framework within which market news is reported is the single market system; that is, market information is collected and assembled by individual market news offices for dissemination to the news media, to individual firms, and to other market news services. Leased wire services facilitate almost instantaneous transmission of market information between the various market news offices, but only private firms or individuals who have leased wire services installed in their establishments have immediate access to this information. Many firms cannot afford leased wire services, and consequently receive market information by mail.

One of the advantages of the single market system is that local market information can be assembled, analyzed, and disseminated within a relatively short time. However, it is also desirable to have a system that facilitates the daily summarization of marketing activities for several markets within a given area and that, in addition, disseminates information from nonlocal markets to local firms. This could best be done from a centralized regional office.

Dissemination of market news from a centralized regional office offers several advantages. Transmitting price and other market information from individual market news offices to a central office would facilitate the daily summarization of activities in several markets within a given area. Both local and national data would be readily available for compilation of weekly and monthly releases. Other advantages are uniformity of price information

2/ Packer branch houses were not included in the survey since these firms generally specialize in fresh and cured pork, and also receive most of their supplies from out-of-State sources.

relative to weights and grades and less duplication in market releases. Disadvantages are the possible loss of timeliness in dissemination of local market information, and the need for a skilled supervisor or analyst to compile accurate and representative reports from various markets within the region.

Current Sources of Price Information

Depending upon size of carcass and type of meat handled, purchasing and sales area, type of customer, and other characteristics, Southern Plains packers, jobbers, and retailers used four principal sources of price information in 1964: other packers, the National Provisioner "yellow sheet," local chains and retailers, and price reports issued by the Market News Service of the U.S. Department of Agriculture (table 1). Retailers and jobbers acquired most of their price information from local packer salesmen or from weekly price bid sheets submitted to prospective customers by packers. Packers generally obtained knowledge of other packers' prices through daily price bargaining with potential customers in the market.

Retailers and jobbers regarded local packers as the most important source of price information (table 2). Many retailers and jobbers citing the yellow sheet as a pricing guide did not receive this information directly from the National Provisioner office; it was made available to them by packers.

Depending upon the size of operation, packers cited either the yellow sheet or other packers as the most important source of price information (table 3). Information from the National Provisioner was used most extensively by the large packers, who obtained it daily by wire or mail, weekly by mail, or by a combination of these. Several of the larger packers also obtained price information over prepaid wire services directly from the Department of Agriculture market news office. Medium and small packers whose volume was too small for them to afford price information on a commercial basis acquired much of their price information by observing the pricing policies of large packers, or by having access to the yellow sheet in other packers' offices. A large proportion of the market news information used by packers consisted of price quotations on live animals from terminal markets and auctions rather than on dressed meat.

Adequacy of Current Price Information

Carcass Weight Ranges

In 1964, more than one-third of the packers and retailers in Oklahoma, and approximately one-fourth in Texas, indicated that price information relative to carcass weight ranges was inadequate (table 4). Since most jobbers and many of the medium and small packers and retailers acquire their market information from larger firms, a greater percentage of the large packers and retailers than of any other group expressed such dissatisfaction (appendix tables 42 and 43).

Firms expressing dissatisfaction stated that comprehensive price information was generally not available for a large percentage of the beef and calf brought and sold in the Southern Plains. Most of the price quotations on

Table 1.--Percentages of packers, retailers, and jobbers using specified sources of price information, Texas and Oklahoma, 1964

State and type of meat handler	Local packers	Local chains	National provisioner yellow sheet	USDA dressed market news	USDA live market news	Other
	Percent					
Texas:						
Packers	52.1	31.2	44.8	4.2	42.7	27.1
Retailers	100.0	15.4	38.5	2.6	28.2	28.2
Jobbers	87.7	17.5	29.8	5.3	26.3	40.4
Oklahoma:						
Packers	51.4	32.4	54.1	13.5	21.6	0
Retailers	91.7	0	33.3	8.3	16.7	8.3
Jobbers	84.6	7.7	38.5	0	15.4	7.7

Table 2.--Percentages of packers, retailers, and jobbers citing specified sources of price information as most important, Texas and Oklahoma, 1964

State and type of meat handler	Yellow sheet 1/	Local packer	Local chain	Yellow sheet and local packer	Yellow sheet and local chain	Rail cost 2/	USDA market news 3/	Other 4/	Total
	Percent								
Texas:									
Packers	25.5	28.6	1.0	5.1	3.1	8.2	10.2	18.3	100.0
Retailers	31.0	59.5	0	9.5	0	0	0	0	100.0
Jobbers	14.3	67.9	0	7.1	0	0	10.7	0	100.0
Oklahoma:									
Packers	46.0	35.1	5.4	0	0	8.1	5.4	0	100.0
Retailers	25.0	66.7	0	0	0	0	8.3	0	100.0
Jobbers	16.7	83.3	0	0	0	0	0	0	100.0

1/ National Provisioner.
2/ Conversion of live animal prices to a dressed carcass basis.
3/ Includes both live and dressed reports.
4/ Includes such sources as "own knowledge of business," "newspaper and magazine articles," "radio," "television," and "use all possible sources."

Table 3.--Percentage of packers citing specified sources of price information as most important, Texas and Oklahoma, 1964

State and size of packer	Yellow sheet	Local packer	Local chain	Yellow sheet and local packer	Yellow sheet and local chain	Rail cost	USDA market news 1/	Other 2/	Total
					Percent				
Texas:									
Large	43.9	14.0	1.8	7.0	5.3	7.0	7.0	14.0	100.0
Medium	0	46.2	0	3.8	0	11.5	11.5	27.0	100.0
Small	0	53.3	0	0	0	6.7	20.0	20.0	100.0
Total	25.5	28.6	1.0	5.1	3.1	8.2	10.2	18.3	100.0
Oklahoma:									
Large	58.3	25.0	8.3	0	0	4.2	4.2	0	100.0
Medium	25.0	50.0	0	0	0	25.0	0	0	100.0
Small	20.0	60.0	0	0	0	0	20.0	0	100.0
Total	46.0	35.1	5.4	0	0	8.1	5.4	0	100.0

1/ Includes both live and dressed reports.

2/ Includes such items as "own knowledge of business," "newspaper and magazine articles," "radio," "television," and "use all possible sources."

dressed beef in the United States are for beef carcasses weighing more than 500 pounds, and in 1964, 70 percent of the beef and calf carcasses handled by Texas and Oklahoma packers weighed less than 500 pounds.

In general, packers and retailers stated that price quotations based on weight ranges of 200 pounds or more and price spreads of $3 or more per hundredweight are difficult to interpret.

Table 4.--Adequacy of price information relative to carcass weight ranges of beef, calf, veal and lamb, according to Texas and Oklahoma meat handlers, 1964

State, and type of meat handler	Meat handlers reporting information--		Total
	Adequate	Inadequate	
	Percent		
Texas:			
Packers	73.5	26.5	100.0
Retailers	75.6	24.4	100.0
Jobbers	84.3	15.7	100.0
Oklahoma:			
Packers	58.3	41.7	100.0
Retailers	66.7	33.3	100.0
Jobbers	100.0	1/	100.0

1/ Less than 0.05 percent.

Trading in the meat industry is generally conducted on the basis of extremely small margins. Consequently, large profits or losses often evolve around price concessions of 25 cents or less per hundredweight. Numerous firms suggested that price quotations would be more effective if either the modal price or a weighted price were quoted in addition to the price range for a given weight and grade. Table 5 compares heifer and steer beef prices for a 2-week period during 1964 as quoted by a market news office and as calculated by use of weighted averages. It is evident that although the market news price ranges are relatively narrow, the inclusion of an accurate weighted-average price for a given weight range and grade would be more nearly indicative of actual market transactions than are the present price ranges. The midpoint of the price range is not considered an accurate barometer of market prices since it generally does not represent the bulk of the market transactions.

Grades of Meat

More packers, retailers, and jobbers were satisfied with the available price information relative to grades or quality of meat handled (table 6) than were satisfied with the price information relative to the various carcass weights. Medium-sized packers (those slaughtering 300,000 to 2 million pounds liveweight annually), were generally less satisfied with the available price

information relative to grades or quality of meat than the others (appendix table 44). Firms expressing dissatisfaction with the available price information for different grades of dressed beef often purchased or sold large volumes of beef graded U.S. Standard or lower.

Table 5.--Conventional market news reporting versus a weighted-average system, dressed steer and heifer beef prices for a 2-week period in July 1965

Grade and weight group (pounds)	Conventional market news		Weighted average system	
	First week	Second week	First week	Second week
		Dollars		
USDA Choice:				
400-500	44.00-46.50	44.00-46.50	44.62	43.77
500-600			45.69	44.60
600-700			46.43	45.91
700-800			47.00	46.00
USDA Good:				
400-500	1/42.00-44.00	1/42.00-44.50	42.79	41.97
500-600			43.00	43.00
600-700			43.76	43.91
700-800			46.00	46.00

1/ Quotations are for 350-650 pound USDA good carcasses.

Table 6.--Adequacy of price information relative to grades or quality of beef, calf, veal, and lamb according to Texas and Oklahoma meat handlers, 1964

State and type of meat handler	Meat handlers reporting information		Total
	Adequate	Inadequate	
	Percent		
Texas:			
Packers	83.1	16.9	100.0
Retailers	87.8	12.2	100.0
Jobbers	86.3	13.7	100.0
Oklahoma:			
Packers	75.0	25.0	100.0
Retailers	91.7	8.3	100.0
Jobbers	100.0	1/	100.0

1/ Less than 0.05 percent.

Timeliness of Current Price Information

More firms in Texas and Oklahoma expressed satisfaction with the timeliness of price information (table 7) than with the coverage of carcass weight ranges or grades. These results were not unexpected, since many of the larger packers and retailers either possess or have access to wire services and receive price quotations directly from major markets throughout the United States.

Firms expressing concern with the timeliness of price information were those not large enough to afford wire service. Numerous packers and retailers indicated that quotations representing prices 2 days old or older, even though highly accurate, were frequently inadequate for making optimum pricing decisions in the dynamic and rapidly moving livestock and meat industry.

