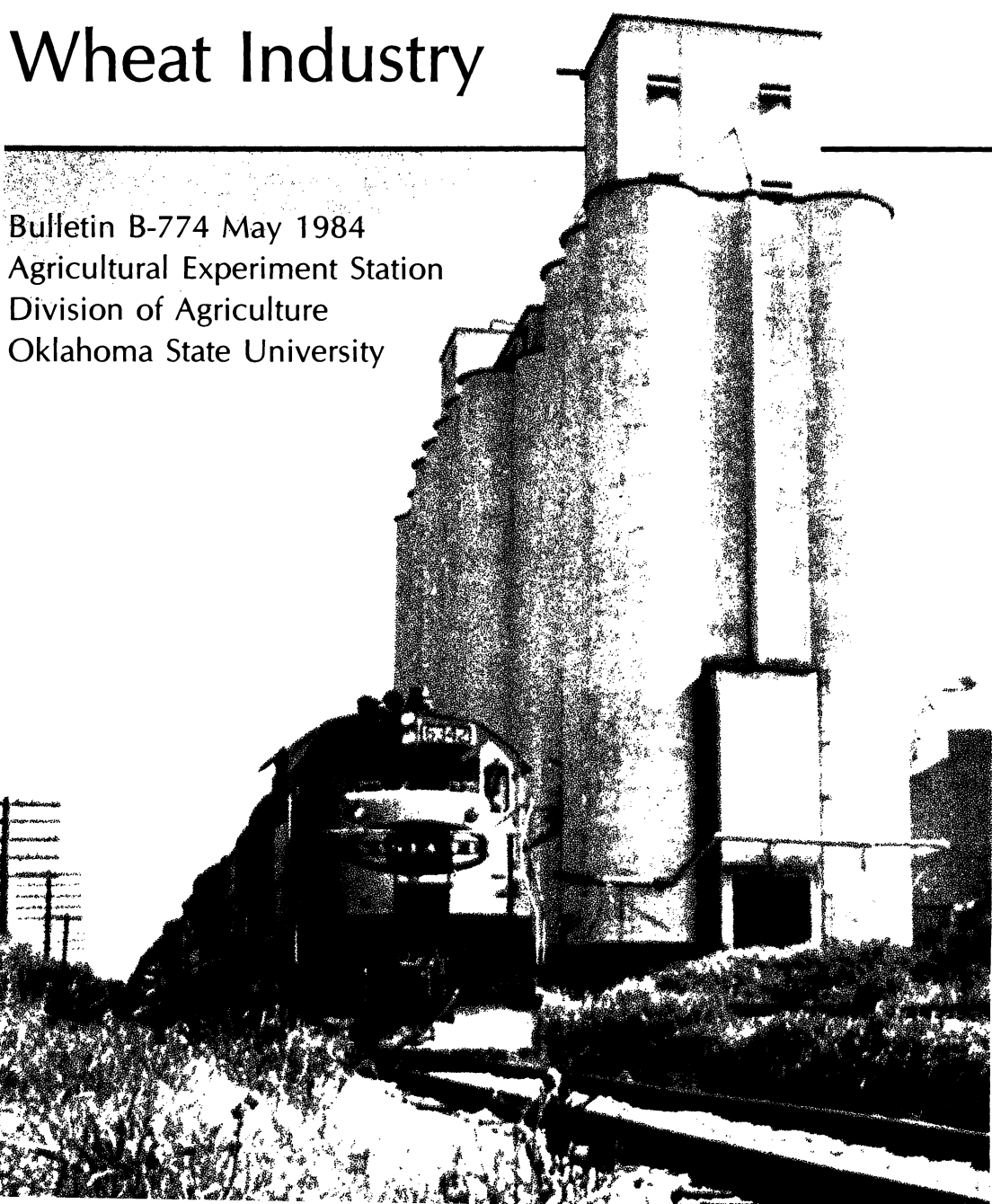


Analysis of Operational Goals, Procedures and Conflicts in the Oklahoma Wheat Industry

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ANALYSIS OF OPERATIONAL GOALS, PROCEDURES
AND CONFLICTS IN THE OKLAHOMA
WHEAT INDUSTRY

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Introduction and Purpose of the Study

The marketing of wheat is a very complicated and involved process. Within the marketing channels there are many participants involved in various functions and operations. These functions include production, transportation, storage, pricing, risk bearing, decision making and a multitude of other operations. Also included at each level are the inputs which make these operations possible, such as seed, fertilizer, fuel, equipment, facilities, market information and much more.