Although all market news is historical in nature, timeliness is essential if price information is to be used for optimum decision making. The majority of the meat firms in the Southern Plains, with the exception of a few retailers, generally considered weekly price quotations to be more useful for statistical purposes than for daily pricing decisions. For example, if weekly price quotations were released on Friday, approximately 80 percent of the packer sales would already have been transacted for that week (table 22). Similarly, if price quotations were released on Wednesday, at least 40 percent of the weekly packer sales would have been transacted.

Table 8 shows the percentage distribution of packer sales for the major market areas by days of the week during 1964. While packer sales in Texas and Oklahoma are not concentrated in any one day of the week, the majority of the packers interviewed stated that weekly price trends generally are determined by the marketing activity during the first few days of the week. That

Table 7.--Timeliness of price information for beef, calf, veal and lamb according to Texas and Oklahoma meat handlers, 1964

State and type of meat handler	Meat handlers reporting information -- Timely	Not timely	Total
	Percent		
Texas:			
Packers	84.3	15.7	100.0
Retailers	95.1	4.9	100.0
Jobbers	86.3	13.7	100.0
Oklahoma:			
Packers	77.8	22.2	100.0
Retailers	83.3	16.7	100.0
Jobbers	100.0	1/	100.0

1/ Less than 0.05 percent

Table 8.--Distribution of sales by market area and days of the week, Texas and Oklahoma packers, 1964 1/

Market area	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
	Percent						
Texas:							
Dallas-Ft. Worth.	4.3	4.4	8.5	5.0	2.1	2/	24.3
San Antonio	3.7	2.5	1.4	1.2	1.3	.1	10.2
Houston	2.8	2.5	2.1	1.8	3.1	2/	12.3
Amarillo-Lubbock.	2.9	1.5	2.6	3.0	2.1	.9	13.0
Other	8.9	7.4	6.8	7.2	6.2	3.7	40.2
Total	22.6	18.3	21.4	18.2	14.8	4.7	100.0
Oklahoma:							
Oklahoma City	6.4	9.2	5.9	5.0	16.4	1.6	44.5
Tulsa	2.9	1.8	2.7	2.4	2.3	1.1	13.2
Other	6.5	9.0	7.8	9.7	6.6	2.7	42.3
Total	15.8	20.0	16.4	17.1	25.3	5.4	100.0

1/ Includes sales of beef, calf, veal, and lamb.
2/ Less than 0.05 percent.

is, brisk sales on Mondays and Tuesdays are often an indicator of a rising market, and vice versa. It is doubtful that price information released at the end of the week would convey pricing tendencies to firms in time for optimum decision making.

PRICE STRUCTURE DIFFERENCES

A large proportion of trading in the meat industry is conducted on the basis of price differentials among markets, and of a specific locational price differential relative to a given market. This section examines the question of whether prices differ significantly among specified markets for given weights and grades of beef, or whether price differences are relatively stable between specified markets.

Beef Pricing Structure

The common procedure of numerous firms that adjust Chicago beef prices for transportation costs and quality of carcass in order to synthesize a price f.o.b. Southern Plains is based on the assumption that Chicago and Texas-Oklahoma prices differ by only a transportation rate and a price differential between heavy and light carcasses. The adequacy of this procedure was tested by a statistical technique--analysis of variance--which provides for the identification of individual components of variation in several variables.

In the analysis presented in table 9, the variation during 1960-64 in monthly average prices for less-than-carload lots of specific weights and grades of steer beef is separated into the individual effects of market,

month, and year, plus the joint effect of these three components of price variation.

Table 9.--Summary of variance analysis of prices of U.S. Choice and U.S. Good steer beef carcasses, among selected markets, in less-than-carload lots, 1960-64

Source of variation	U.S. Choice				U.S. Good			
	600-700 pound		700-800 pound		500-600 pound		600-700 pound	
	D.F.	Mean square	D.F.	Mean square	D.F.	Mean square	D.F.	Mean square
Market 1/	3	33.8164**	3	86.9310**	3	19.5052**	3	46.2227**
Month	11	9.0266**	11	10.3693**	11	8.5455**	11	8.4663**
Year	4	293.2246**	4	332.7100**	4	252.2334**	4	257.8066**
Market by month	33	1.1832**	33	1.5260**	33	1.5531**	33	1.7669**
Market by year	12	3.5771**	12	1.3027**	12	.9561**	12	3.2363**
Month by year	44	11.1918**	44	14.2600**	44	8.9838**	44	10.3918**
Error	132	.4276	132	.4783	132	.4053	132	.4051

1/ Includes Chicago, Los Angeles, San Francisco, and New York.
* Significant at 5-percent probability level.
** Significant at 1-percent probability level.

The significant differences in prices between markets are due, in part, to the transportation differential. 3/ However, after removing the variation due to month, year, and market, the significant variation due to cross effects demonstrates the short-run variation between markets due to factors in addition to the transportation differential.

Individual comparisons of the variations in monthly price differences between leading market centers reveal significant variation over time between all market pairs (table 10) except Chicago-New York. 4/ Significant fluctuations in monthly price differences stem from variations between areas arising from such factors as the quality of beef available, consumer preference, per capita income, and additional services. Since New York is a principal market for Chicago suppliers, monthly price differences between these two markets were relatively stable and conformed closely to transport cost differences.

Monthly price differences between the same pairs of markets on a carload basis, in contrast to less-than-carload lots, were relatively stable (appendix table 41). This may be the result of shipment patterns, nondiscriminatory marketing services for volume shipments, or a host of other factors.

3/ Significance at the 1-percent level indicates that the probability was only 1 in 100 that price differences were due to chance. Table 32 in the appendix shows similar results on a carload-lot basis.

4/ The Duncan Multiple Range Tests for less-than-carload lots, and carload lots by market, year, and month are shown in appendix tables 33 through 40.

Table 10.--Summary of variance analysis of price differences of U.S. Choice and U.S. Good steer carcasses, among selected markets, by month and year, in less-than-carload lots, 1960-64

Markets and source	U.S. Choice				U.S. Good			
	600-700 pound		700-800 pound		600-700 pound		700-800 pound	
	D.F.	Mean square	D.F.	Mean square	D.F.	Mean square	D.F.	Mean square
Chicago vs. Los Angeles:								
Month	11	3.2807*	11	1/2.6152	11	4.8924**	11	1/4.7216**
Year	4	7.7923**	4	1/7.9350**	4	5.3368**	4	1/1.2197
Error	44	1.3652	44	1.5861	44	1.4360	44	1/1.5562
Chicago vs. San Francisco:								
Month	11	5.5372**	11	6.4339**	11	7.2531**	11	6.9816**
Year	4	5.0250**	4	.1996	4	13.19823**	4	1.5927
Error	44	1.0820	44	1.3095	44	1.3345	44	1.3157
Chicago vs. New York:								
Month	11	.4532	11	.2550	11	.4091	11	.4080
Year	4	2.7637**	4	3.7994**	4	3.4224**	4	3.1592**
Error	44	.2522	44	.2979	44	.2926	44	.4728
San Francisco vs. Los Angeles:								
Month	11	.4608**	11	1/.5353**	11	.3788	11	1/.3268
Year	4	.3964	4	1/10.4195**	4	1.4732**	4	1/.7832*
Error	44	.1764	44	.1756	44	.2297	44	.2709
San Francisco vs. New York:								
Month	11	3.9030**	11	5.4449**	11	6.5192**	11	6.3476**
Year	4	13.1982**	4	5.2370*	4	12.9753**	4	7.4982**
Error	44	1.2318	44	1.6012	44	1.0052	44	1.0429

1/ The analysis is for the 500-600 pound carcass, not 700-800.
* Significant at 5-percent probability level.
** Significant at 1-percent probability level.

Recent studies indicate that Chicago, Omaha, and Denver are favorably located for shipments of beef to the deficit East Coast markets. 5/ Since these surplus markets compete for outlets in the same general deficit areas, price differences on volume shipments by these markets would be expected to conform closely to differences in transport cost. In addition, shippers probably do not emphasize special services to the same degree in carload shipments as in less-than-carload lots.

Wholesale beef prices were collected from Texas-Oklahoma packers and retailers for 1963 and 1964 since published data were not available. Analysis of the variation in the Texas-Oklahoma composite price and the Chicago price is presented in table 11. Significant variation, attributable to month and year, indicates that Southern Plains and Chicago price differences were relatively unstable during the period analyzed. Adjusting the base Chicago price by a fixed differential does not appear to be a good method of determining prices in the Southern Plains.

Texas and Oklahoma prices were also analyzed for internal variation within the Southern Plains (table 12). During 1963-64, significant differences existed among the markets for which data were collected. Within this region, these differences may be due to variations in methods of price quotation by individual plants as well as variations in local supply. This points to a need for standardized price reporting procedures.

Table 11.--Summary of variance analysis for prices of U.S. Choice and U.S. Good steer carcasses, Texas, Oklahoma, and Chicago, 500-600 pounds, in less than carload lots, 1963-64

Source of variation	U.S. Choice		U.S. Good	
	D. F.	Mean square	D. F.	Mean square
Market 1/	2	10.4282**	2	11.3335**
Month	11	11.0955**	11	10.6277**
Year	1	80.7646**	1	171.0166**
Market by month	22	.2226	22	.1760
Market by year	2	.0396	2	1.5806*
Month by year	11	6.4229**	11	4.1262**
Error	22	.1456	22	.2950

1/ The Texas market price for U.S. Choice is the average Dallas-Ft. Worth and San Antonio price; for U.S. Good it is the average Houston and San Antonio price. The Oklahoma market price for U.S. Choice is the average Oklahoma City and Tulsa price; for U.S. Good it is the Tulsa price.

* Significant at 5-percent probability level.

** Significant at 1-percent probability level.

5/ Dietrich, R. A. An Interregional Analysis of the Fed Beef Economy. Unpublished Ph. D. dissertation, Oklahoma State University, Aug. 1964.

Table 12.--Summary of variance analysis for prices of U.S. Choice and Good steer carcasses, selected markets in Texas and Oklahoma, 500-600 pounds, less-than-carload lots, 1963-64

Source of variation	U.S. Choice		U.S. Good	
	D. F.	Mean square	D. F.	Mean square
Market 1/	3	3.0671**	2	4.3389**
Month	11	14.9537**	11	9.6580**
Year	1	112.8223**	1	203.7236**
Market by month	33	.5334**	22	.2411
Market by year	3	.7617**	2	.3398
Month by year	11	8.4891**	11	3.5974**
Error	33	.1656	22	.2107

1/ Includes Dallas-Ft. Worth, San Antonio, Oklahoma City and Tulsa for U.S. Choice and Houston, San Antonio and Tulsa for U.S. Good.