All of these functions and inputs are important to the success of the wheat marketing operation. They may be well coordinated to provide efficient operation at a given level in the marketing channel. However, efficiency at individual levels does not guarantee highly efficient operation of the wheat marketing system as a whole.

To assure the efficient operation of these individual functions as a cohesive unit, the wheat marketing system must be capable of coordinating the activities of the various participants throughout the marketing levels involved. The functions of each of these participants are interrelated and must be treated as a system rather than as isolated activities.

Little work has been done on the performance of the wheat marketing system as a whole, particularly with respect to conflicts and coordination among functions and among market participants. The objectives of this study are to identify the nature of some of the interrelationships between marketing functions relating to various goals, operational procedures and decision processes of Oklahoma wheat producers and grain elevator managers. From this descriptive analysis, areas for improved coordination may then be determined and evaluated as to their effects on the wheat marketing system as a whole.

Gathering the Information

In August and September of 1979, information was gathered through personal interviews of managers of 31 cooperative and 18 independently owned country elevators located in Oklahoma. These country elevators were a random sample from a population of approximately 245 elevators. The managers were asked selected questions on the internal operation of their elevators and on their relationships with other wheat marketing

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people. Of the 49 elevators, 23 elevator firms had more than 1,000,000 bushel storage capacity, 15 firms had greater than 300,000 but less than 1,000,000 bushel storage capacity, and 11 firms had less than 300,000 bushel grain storage capacity.

During March and April, 1980, an extensive mail survey was completed involving over 1100 Oklahoma wheat producers. Five hundred twenty-four usable completed questionnaires were received. The questions were presented in a format similar to the elevator manager survey and were designed to detect coordination problems in the marketing of wheat from the wheat producers' perspective.

The two surveys were designed to enable the evaluation and comparison of many of the relevant goals and operational procedures which directly affect both the elevator and the producer sectors of the wheat marketing system. The surveys thus provide the data for detecting conflicts and inconsistencies between these two levels in the system.

Evaluation of the Data

Frequency and correlation analyses have been used to help describe the relationships within the data. Those parts of the two surveys which relate directly to the interaction of producers and country elevator managers will be presented first. This analysis will be followed by a summary specific to each survey.

Comparison of Operations of Producers And Country Elevator Managers

Goals and Objectives

The rating of the importance of selected objectives by Oklahoma elevator managers and wheat producers are summarized in Table 1. The results of the surveys indicate that elevator managers and producers have different goals or objectives in the operation of their respective organizations dealing with wheat marketing. Obtaining the top price for their crop and making a profit on all sales are the most important objectives to the producer. These objectives were not rated as highly by the elevator managers. The managers indicated that trading wheat with price based on grade and quality was of the most importance to them. The lack of producer interest in trading wheat with price based on grade and quality may be an indication that the producer is not aware of the risk that is undertaken by elevator management when purchasing wheat. The elevator manager must be concerned about the grade and quality requirements of his buyers. Elevator managers also indicated that obtaining wheat storage income is a major objective in the operation of the elevator. This rating would be expected, as storage is a major function provided by the elevator.

Elevator managers and producers differed greatly on the use of hedging or forward contracting of wheat. The managers appeared to place more importance on the use of these strategies in their operations. There are several possible explanations for this phenomenon.

TABLE 1. THE IMPORTANCE WHICH OKLAHOMA WHEAT PRODUCERS AND COUNTRY ELEVATOR MANAGERS FEEL SELECTED OBJECTIVES HAVE IN THEIR WHEAT MARKETING OPERATION^a

OBJECTIVE	PRODUCER RATING	MANAGER RATING	PERCENT OF PRODUCERS RATING THE FACTOR VERY IMPORTANT	PERCENT OF MANAGERS RATING THE FACTOR VERY IMPORTANT
Obtain the best possible wheat price	1	8	84	4
Make a profit on all transactions	2	4	77	47
Hold wheat in anticipation of higher price	3	5	50	45
Meet cash flow needs of the farm	4	N/A	50	N/A
Minimize wheat storage costs or obtain wheat storage income	5	2	39	88
Trade wheat with price based on grade and quality	6	1	38	92
Sell grain as soon as possible	7	6	7	18
Contract wheat trade prior to harvest	8	7	7	16
Hedge or forward contract wheat	9	3	3	51

^aA rating of 1 signifies the highest importance rating. N/A is used where the rating is not applicable.

The elevator managers could be more familiar with the use of the futures market than are producers. The larger size of the elevator operation should support facilities and information networks which enhance more effective participation in the futures market. Elevator managers may perceive the futures market or forward contracting as an effective method to avoid price risk. Whereas, due to the diversified nature of the producers' operation, the producer may utilize other methods of risk aversion such as on-farm storage or grazing of wheat pasture. The fact that the producers and managers regard the importance of hedging and forward contracting differently may be due to the basic difference in the nature of the operations themselves or due to differences in familiarity with such methods.

Perceived Inefficiency

The environment within which the wheat marketing system operates is constantly changing. Economic conditions and political influences, in addition to numerous other factors, affect the conditions of the wheat market from production to consumption. These influences are capable of creating or aggravating inefficiency in the marketplace.

Producers and elevator managers were asked to identify some of the factors which they perceive create inefficiency in the wheat marketing system. These results are summarized in Table 2. Government regulation was rated very highly by both groups, although a greater percentage of producers than managers indicated it is a problem. Also rated very high by both the managers and the producers are transportation difficulties. This rating is an indication of the severity of the problem being created by the instability of rail line operation in Oklahoma.

Elevator managers indicate that the lack of proper grading specification causes increased inefficiency. This response emphasizes the amount of risk that the elevator manager assumes when he buys grain from the producer to be graded and sold at the port. The manager is not guaranteed that the quality of the wheat he purchased has been correctly determined and the manager may therefore receive a discount from the buyer of the local elevator's wheat. The producers in general do not appear to have any major problems with the grading of wheat at the local elevator. On the other hand, producers are quite concerned with unanticipated variations in the price of wheat.

Wheat Quality and Grading

Wheat Testing Procedures. The results of the surveys indicate differences between the responses of producers and managers relating to preferences in wheat testing procedures. The wheat producers were asked their preference in having various tests performed on their wheat, while the elevator managers were asked which tests they felt the producer would prefer to have performed on their grain. The results indicate that producers' preferences are in fact not perceived similarly by the managers. The results are summarized in Table 3. Eighty-three percent of the producers prefer to have moisture testing performed, but only 27 percent of the elevator managers felt that the producers would respond in this manner.

The elevator managers consistently underestimated the percentage of producers who prefer to see tests for dockage and foreign material,

TABLE 2. THE IMPORTANCE WHICH OKLAHOMA WHEAT PRODUCERS AND COUNTRY ELEVATOR MANAGERS FEEL SELECTED FACTORS HAVE ON CREATING INEFFICIENCY IN THE WHEAT MARKET^a

FACTOR	PRODUCER RATING	MANAGER RATING	PERCENT OF PRODUCERS RATING THE FACTOR VERY IMPORTANT	PERCENT OF MANAGERS RATING THE FACTOR VERY IMPORTANT
Government regulations	1	2	74	49
Transportation difficulties	2	1	63	57
Unanticipated variations in the price of wheat	3	N/A	49	N/A
Insufficient competition among participants	4	5	37	12
Government pollution and safety rules	5	N/A	35	N/A
Grading system and quality requirements at the port	6	N/A	29	N/A
Lack of market information to producer	7	6	29	8
Premiums and discounts not used effectively	8	4	28	20
Lack of proper grading specifications	9	3	8	41
Lack of market information to manager	N/A	7	N/A	6

^aA rating of 1 signifies the highest importance rating. N/A indicates the rating is not available.