* Significant at 5-percent probability level.

** Significant at 1-percent probability level.

Significant variation in monthly prices between markets for specified weights and grades of beef, therefore, suggests that adjusted base prices are often not representative of local pricing conditions. The actual level of local prices appears to depend primarily upon local supply and demand considerations and the general pricing policies of firms in the market. Hence, a Southern Plains market news report which reflects regional differences in the product as well as variation in the local supply and demand situation would appear to be essential for optimum decision making by the livestock and meat industry in that area.

Significant fluctuations in monthly pr[illegible] an-carload basis for specific weights and [illegible]s in supply and demand between markets are an [illegible]- lishing the levels of prices between various [illegible]gests that formula pricing relative to a single-marke[illegible] in distorted prices.

MEAT MARKETING IN TEXAS AND OKLAHOMA

A comprehensive description of the meat sold in Texas and Oklahoma, as well as an identification of purchase and sales patterns, is a prerequisite for both the analysis and evaluation of existing market information and the design of additional market news services.

Since the Texas-Oklahoma meat industry is characterized by relatively large proportions of beef and calf carcasses weighing less than 500 pounds, an up-to-date and effective market news system representing meat transactions in the Southern Plains must adequately report marketing activity and prices

for that type of beef.

In 1964, the meat marketing industry in the Southern Plains consisted of more than 900 slaughtering firms, 320 jobbers and meat merchant wholesalers, 6/ 64 processors or prepared-meat plants, and 30 packinghouse branches. Cattle slaughter, having increased annually by 45 million pounds in Texas and 2 million in Oklahoma since 1947, represented about 70 percent of the total liveweight commercial slaughter, compared with almost 60 percent for the United States (figs. 1, 2, and 3). Since 1947, cattle slaughter has been increasing faster than either hog, calf, or sheep and lamb slaughter.

Since 1959, fed cattle production has greatly increased in the Southern Plains, and available consumption estimates indicate that fed cattle production by feedlots is now exceeding consumption. 7/

Large inshipments of pork are required in the Southern Plains since pork consumption exceeds production. In 1959, net pork inshipments represented about 46 percent of the fresh pork and pork products consumed. 8/

In 1964, red meat production was concentrated in seven general areas in the Southern Plains. In Texas, the Dallas-Ft. Worth area accounted for 25 percent of packer production; Amarillo-Lubbock, 13 percent; Houston, 12 percent; San Antonio, 10 percent; and Corpus Christi-Brownsville-McAllen, 9 percent. Packer production in Oklahoma was concentrated principally in Oklahoma City, with approximately 45 percent, and Tulsa, with approximately 13 percent (appendix table 24).

Characteristics of the Meat Produced and Marketed

Size of Firm and Volume of Meat Merchandised 9/

For purposes of comparison, slaughtering firms were designated as large, medium, or small according to the amount of annual liveweight slaughter: large, over 2 million pounds; medium, under 2 million but over 300,000 pounds; and small, under 300,000 pounds. The number of slaughtering firms in Texas and Oklahoma as of March 1, 1965, is shown in the tabulation below:

	Large	Medium	Small	Total
Texas	106	106	575	787
Oklahoma	41	33	62	136
Total	147	139	637	923

6/ Jobbers are also referred to as wholesalers, breakers, fabricators, and hotel and restaurant suppliers.

7/ Fed beef consumption estimates, based on recently developed demand equations, indicate that approximately 42 pounds of fed beef were consumed per person in Texas and Oklahoma during 1964. (See Dietrich, dissertation.)

8/ Dietrich, R. A., Williams, W. F., and Miller, J. E. The Texas-Oklahoma Meat Industry. U.S. Dept. Agr., Agr. Econ. Rpt. 39, July 1963.

9/ For data on pork, see Dietrich, et. al.