TABLE 3. PREFERENCES OF OKLAHOMA WHEAT PRODUCERS ON HAVING WHEAT TESTED FOR SELECTED CHARACTERISTICS

CHARACTERISTICS	PERCENTAGE OF PRODUCERS WHO PREFER THE TEST	PERCENTAGE OF MANAGERS WHO FEEL THE PRODUCERS PREFER THE TEST
Moisture	83	27
Test Weight	74	29
Dockage, Foreign Material	61	11
Protein	54	69
Shrunken Kernels	22	8

TABLE 4. PERCENTAGE OF OKLAHOMA WHEAT PRODUCERS AND COUNTRY ELEVATOR MANAGERS AGREEING WITH STATEMENTS PERTAINING TO PRICE PREMIUMS AND DISCOUNTS OF WHEAT TRADED WITHIN THE LAST FIVE YEARS

PREMIUM AND DISCOUNT STATEMENT	PERCENT OF PRODUCERS WHO AGREE WITH THE STATEMENT	PERCENT OF MANAGERS WHO AGREE WITH THE STATEMENT
Lower quality wheat is discounted but no premium is paid for high-quality wheat	67	41
Wheat is traded at an average price without the use of premium or discounts	25	20
Both premiums and discounts are used in wheat transactions	7	37
A premium is paid for high-quality wheat and other wheat is paid an average price	1	2

moisture, test weight and shrunken kernels performed on their wheat when it is delivered to the country elevator. If it were possible to perform these tests at the elevator, the managers' risk would be reduced by greater assurance of the quality of wheat received at the elevator.

Premium and Discount Policies. Many different factors affect the quality of wheat. It is possible that the producer may receive quality premiums or discounts for the wheat which he delivers to the elevator. Table 4 shows the results of questions asked of the elevator managers and producers in the survey relating to premium and discount policy. The greatest percentage of respondents in both groups indicated that over the past five years most wheat has been traded with price discounts with no price premiums given for high quality wheat. One-fourth of the respondents in both groups indicated that they believe wheat is traded at an average price without the use of either premiums or discounts. Although only 7 percent of the producers agree, 37 percent of the managers indicated they believe that both premiums and discounts are utilized in wheat transactions. If premiums are given, producers need to be made aware of this situation.

Destination Quality Grading. The majority of both the wheat producers and the elevator managers are in favor of grading wheat according to the grade which would be affixed at the destination point. This pricing practice would involve decreased risk on the part of the elevator manager. The manager currently bears the risk of incorrect grading at the local elevator. In this situation the manager could be forced to accept a lower quality grade and thus a lower price from the firm that purchases the elevator's wheat. The wheat producer would be more assured of receiving a price at the elevator according to actual grade, if pricing were based on destination grade.

Eighty-eight percent of the elevator managers would prefer to have price tied to destination grade (Table 5). This high percentage tends to weaken the argument of some that the elevators are currently attempting to obtain unreasonably high profits by blending ungraded grain purchased from producers, in order to meet USDA grade specifications.

TABLE 5. DESTINATION QUALITY GRADING

STATEMENT	PERCENT OF PRODUCERS AGREEING WITH STATEMENT	PERCENT OF MANAGERS AGREEING WITH STATEMENT
Would you be willing to trade wheat with price tied to destination grade?	66	88

Due to the fact that pricing based on destination grade could reduce risk to the elevator, the manager might then be in a position to decrease the margin on wheat purchased from the producer. Elevator

managers and wheat producers should further investigate possible mutual advantages to operating under this pricing system.

Market Decision Processes in the System

Market Information and Buy/Sell Decisions. Producers and elevator managers are each faced with various sets of decisions. Although they participate in wheat transactions at different levels in the system and on largely different scales, both groups have various types of marketing information available to them for making marketing decisions. In both surveys the respondents were asked how important these various types of market information were in making buy/sell decisions. The responses are shown in Table 6.

The producer response shows that the local price the day of the sale is the most important when making a decision to sell wheat. Export activity and exporting prospects are important to the producer as market indicators when making wheat sell decisions.