OKLAHOMA COMMERCIAL LIVESTOCK SLAUGHTER, BY SPECIES, LIVE WEIGHT BASIS

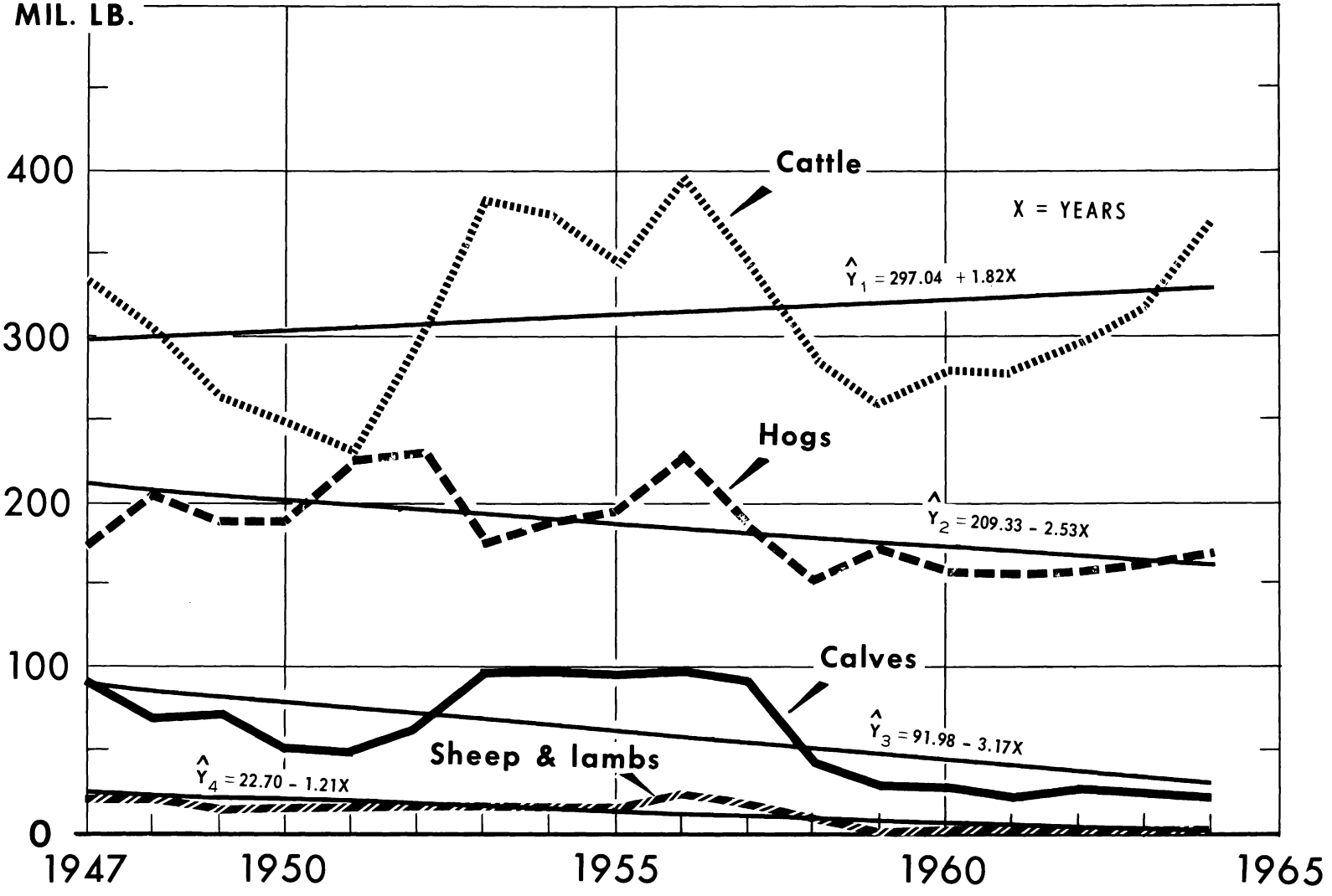

Figure 1

TEXAS COMMERCIAL LIVESTOCK SLAUGHTER, BY SPECIES, LIVE WEIGHT BASIS

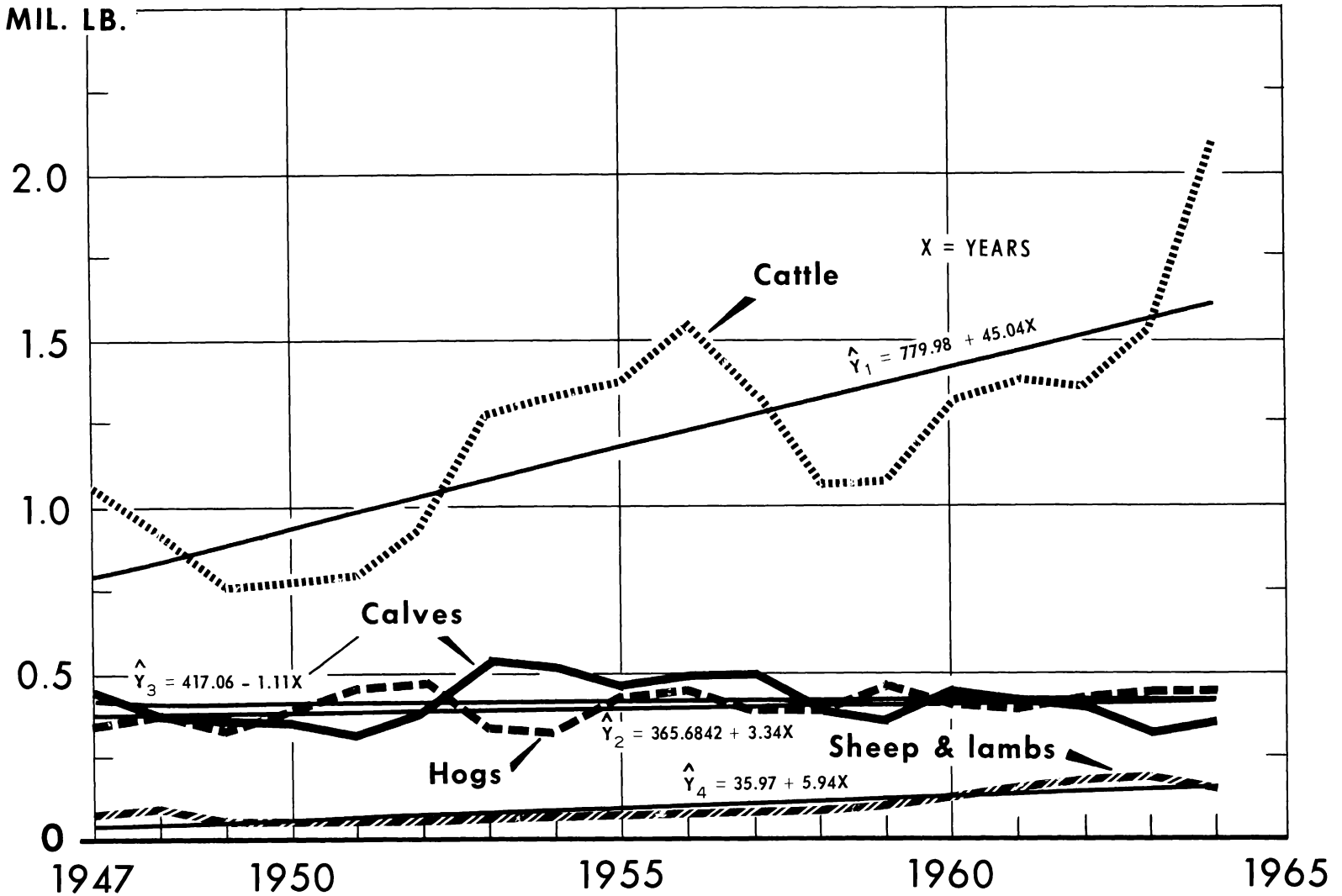

Figure 2

U.S. COMMERCIAL LIVESTOCK SLAUGHTER, BY SPECIES, LIVE WEIGHT BASIS

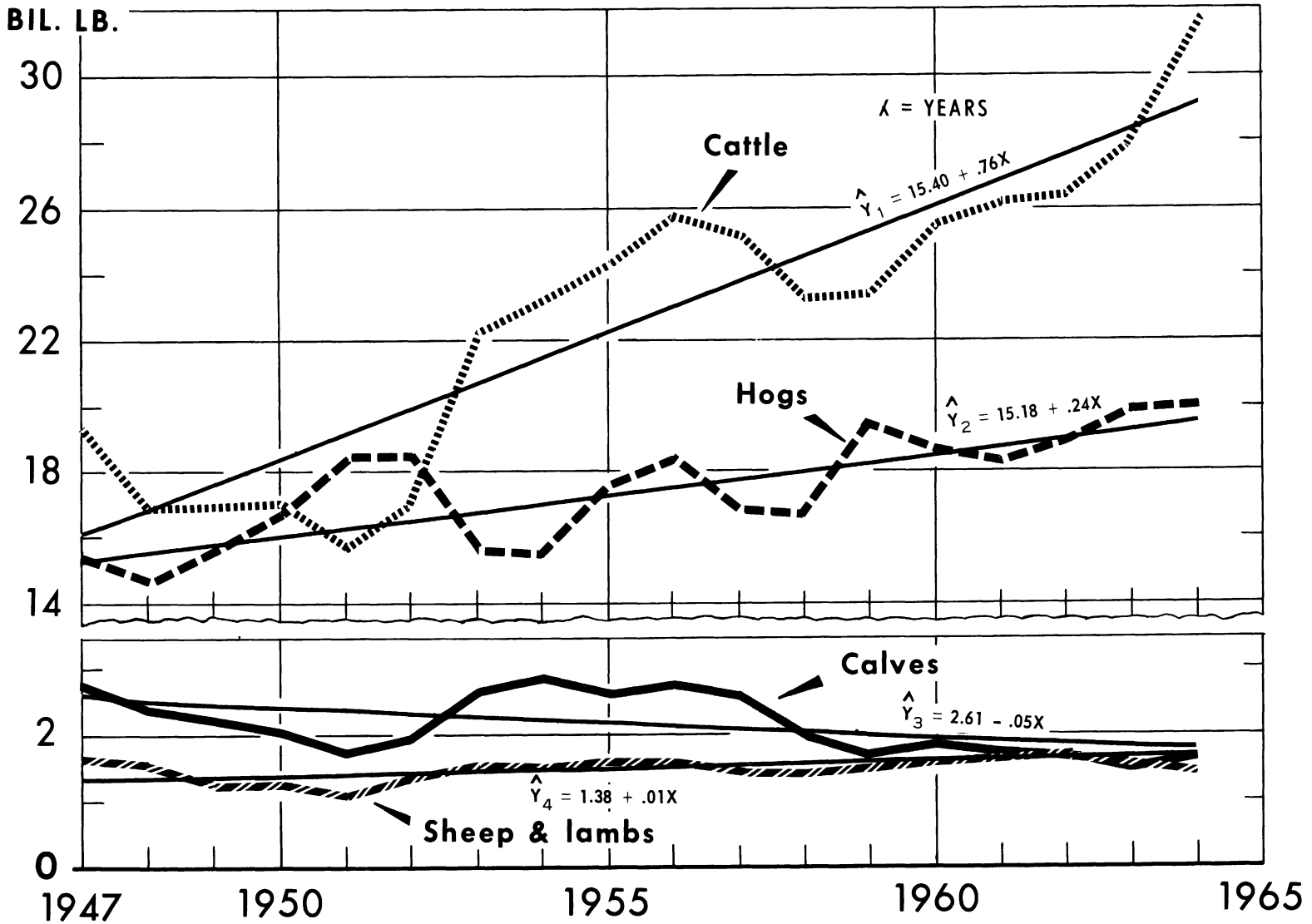

Figure 3

Although the Southern Plains slaughtering industry includes many small establishments, about 90 percent of the packer volume was accounted for by large slaughtering firms in 1964 (table 13). In Oklahoma, medium-sized firms handled more of the total volume than small slaughterers, whereas in Texas, the small firms handled a slightly larger proportion of the total volume than medium-sized packers.

More than 1.6 billion pounds of beef, calf, veal, lamb, and mutton were sold by Texas and Oklahoma slaughtering firms in 1964, with heifer and steer beef accounting for more than any other single item (table 14). Estimates based on reported commercial hog slaughter and inshipments of fresh pork indicate that Oklahoma packers handled 165 million pounds of fresh pork in 1964, while Texas packers handled 440 million pounds.

Carcass Weight Ranges

Slaughter and meat distribution firms in the Southern Plains are predominantly beef oriented. A lighter weight beef carcass is produced and consumed in the Southern Plains Region than in other major areas of the United States. In 1964, almost 70 percent of the total beef and calf sold by packers in Texas and Oklahoma came from carcasses weighing less than 500 pounds (table 15).

Table 13.--Volume of dressed meat handled by Texas and Oklahoma packers, by size of firm, 1964

Location and size of firm	Beef		Calf	Veal 1/	Lamb
	Heifer and steer	Cow and bull			
	1,000 Pounds				
Texas:					
Large	455,081	377,167	328,647	5,179	70,808
Medium	35,264	10,859	16,499	88	75
Small	27,179	14,458	31,982	0	1,496
Total	517,524	402,484	377,128	5,267	72,379
Oklahoma:					
Large	135,238	52,057	32,402	85	1,750
Medium	14,986	11,915	5,049	0	21
Small	571	41	438	0	0
Total	150,795	64,013	37,889	85	1,771

1/ A large proportion of the veal classified as heavy veal or light calf by Texas and Oklahoma packers was included in the calf volume.

Table 14.--Volume of dressed meat handled by Texas and Oklahoma packers, jobbers, and retailers, 1964

Location and type of meat handler	Beef		Calf	Veal	Lamb and mutton
	Heifer and steer	Cow and bull			
	1,000 Pounds				
Texas:					
Packers	517,524	402,484	377,128	5,267	72,379
Jobbers	80,860	86,400	110,920	144	2,004
Retailers	188,743	29,419	97,996	1,477	4,176
Oklahoma:					
Packers	150,795	64,013	37,889	85	1,771
Jobbers	19,993	36,429	1,743	61	86
Retailers	41,452	7,250	15,816	558	611

Table 15.--Carcass weight ranges of beef and calf sold by Texas and Oklahoma packers, 1964

Weight range (lbs.)	Texas	Oklahoma	Total
	Percent		
Under 250	1.5	2.9	1.7
250-299	12.5	6.7	11.5
300-399	26.9	11.1	24.3
400-499	30.4	36.7	31.4
500-599	15.1	18.0	15.6
600-699	9.1	16.8	10.4
700 and over	4.5	7.8	5.1
Total	100.0	100.0	100.0

The weight of beef (excluding calf) carcasses handled by packers and retailers in the Southern Plains, however, varied (appendix table 25). Although over 50 percent of the beef handled by packers weighed less than 500 pounds, more than 70 percent of the beef sold by retailers came from carcasses weighing more than 500 pounds (table 16). Southern Plains retailers depended primarily on out-of-State sources for the heavier beef. The primary reason given for buying out-of-State was to obtain a consistent source of heavy beef. Although Texas retailers centered their beef program on 500-pound to 700-pound carcasses, they also handled substantial quantities of beef in the other weight

Table 16.--Carcass weight ranges of beef, calf, veal, and lamb handled by Texas and Oklahoma packers, jobbers, and retailers, 1964

Type of meat and weight range lb.	Texas			Oklahoma		
	Packers	Jobbers	Retailers 1/	Packers	Jobbers	Retailers 1/
			-Percent			
Beef: 2/						
Under 400	16.6	4.6	10.1	6.8	.7	.9
400-499	42.8	40.5	16.8	43.1	12.9	28.0
500-599	21.4	35.5	25.0	21.1	33.6	66.1
600-699	12.8	13.1	43.6	19.8	32.0	5.0
700 and over	6.4	6.3	4.5	9.2	30.8	3/
Total	100.0	100.0	100.0	100.0	100.0	100.0
Calf: 2/						
Under 250	5.1	14.1	6.2	19.4	0	1.6
250-299	42.9	58.2	44.5	44.6	3.9	12.6
300-349	33.8	17.8	30.9	30.0	61.3	67.3
350 and over	18.2	9.9	18.4	6.0	34.8	18.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Veal:						
Under 90	53.2	0	1.0	0	0	0
90-119	12.2	3/	35.7	3/	100.0	100.0
120 and over	34.6	100.0	63.3	100.0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Lamb:						
Under 40	26.3	0	5.0	0	0	0
40-49	52.0	95.0	78.3	20.6	3.5	66.3
50 and over	21.7	5.0	16.7	79.4	96.5	33.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

1/ Retailers include chains and affiliated groups with 4 or more stores.
2/ See appendix tables 25 and 26 for similar information by size of packer.
3/ Less than 0.05 percent.

groups. Oklahoma retailers handled relatively more heifer beef than Texas retailers, concentrating their beef program on 400-pound to 600-pound carcasses.

Most of the calf carcasses handled by Southern Plains packers, jobbers, and retailers weighed from 250 to 350 pounds. Texas packers handled a larger proportion of calf carcasses 300 pounds and over than did Oklahoma packers. Oklahoma jobbers and retailers sold more of the heavier carcasses than jobbers and retailers in Texas. With the exception of packers

in Texas, almost all of the veal merchandised was produced from carcasses weighing more than 90 pounds. The principal weight range of lamb and mutton merchandised by both Texas and Oklahoma retailers was 40 to 49 pounds (table 16). Almost all of the lamb and mutton carcasses handled by Oklahoma packers and jobbers weighed more than 49 pounds.

Quality of Meat Handled and Grading Practices Employed

There were differences at the wholesale and retail levels in the quality of meat handled and grading practices employed in the Southern Plains in 1964. Large packers merchandised a higher percentage of heifer and steer beef equivalent to U.S. Choice or higher than small and medium packers (appendix, tables 27 and 28). Retailers handled larger proportions than packers of dressed meat equivalent to U.S. Good or higher (table 17). Retailers also handled a larger percentage of meat rolled with Federal grades than packers or jobbers.

Packers

Approximately 85 percent of the heifer and steer beef was equivalent to U.S. Good or higher in 1964, compared with 77 percent in 1959. 10/ This reflected both the larger supplies of fed beef available for slaughter in 1964, and an increased emphasis on higher quality beef at retail. Cow and bull beef, which is primarily processed into hamburger, sausage, or variety meats, is almost exclusively equivalent to U.S. Commercial or lower quality grades. (See appendix tables 29 and 30 for form in which beef and calf were marketed).

Amost all of the calf was estimated by Southern Plains packers at grade U.S. Good or U.S. Standard. Oklahoma packers, who merchandised a heavier veal carcass than Texas packers, estimated that three-fourths of their veal was U.S. Good or higher in quality. Veal handled by Texas packers was predominantly U.S. Commercial or lower in quality.

All the lamb and mutton handled by packers in Oklahoma was estimated to be equivalent in quality to U.S. Choice or Prime, compared with 52 percent in Texas.

Packers in both States marked a large proportion of their heifer and steer beef with Federal grades, since many large-volume buyers prefer it. However, large packers--who in 1964 accounted for about 90 percent of the slaughter in the Southern Plains--prefer to use their private brands whenever possible to acquire and maintain product identification, marking meat with Federal grades only when requested to do so by buyers. Medium-sized packers often mark heifer and steer beef and also calf grading U.S. Good or higher with Federal grades in order to compete with the national or regional packers who rely upon their established brands or trademarks for competitive advantages. Small packers generally do not mark meat with Federal grades, since their volume is too small to afford the services of a Federal grader and their customers do not demand it.

10/ Dietrich, et al., pp. 32-33.

Table 17.--Estimates of U.S. grade equivalents of dressed meat and percentage graded, Texas and Oklahoma packers, retailers, and jobbers, 1964

State and type of meat	U.S. grade or grade equivalent					Percentage U.S. graded
	U.S. Prime and Choice	U.S. Good	U.S. Standard 1/	U.S. Commercial and lower 2/	Total	
	Percent					
PACKERS						
Texas						
Beef:						
Heifer and steer	25.1	58.6	14.3	2.0	100.0	40.7
Cow and bull	0	3/	3/	100.0	100.0	13.9
Calf 4/	6.3	54.6	33.6	5.5	100.0	19.0
Veal	12.4	12.4	2.2	73.0	100.0	3/
Lamb	52.2	16.3	2.3	29.2	100.0	2.2
Oklahoma						
Beef:						
Heifer and steer	35.5	53.3	11.1	.1	100.0	56.4
Cow and bull	0	0	.1	99.9	100.0	31.0
Calf 4/	3.7	64.3	31.3	.7	100.0	47.0
Veal	23.5	51.8	24.7	0	100.0	23.5
Lamb	100.0	0	0	0	100.0	99.2
RETAILERS						
Texas						
Beef:						
Heifer and steer	67.1	31.9	1.0	0	100.0	52.0
Cow and bull	0	0	0	100.0	100.0	3/
Calf 4/	1.0	71.6	26.8	.6	100.0	47.8
Veal	0	82.2	17.8	0	100.0	55.9
Lamb	96.3	3.7	0	0	100.0	70.7
Oklahoma						
Beef:						
Heifer and steer	64.1	35.9	3/	0	100.0	91.5
Cow and bull	0	0	0	100.0	100.0	3/
Calf 4/	.1	68.4	31.5	0	100.0	86.4
Veal	0	100.0	0	0	100.0	100.0
Lamb	97.9	2.1	0	0	100.0	100.0
JOBBERS						
Texas						
Beef:						
Heifer and steer	42.0	50.0	7.4	.6	100.0	73.3
Cow and bull	0	.9	2.6	96.5	100.0	2.7
Calf 4/	.1	35.7	58.2	6.0	100.0	33.9
Veal	19.5	38.9	22.2	19.4	100.0	0
Lamb	15.8	5.0	4.1	75.1	100.0	21.2
Oklahoma						
Beef:						
Heifer and steer	55.5	44.5	0	0	100.0	65.4
Cow and bull	0	0	0	100.0	100.0	44.9
Calf 4/	0	6.0	94.0	0	100.0	40.3
Veal	0	0	100.0	0	100.0	0
Lamb	87.2	0	0	12.8	100.0	87.2

1/ The lamb and mutton is U.S. Utility.
2/ The lamb and mutton is U.S. Cull. There is no commercial grade for veal or calf.
3/ Less than 0.05 percent.
4/ Baby beef.

Cow and bull beef are generally sold without grades or brands, unless sales are made to institutions or Federal and State Governments. Most of the calf, veal, and lamb sold in Texas in 1964 was ungraded, but about one-half of the calf and almost all of the lamb sold in Oklahoma was under Federal grades. In Texas, lamb and mutton are generally handled by a few of the larger slaughterers who prefer to use their own brands.

Retailers

Approximately two-thirds of the heifer and steer beef sold by retailers in the Southern Plains was estimated to be equal in quality to U.S. Choice or higher (table 17). Most of the calf and veal was considered to be equivalent to U.S. Good. However, nearly all of the lamb was estimated to be U.S. Choice or higher quality.

In Oklahoma, almost all of the heifer and steer beef, calf, veal, and lamb sold by retailers was marked with Federal grades. In Texas, about one-half of the heifer and steer beef, calf, and veal, and 70 percent of the lamb was marked with Federal grades.

Jobbers

Ninety-two percent or more of the heifer and steer beef handled by jobbers in Texas and Oklahoma was estimated to be equivalent to U.S. Good or higher in quality (table 17). The major proportion of calf, however, was estimated to be of U.S. Standard quality. Although veal was handled by relatively few jobbers in the Southern Plains, the veal merchandised in Texas was fairly well distributed over all grades, while in Oklahoma most was U.S. Standard quality. In Oklahoma, lamb and mutton was mostly U.S. Good or higher in quality; in Texas, however, some relatively large jobber exporting firms handled lamb and mutton that was primarily U.S. Utility and Cull.

A large proportion of the heifer and steer beef handled by jobbers for purchase by the hotel, restaurant, and institution trade was federally graded. Most of the cow and bull beef, calf, veal, and lamb was not federally graded, with the exception of lamb in Oklahoma. Lamb and mutton equivalent to U.S. Good or higher was customarily rolled with Federal grades.

Purchasing and Sales Patterns

Both geographic areas and the daily patterns of buying and selling are important considerations in organizing a market news system. Areas where buying and selling activities are concentrated facilitate the collection of representative market prices.

Geographic Area of Purchases and Sales

In 1964, packers in Oklahoma purchased fresh beef, calf, and lamb primarily from suppliers outside of their own metropolitan areas or in other States (table 18). The same sources were used by packers in Texas for beef and lamb. Local suppliers, however, furnished most of the dressed calf purchased by Texas packers. Out-of-State supplies, with the exception of

lamb, came predominantly from the Midwest. A large proportion of the dressed lamb was obtained from suppliers in Colorado and Utah.

Table 18.--Geographic area of purchases by Texas and Oklahoma packers, jobbers, and retailers, by kind of meat, 1964

Type of firm and kind of meat	Texas			Oklahoma		
	Local 1/	Outside	Total	Local 1/	Outside	Total
	Percent					
Packers:						
Beef	25.6	74.4	100.0	20.4	79.6	100.0
Calf	88.6	11.4	100.0	24.5	75.5	100.0
Veal	2/	2/	--	2/	2/	--
Lamb	16.2	83.8	100.0	.8	99.2	100.0
Jobbers:						
Beef	75.4	24.6	100.0	42.1	57.9	100.0
Calf	88.1	11.9	100.0	97.2	2.8	100.0
Veal	100.0	3/	100.0	3/	100.0	100.0
Lamb	18.3	81.7	100.0	16.3	83.7	100.0
Retailers:						
Beef	78.8	21.2	100.0	72.8	27.2	100.0
Calf	90.1	9.9	100.0	84.2	15.8	100.0
Veal	26.3	73.7	100.0	100.0	3/	100.0
Lamb	74.0	26.0	100.0	45.8	54.2	100.0

1/ Local purchases represent transactions within a radius of 100 miles from a given city or metropolitan area.

2/ Veal purchases are not shown for Texas packers since a substantial portion of these purchases were made by two firms. Oklahoma packers purchased veal on an irregular basis, and therefore supplied only limited data.

3/ Less than 0.05 percent.

Southern Plains retailers depended primarily on local suppliers for beef and calf. Beef purchased from nonlocal suppliers consisted mostly of 650-pound to 800-pound high quality carcass beef from the Midwest. Texas retailers also bought most of their lamb from local suppliers, in contrast to Oklahoma retailers, who acquired most of their lamb outside their metropolitan areas. In Oklahoma, jobbers purchased most of their beef, veal, and lamb from sources outside their metropolitan areas; in Texas, this was also true for jobber purchases of lamb.

Packers in Texas and Oklahoma sold 57 percent of their beef, calf, veal, and lamb within their local metropolitan areas (table 19). Higher proportions of calf and veal were merchandised in local areas, whereas beef sales were fairly well distributed between local and nonlocal areas, including out-of-State markets.

Table 19.--Geographic area of sales by Texas and Oklahoma packers and jobbers, by kind of meat, 1964 1/

Type of firm and kind of meat	Texas			Oklahoma		
	Local	Outside	Total	Local	Outside	Total
	Percent					
Packers:						
Beef	46.8	53.2	100.0	58.4	41.6	100.0
Calf	85.2	14.8	100.0	82.0	18.0	100.0
Veal	60.1	39.9	100.0	100.0	0	100.0
Lamb	32.1	67.9	100.0	5.0	95.0	100.0
Jobbers:						
Beef	81.4	18.6	100.0	73.5	26.5	100.0
Calf	94.2	5.8	100.0	99.8	.2	100.0
Veal	100.0	0	100.0	100.0	0	100.0
Lamb	32.3	67.7	100.0	100.0	0	100.0

1/ Local sales represent transactions within a radius of 100 miles of a given city or metropolitan area.

Jobbers generally confined their business activities to areas within 100 miles and, with the exception of a few large exporting or shipping firms, most were not federally inspected and thus were limited to intrastate trading.

Form of Purchases and Sales

Packers, retailers, and jobbers purchased most of their fresh beef, calf, veal, and lamb in carcass form (table 20). Jobbers, however, purchased lamb predominantly in primal or retail cuts to accommodate the demand for specialty cuts by the hotel, restaurant, and institution trade.

Beef, calf, and lamb were also sold primarily in carcass form, especially by larger packers (table 21). Most of the veal was sold in primal cuts or quarters.

Daily Buying and Selling

Packers in the Southern Plains purchased meat on an irregular basis, establishing no consistent pattern of important days. With the possible exception of pork, most packers in the Southern Plains purchased meat on a fill-in or temporary basis to supplement variations in their slaughter supplies.

Table 20.--Form of dressed meat purchased by Texas and Oklahoma packers, jobbers, and retailers, by kind of meat, 1964

Type of firm and form of purchase	Texas				Oklahoma			
	Beef 1/	Calf	Veal	Lamb	Beef 1/	Calf	Veal	Lamb
	Percent							
Packers:								
Carcass or sides	71.1	61.0	20.3	93.7	84.8	89.1	3/	100.0
Quarters	13.2	37.4	79.7	3.2	2.0	10.9	3/	2/
Other	15.7	1.6	2/	3.1	13.2	2/	3/	2/
Total	100.0	100.0	100.0	100.0	100.0	100.0	3/	100.0
Jobbers:								
Carcass or sides	67.6	92.1	100.0	14.5	73.5	90.0	100.0	7.0
Quarters	22.6	6.0	2/	9.4	9.2	8.3	2/	83.7
Other	9.8	1.9	2/	76.1	17.3	1.7	2/	9.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Retailers:								
Carcass or sides	70.4	90.8	100.0	89.8	69.5	95.4	100.0	55.7
Quarters	25.9	7.2	2/	10.2	22.8	4.6	2/	31.9
Other	3.7	2.0	2/	2/	7.7	2/	2/	12.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Includes steer and heifer beef, and cow and bull beef.
2/ Less than 0.05 percent.
3/ Oklahoma packers purchased veal on an irregular basis and therefore provided no data.

Although the daily selling patterns of the packers complemented the daily purchasing patterns of retailers, packer sales were generally more evenly distributed throughout the week than were purchases of retailers (table 22).

Monday was the most important sales day for packers and purchase day for retailers. Retailers bought 80 percent of their beef, calf, veal, and lamb on Monday, Wednesday, and Thursday, whereas packers sold almost 80 percent of their supplies Monday through Thursday, inclusive. Thursday-through-Saturday sales comprised the bulk of the transactions by medium and small packers.

The daily purchasing and selling by jobbers is fairly evenly distributed throughout the week (table 23). Jobbers purchase relatively large volumes of meat on days when retail buyers and others are less active on the market. Jobbers not only fabricate high quality meat into specialty cuts for the retail and restaurant trade, but also often purchase bulky or slow-moving items which are available after retail buyers and others have selected their meat.

Table 21.--Form of dressed meat sold by Texas and Oklahoma packers and jobbers, by kind of meat, 1964

Type of firm and form of sales	Texas				Oklahoma			
	Beef 1/	Calf	Veal	Lamb	Beef 1/	Calf	Veal	Lamb
	Percent							
Packers:								
Carcass or sides	55.6	69.6	21.6	68.0	57.0	79.5	24.7	89.4
Quarters	22.2	19.7	76.7	7.6	32.5	14.1	75.3	10.6
Other	22.2	10.7	1.7	24.4	10.5	6.4	2/	2/
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Jobbers:								
Carcass or sides	6.6	14.4	2/	.4	10.5	2.8	2/	2/
Quarters	40.5	63.0	2/	21.8	55.1	97.2	100.0	100.0
Other	52.9	22.6	100.0	77.8	34.4	2/	2/	2/
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Includes steer and heifer beef, and cow and bull beef.
2/ Less than 0.05 percent.

Pricing Policies

Pricing policies of Southern Plains meat distributors in 1964 varied by type of firm, size of firm, type of meat handled, potential sales territory, and supply and demand conditions in the market. Large packers, who handled about 90 percent of the total meat and meat products at the packer level, and large-volume retail firms and associated retail groups were generally cited as the principal price-making agents in the Southern Plains meat industry.

Packers

Market prices of wholesale meats are usually established in two steps. Packers compute the initial "rail" costs (or breakeven price), and the selling price falls above or below this price depending upon supply and demand conditions. Rail costs are computed by converting live costs to a dressed carcass basis. For example, the cost of hanging a carcass on the rail from an animal which was originally purchased for $24 per hundredweight, and which dressed out at 60 percent, is $40 per hundredweight ($24 ÷ 0.60). Thus, rail costs are dependent upon two factors--dressing percent and the original cost of the animal.

Once rail costs have been established by individual packers, prices are generally set at a predetermined level above rail costs to cover other costs and profits. The actual level of market prices for particular weights and grades of carcasses and primal cuts is generally established after

Table 22.--Daily sales and purchase patterns of dressed meat by Texas and Oklahoma packers and retailers, 1964 1/

Type of transaction and day	Texas	Oklahoma	Total
		Percent	
Packer sales:			
Monday	22.6	15.8	21.5
Tuesday	18.3	20.0	18.6
Wednesday	21.4	16.4	20.6
Thursday	18.2	17.1	18.1
Friday	14.8	25.3	16.4
Saturday	4.7	5.4	4.8
Total	100.0	100.0	100.0
Retailer purchases:			
Monday	28.6	42.9	31.0
Tuesday	8.8	3.2	7.9
Wednesday	27.6	21.8	26.6
Thursday	22.1	25.7	22.7
Friday	12.9	5.8	11.7
Saturday	2/	.6	.1
Total	100.0	100.0	100.0

1/ Dressed meat includes beef, calf, veal, and lamb.
2/ Less than 0.05 percent.

considering (1) local and regional supply and demand conditions, (2) past and current price trends as reflected by commercial and Government price reports on livestock and dressed meat, and (3) current cooler supplies.

According to most firms interviewed, demand at the wholesale level is heavily influenced by the buying activity of large-volume chains and affiliated groups who purchase about two-thirds of the fresh meat sold by packers. Consequently, packers compete vigorously for sales to these large-volume buyers. Meatpackers who service large volume firms attempt to quote acceptable prices without having to resort to bargaining; however, packers occasionally do bargain and grant price concessions to maintain or obtain the patronage of large-volume buyers.

Most of the larger packers prepare and submit weekly price lists to potential customers. These bid sheets quote prices for specified weights and grades of carcasses and primal cuts. Packers occasionally lower quoted prices if market conditions dictate such adjustments; upward adjustments are rarely, if ever, made.

Prices quoted to specific customers may vary according to individual service requirements, location, delivery terms, and sales volume. Among the

Table 23.--Daily sales and purchase patterns of dressed meat by Texas and Oklahoma jobbers, 1964 1/

Type of transaction and day	Texas	Oklahoma	Total
	Percent		
Jobber purchases:			
Monday	19.7	18.8	19.5
Tuesday	18.7	16.4	18.3
Wednesday	16.6	17.0	16.7
Thursday	23.4	17.3	22.4
Friday	21.5	17.7	20.8
Saturday	.1	12.8	2.3
Total	100.0	100.0	100.0
Jobber sales:			
Monday	19.7	16.5	19.1
Tuesday	14.3	16.3	14.7
Wednesday	17.1	16.6	17.0
Thursday	18.7	16.8	18.4
Friday	24.1	19.5	23.3
Saturday	6.1	14.3	7.5
Total	100.0	100.0	100.0

1/ Dressed meat includes beef, calf, veal, and lamb.

factors which may affect price are such individual service requirements as trimming, fabrication, special packaging or wrapping, and store-door delivery. Delivery points are a factor in pricing since labor and trucking expenses are incurred by either the seller or buyer depending upon delivery terms. The primary delivery points used as a basis for pricing were packing plant, purchaser warehouse, or store door. Aging and storage privileges were generally available to buyers at no extra cost.

Medium-sized and small packers generally follow the pricing patterns of large packers. As a rule, smaller packers are located in smaller cities and towns; consequently, their merchandising and pricing programs are directed almost exclusively to the local level where they often must compete with one or two larger volume packers or affiliated branch houses.

Retailers

Meat managers of individual retail stores submit estimates of weekly requirements to meat supervisors who combine the individual store requirements and make the purchases. Meat supervisors of chains stated that the determining factors in selecting a supplier are consistency in quality and quantity of meat, dependable service, and price. Most meat supervisors of

chains indicated that they find it undesirable to trade with more than four or five suppliers since they prefer to have packers purchase slaughter animals to fit their particular specifications. The purchases made from the four or five suppliers are usually determined by price. Chain meat buyers generally enter into price negotiations with potential suppliers when they believe that quoted prices are one-half cent or more above market price. However, buyers stated that quoted prices offered by suppliers were usually in line with the current market price.

Several large retailers purchased most of their heavy beef from out-of-State sources. The principal reason for buying out-of-State was to obtain a more uniform quality of heavy beef. Prices on out-of State purchases were generally established on a formula basis; that is, prices were based on quotations at a specified location plus an agreed markup to cover transportation costs.

Markup on meat items at retail generally varied from 18 to 25 percent, depending on store location and the quality of meat merchandised.

Jobbers

Most jobbers employ one of two general policies in establishing selling prices: (1) They establish prices on a cost-plus basis, or (2) they maintain relatively stable selling prices over a period of several weeks, or even months.

In general, jobbers service an established clientele and are cognizant of the services required by each customer. Therefore, they know the costs associated with individual servicing, and the prices they can afford to pay in order to realize a desired margin. Many jobbers are willing to accept a smaller margin rather than make frequent price changes. Their general feeling was that customer satisfaction was closely associated with price stability. Only a few of the larger jobbers forwarded price quotations to potential customers.

CONCLUSIONS

Possible release patterns for a market news system in the Southern Plains are (1) a daily release Monday-through-Friday for one major market in each State, along with a weekly summary for other major markets in the area; (2) a daily Monday-through-Friday release for the major markets; (3) a weekly release at the beginning of the marketing week for the major markets; and (4) a weekly release at the end of the marketing week for the major markets.

There are obvious advantages and disadvantages in either weekly or daily releases for all markets. Weekly releases generally do not meet the timeliness criterion nor reflect daily price fluctuations. Daily releases for the markets designated in table 8 meet the timeliness criterion with respect to optimum decision making, but may be too costly. A price reporting system which combines some features of both daily and weekly systems satisfies the timeliness criterion and appears to be economically feasible. Such a system could include daily quotations for the Dallas-Fort Worth and Oklahoma City markets, supplemented by weekly quotations for the Dallas-Fort Worth, Houston, San Antonio, Amarillo-Lubbock, Tulsa, and Oklahoma City markets.

Inclusion of these metropolitan areas in a market news system would embrace about 60 percent of the total slaughter, 65 percent or more of the meat handled by retailers, and approximately 80 percent of the jobber sales in the Southern Plains. Substantial volumes of meat are also merchandised in the Corpus Christi-Brownsville area, but market centers within that area are too widely dispersed for obtaining accurate and comprehensive prices.

Since the Texas-Oklahoma meat industry is characterized by relatively large proportions of beef and calf carcasses weighing less than 500 pounds, an up-to-date and effective market news system representing meat transactions in the Southern Plains must adequately report marketing activity and prices for that type of beef. It is extremely important that market news quotations represent transaction prices rather than offered or bid prices. Also, specified delivery points must be considered an integral part of a market news system since market prices often vary according to points of delivery. Delivery points most often used for local transactions include seller's warehouse, purchaser's warehouse, and store-door delivery.

The primary sources of price information are large packers (who accounted for 90 percent of the slaughter within the Southern Plains), retail food chains, and affiliated grocery groups. Principal sources of price information on boneless cuts are packers, jobbers, and processors.

If price quotations for fresh and cured meat are to enhance orderly and efficient marketing, they must be timely, representative, and readily accessible to firms and individuals utilizing this information. The majority of the firms surveyed stated that price information which was released once a week, even though highly accurate, generally did not meet the timeliness criterion. Prices in the meat industry often change from hour to hour, and since most firms in the meat industry accrue profits or losses based on small margins, weekly price information was considered interesting, but not adequate for daily decision making. Since the majority of the business activity in the Southern Plains is conducted on Mondays, Wednesdays, and Thursdays, decision making would be improved if price information on dressed meat were released to coincide with the peak marketing days.

Cost considerations, however, also play an important part in organizing a market news system. While a daily release for each major market within the Southern Plains might be an optimum possibility, cost considerations may preclude such a system. The release pattern suggested in this study--a daily (Monday through Friday) release for the Dallas-Fort Worth and Oklahoma City markets supplemented by a weekly summary of the marketing activity in the Dallas-Fort Worth, Houston, San Antonio, Amarillo-Lubbock, Oklahoma City, and Tulsa markets--meets the timeliness criterion of most firms in the Southern Plains, and also appears to be economically feasible.

Because of the competitive environment within the livestock and meat industry and the wide geographic area within which sales are completed, most firms require current market information not only for the principal markets in a particular locality, but also for competing nonlocal markets. Therefore, an effective news system should relay the latest market quotations from distant as well as local markets. These quotations, in turn, should be

readily accessible to firms in the livestock and meat industry at the wholesale, the retail, and the producer levels for optimum decision making within the industry.

APPENDIX

Table 24.--Volume of dressed meat handled by Texas and Oklahoma packers, 1964

State and area	Beef		Calf	Veal	Lamb and mutton
	Heifer and steer	Cow and bull			
	1,000 pounds				
Texas:					
Dallas-Ft. Worth	133,900	116,293	60,319	3,873	19,689
San Antonio	48,735	38,612	35,406	2/	16,941
Houston	52,401	44,414	71,726	2/	708
Texas Plains 1/	170,358	94,477	89,376	2/	3/
Other Texas	112,130	108,688	120,301	1,394	35,041
Total	517,524	402,484	377,128	5,267	72,379
Oklahoma:					
Oklahoma City	71,477	31,623	8,410	2/	1,701
Tulsa	18,548	6,721	8,348	62	17
Other Oklahoma	60,770	25,669	21,131	23	53
Total	150,795	64,013	37,889	85	1,771

1/ Includes Crop Reporting Districts 1N, 1S, 2N, and 2S. Approximately one-half of the slaughter in the Texas Plains area is conducted within a 50-mile radius of either Amarillo or Lubbock.

2/ A large porportion of the veal was classified as heavy veal or light calf by Texas and Oklahoma packers, and is therefore included in the calf volume.

3/ Packers sampled handled small volumes of lamb on an irregular basis.

Table 25.--Carcass weight ranges of beef handled by Texas and Oklahoma packers, by size of packer, 1964 1/

State and size of packer	Under 400 pounds	400-499 pounds	500-599 pounds	600-699 pounds	700 pounds and over	Total
			Percent			
Texas:						
Large	15.9	41.5	22.2	13.9	6.5	100.0
Medium	18.2	67.3	8.2	1.9	4.4	100.0
Small	28.4	42.7	19.9	3.4	5.6	100.0
Total	16.6	42.8	21.4	12.8	6.4	100.0
Oklahoma:						
Large	6.8	41.9	22.6	22.0	6.7	100.0
Medium	6.8	50.7	11.2	4.5	26.8	100.0
Small	7.7	81.5	8.9	1.9	2/	100.0
Total	6.8	43.1	21.1	19.8	9.2	100.0

1/ Includes steer and heifer beef, and cow and bull beef.
2/ Less than 0.05 percent.

Table 26.--Carcass weight ranges of calf handled by Texas and Oklahoma packers, by size of packer, 1964

State and size of packer	Under 250 pounds	250-299 pounds	300-349 pounds	350 pounds and over	Total
			Percent		
Texas:					
Large	5.4	43.4	34.1	17.1	100.0
Medium	7.1	29.2	42.5	21.2	100.0
Small	1.5	44.3	26.3	27.9	100.0
Total	5.1	42.9	33.8	18.2	100.0
Oklahoma:					
Large	22.2	43.3	29.2	5.3	100.0
Medium	3.0	56.6	29.0	11.4	100.0
Small	1/	1.1	98.4	.5	100.0
Total	19.4	44.6	30.0	6.0	100.0

1/ Less than 0.05 percent.

Table 27.--Estimates of U.S. grade equivalents of heifer and steer beef handled by Texas and Oklahoma packers, and percentage graded, by size of packer, 1964

State and size of packer	U.S. grade or grade equivalent				Total	Percentage U.S. Graded
	U.S. Prime and Choice	U.S. Good	U.S. Standard	U.S. Commercial and lower		
	Percent					
Texas:						
Large	25.7	58.3	14.0	2.0	100.0	45.2
Medium	22.5	62.5	13.3	1.7	100.0	12.3
Small	17.1	57.8	21.5	3.6	100.0	2.0
Total	25.1	58.6	14.3	2.0	100.0	40.7
Oklahoma:						
Large	37.6	51.7	10.6	.1	100.0	59.1
Medium	17.9	67.5	14.6	1/	100.0	33.8
Small	9.7	59.9	28.6	1.8	100.0	1.3
Total	35.5	53.3	11.1	.1	100.0	56.4

1/ Less than 0.05 percent.

Table 28.--Estimates of U.S. grade equivalents of calf handled by Texas and Oklahoma packers, and percentage graded, by size of packer, 1964

State and size of packer	U.S. grade or grade equivalent				Total	Percentage U.S. Graded
	U.S. Prime and Choice	U.S. Good	U.S. Standard	U.S. Commercial and lower		
	Percent					
Texas:						
Large	5.4	54.0	34.4	6.2	100.0	21.5
Medium	10.9	60.2	26.0	2.9	100.0	4.4
Small	12.9	57.4	29.7	1/	100.0	0
Total	6.3	54.6	33.6	5.5	100.0	19.0
Oklahoma:						
Large	4.2	64.3	30.7	.8	100.0	51.1
Medium	1.0	69.1	29.9	1/	100.0	24.9
Small	1/	11.4	88.6	1/	100.0	0
Total	3.7	64.3	31.3	.7	100.0	47.0

1/ Less than 0.05 percent.

Table 29.--Form in which beef is sold, by size of packer, Texas and Oklahoma, 1964 1/

State and size of packer	Carcass or sides	Quarters	Hamburger or boneless	Total
	Percent			
Texas:				
Large	57.8	21.1	21.1	100.0
Medium	45.3	31.1	23.6	100.0
Small	22.7	35.3	42.0	100.0
Total	55.6	22.2	22.2	100.0
Oklahoma:				
Large	58.9	30.9	10.2	100.0
Medium	42.6	44.7	12.7	100.0
Small	96.5	3.5	2/	100.0
Total	57.0	32.5	10.5	100.0

1/ Includes steer and heifer beef, and cow and bull beef.
2/ Less than 0.05 percent.

Table 30.--Form in which calf is sold, by size of packer, Texas and Oklahoma, 1964

State and size of packer	Carcass or sides	Quarters	Hamburger or boneless	Total
	Percent			
Texas:				
Large	77.2	19.7	3.1	100.0
Medium	32.8	26.4	40.8	100.0
Small	10.9	16.1	73.0	100.0
Total	69.6	19.7	10.7	100.0
Oklahoma:				
Large	81.6	12.9	5.5	100.0
Medium	72.0	22.8	5.2	100.0
Small	9.4	1/	90.6	100.0
Total	79.5	14.1	6.4	100.0

1/ Less than 0.05 percent.

Table 31.--Daily sales patterns of dressed meat for Texas and Oklahoma packers by size of packers, 1964 1/

State and size of packer	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Total
				Percent			
Texas:							
Large	22.7	19.2	22.6	18.1	14.6	2.8	100.0
Medium	27.2	9.4	11.4	25.8	9.7	16.5	100.0
Small	16.9	11.1	9.2	14.0	23.0	25.8	100.0
Total	22.6	18.3	21.4	18.2	14.8	4.7	100.0
Oklahoma:							
Large	16.2	20.5	16.4	14.6	26.6	5.7	100.0
Medium	13.1	16.6	16.1	34.7	16.6	2.9	100.0
Small	16.0	15.1	14.1	15.0	20.0	19.8	100.0
Total	15.8	20.0	16.4	17.1	25.3	5.4	100.0

1/ Includes beef, calf, veal, and lamb.

Table 32.--Summary of variance analysis for prices of U.S. Choice and U.S Good steer beef carcasses among selected markets, carload lots, 1960-64

Source of variation	U.S. Choice 600-700 pounds D.F.	U.S. Choice 600-700 pounds Mean square	U.S. Choice 700-800 pounds D.F.	U.S. Choice 700-800 pounds Mean square	U.S. Good 600-700 pounds D.F.	U.S. Good 600-700 pounds Mean square	U.S. Good 700-800 pounds D.F.	U.S. Good 700-800 pounds Mean square
Market 1/	2	14.7666**	2	16.2246**	2	37.4775**	2	36.1729**
Month	11	14.5559**	11	16.1634**	11	14.4384**	11	15.1548**
Year	4	322.4834**	4	337.1724**	4	277.8706**	4	271.8872**
Market x month	22	.0269	22	.0020	22	.0377	22	.0318
Market x year	8	.1121**	8	.0732**	8	.1809**	8	.5735**
Month x year	44	10.7699**	44	12.8517	44	9.9479**	44	10.2113**
Error	88	.0283	88	.0157	88	.0613	88	.0979

1/ Chicago, Omaha, and Denver.
* Significant at 5-percent probability level.
** Significant at 1-percent probability level.

Table 33.--Mean-price values, less-than-carload lots, U.S. Good steer beef, 500-600 pounds, 1960-64 1/

Market				
Los Angeles	Chicago	San Francisco	New York	
37.797	38.152	38.877	38.971	

Year				
1964	1963	1961	1960	1962
35.310	37.370	38.232	40.455	40.882

Month											
June	May	Nov.	July	April	Oct.	Mar.	Dec.	Feb.	Aug.	Sept.	Jan.
37.257	37.657	38.148	38.195	38.270	38.311	38.407	38.570	38.896	38.896	39.151	39.703

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 34.--Mean-price values, less-than-carload lots, U.S. Choice steer beef, 600-700 pounds, 1960-64 1/

Market

Los Angeles	San Francisco	Chicago	New York
39.144	39.728	39.876	40.941

Year

1964	1963	1961	1960	1962
36.760	38.524	39.523	42.311	42.493

Month

June	May	Nov.	July	Oct.	April	Dec.	Mar.	Aug.	Feb.	Sept.	Jan.
38.686	39.055	39.531	39.590	39.750	39.926	40.058	40.117	40.261	40.395	40.492	41.206

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 35.--Mean-price values, less-than carload lots, U.S. Good steer beef, 600-700 pounds, 1960-64 1/

Market

Los Angeles	San Francisco	Chicago	New York
36.870	37.768	38.066	38.997

Year

1964	1963	1961	1960	1962
34.789	36.770	37.742	39.805	40.521

Month

June	May	July	April	Nov.	Mar.	Oct.	Feb.	Dec.	Aug.	Sept.	Jan.
36.757	37.116	37.605	37.708	37.710	37.782	37.866	38.190	38.193	38.349	38.674	39.156

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 36.--Mean-price values, less-than-carload lots, U.S. Choice steer beef, 700-800 pounds, 1960-64 1/

Market				
Los Angeles	San Francisco	Chicago	New York	
37.505	38.303	39.057	40.333	

Year				
1964	1963	1961	1960	1962
35.554	37.217	38.343	40.936	41.948

Month											
June	May	July	Nov.	April	Mar.	Oct.	Feb.	Dec.	Aug.	Sept.	Jan.
37.414	37.817	38.433	38.603	38.684	38.740	38.870	38.920	39.124	39.300	39.698	39.993

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 37.--Mean-price values, carload lots, U.S. Choice steer beef, 600-700 pounds, 1960-64 1/

Market

Denver	Omaha	Chicago
36.949	37.229	37.911

Year

1964	1963	1961	1960	1962
33.592	35.337	37.248	40.245	40.392

Month

June	May	July	April	Oct.	Mar.	Aug.	Nov.	Dec.	Feb.	Sept.	Jan.
35.503	35.836	36.625	37.055	37.334	37.456	37.676	37.760	37.951	38.060	38.153	38.947

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 38.--Mean-price values, carload lots, U.S. Good steer beef, 600-700 pounds, 1960-64 1/

Market			
	Denver	Omaha	Chicago
	34.408	35.539	35.929

Year					
	1964	1963	1961	1960	1962
	31.608	33.594	35.331	37.691	38.235

Month											
June	May	July	April	Mar.	Feb.	Oct.	Aug.	Dec.	Nov.	Sept.	Jan.
33.427	33.887	34.577	34.830	34.937	35.344	35.761	35.873	35.877	36.027	36.464	36.499

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 39.--Mean-price values, carload lots, U.S. Choice steer beef, 700-800 pounds, 1960-64 1/

Market

Denver	Omaha	Chicago
36.445	36.667	37.434

Year

1964	1963	1961	1960	1962
33.169	34.735	36.487	39.492	40.361

Month

June	May	July	April	Mar.	Feb.	Oct.	Aug.	Dec.	Nov.	Jan.	Sept.
34.780	35.239	36.134	36.502	36.721	36.918	37.289	37.423	37.496	37.514	38.022	38.126

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 40.--Mean-price values, carload lots, U.S. Good steer beef, 700-800 pounds, 1960-64 1/

Market			
Denver	Omaha	Chicago	
34.133	34.775	35.677	

Year				
1964	1963	1961	1960	1962
31.165	33.346	34.788	37.137	37.872

Month											
June	May	July	April	Mar.	Feb.	Oct.	Aug.	Dec.	Nov.	Jan.	Sept.
33.303	33.461	34.103	34.369	34.432	34.732	35.478	35.490	35.524	35.661	35.917	36.165

1/ Duncan Multiple Range Test at the 5-percent level. There is no significant difference between those mean values which have a common line.

Table 41.--Summary of variance analysis for price differences of U.S. Choice and U.S. Good grade steer carcasses, among selected markets, by months, carload lots, 1960-64

Markets and source	U.S. Choice 600-700 D.F.	U.S. Choice 600-700 Mean square	U.S. Choice 700-800 D.F.	U.S. Choice 700-800 Mean square	U.S. Good 600-700 D.F.	U.S. Good 600-700 Mean square	U.S. Good 700-800 D.F.	U.S. Good 700-800 Mean square
Chicago vs. Denver								
Month	11	.1224	11	.0278	11	.0734	11	.0660
Year	4	.1749	4	.0825	4	.1284	4	1.0549*
Error	44	.0799	44	.0433	44	.1619	44	.2887
Chicago vs. Omaha								
Month	11	.0207	11	.0096	11	.0795	11	.0711
Year	4	.1393**	4	.1464**	4	.8014**	4	.3870**
Error	44	.0165	44	.0102	44	.0879	44	.0780
Omaha vs. Denver								
Month	11	.0991	11	.0318	11	.1423	11	.1241
Year	4	.6077**	4	.3669**	4	.3114	4	2.1782**
Error	44	.1002	44	.0416	44	.1560	44	.2702

* Significant at 5-percent probability level.
** Significant at 1-percent probability level.

Table 42.--Adequacy of current price information relative to carcass weight ranges of beef, calf, veal, and lamb according to Texas and Oklahoma packers, by size of packer, 1964

State and size of packer	Packers reporting information-- Adequate	Inadequate	Total
	Percent		
Texas:			
Large	65.4	34.6	100.0
Medium	84.2	15.8	100.0
Small	91.7	8.3	100.0
Total	73.5	26.5	100.0
Oklahoma:			
Large	60.9	39.1	100.0
Medium	75.0	25.0	100.0
Small	20.0	80.0	100.0
Total	58.3	41.7	100.0

Table 43.--Adequacy of current price information relative to carcass weight ranges of beef, calf, veal, and lamb according to Texas and Oklahoma retailers, by size of retailer, 1964

State and size of retailer	Retailers reporting information-- Adequate	Inadequate	Total
		Percent	
Texas:			
Large 1/	61.5	38.5	100.0
Medium 2/	100.0	0	100.0
Small 3/	100.0	0	100.0
Total	75.6	24.4	100.0
Oklahoma:			
Large 1/	66.7	33.3	100.0
Medium 2/	50.0	50.0	100.0
Small 3/	100.0	0	100.0
Total	66.7	33.3	100.0

1/ Large includes retail organizations with 10 or more supermarkets or affiliated groups.

2/Medium includes retail organizations with 4 or more stores and 1 to 9 supermarkets.

3/Small includes retail organizations with 4 or more stores, but no supermarkets.

Table 44.--Adequacy of current price data relative to grades or quality of beef, calf, veal, and lamb, according to Texas and Oklahoma packers, by size of packer, 1964

State and size of packer	Packers reporting information-- Adequate	Inadequate	Total
		Percent	
Texas:			
Large	82.7	17.3	100.0
Medium	78.9	21.1	100.0
Small	91.7	8.3	100.0
Total	83.1	16.9	100.0
Oklahoma:			
Large	78.3	21.7	100.0
Medium	75.0	25.0	100.0
Small	60.0	40.0	100.0
Total	75.0	25.0	100.0

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