The elevator managers did not indicate that they rely heavily on any one of these types of marketing information in making buy/sell decisions. One explanation for this could be that a large percentage of elevator managers do not speculate on the cash market. The elevator managers may operate on a given margin or may be prohibited from any speculation on the cash market due to the bylaws of the organization.

When the elevator managers were asked what means of protection from price risk they utilize, 65 percent indicated that they sell a cash contract to another grain firm. This percentage is further indication of the elevator manager's aversion to speculation on the cash market.

Wheat Delivery Decisions. Wheat producers surveyed were asked what factors determined the elevator to which they delivered their wheat. Elevator managers were asked what factors or services they provide which they feel prompt the producer to deliver wheat to their elevator for storage or sale. The results are shown in Table 7.

Three-fourths of the producers responded that the closeness of the elevator to the farm is a major consideration. This response was expected and also received from the elevator manager. The geographical location of the elevator in relation to the farm or field is extremely important in this decision process.

The reliability of elevator management and the attitude of management and employees were rated high by both groups. However, a greater percentage of producers than managers rated these factors as being very important, indicating that perhaps elevator managers do not realize the importance of these attributes to producers.

A third of the producers indicated that one very important factor in their choice of an elevator was that the elevator is a cooperative. On the other hand, only a small percentage of producers chose an elevator on the basis that it is not a cooperative. The survey results indicate that neither of these factors were perceived as being important by elevator managers.

TABLE 6. THE IMPORTANCE OF SELECTED TYPES OF MARKET INFORMATION TO OKLAHOMA WHEAT PRODUCERS AND COUNTRY ELEVATOR MANAGERS IN THEIR BUY/SELL DECISIONS^a

INFORMATION	PRODUCER RATING	MANAGER RATING	PERCENT OF PRODUCERS RATING THE FACTOR VERY IMPORTANT	PERCENT OF MANAGERS RATING THE FACTOR VERY IMPORTANT
Local price the day of the transaction	1	N/A	67	N/A
Export activity and prospects	2	1	58	18
Crop estimates	3	6	35	2
Knowledge of recent past prices	4	4	32	6
Futures prices	5	2	28	10
World Wheat Stocks	N/A	3	N/A	9
U.S. Wheat Stocks	N/A	5	N/A	4

^a A rating of 1 signifies the highest importance rating. N/A indicates the factor was not included in the survey.

TABLE 7. THE IMPORTANCE WHICH OKLAHOMA WHEAT PRODUCERS AND COUNTRY ELEVATOR MANAGERS FEEL SELECTED FACTORS HAVE ON PRODUCERS' DECISIONS AS TO WHICH ELEVATOR THEY TAKE THEIR WHEAT^a

FACTOR	PRODUCER RATING	MANAGER RATING	PERCENT OF PRODUCERS RATING THE FACTOR VERY IMPORTANT	PERCENT OF MANAGERS RATING THE FACTOR VERY IMPORTANT
Closeness of the elevator to the farm	1	2	75	35
Reliability of the elevator management	2	3	67	16
Price given for wheat	3	5	64	14
Speed and convenience of facility	4	7	55	6
Attitude of management and employees	5	6	54	10
Premium and discount policy	6	1	44	100
Elevator is a cooperative	7	4	37	14
Sale of farm inputs	8	8	21	2
Grain testing facilities	9	-	17	0
Elevator is not a cooperative	10	-	7	0
Farm pickup of wheat by elevator	11	-	5	0

^a A rating of 1 signifies the highest importance rating. N/A indicates the factor was not included in the survey.

The speed and convenience of unloading facilities is considered very important by over half of the producers who responded. Elevator management generally does not recognize this as being an important factor in the producer's decision. This difference might present some problems in the system if expectations of the producer, relating to convenience in the use of facilities, are not fully recognized by elevator management.

Every elevator manager who participated in the survey indicated that one very important reason for farmers delivering wheat to their elevator is their discount policy. The elevator manager must feel that given equal hauling distances and fairly uniform prices between elevators, the premium and discount policy of the elevator is a major consideration on the producer's part. However, the producers rated this factor sixth in order of importance.

Wheat Marketing Methods. There are several wheat marketing methods available to the producer. He must make decisions relating to storage, and contracting and risk management, and incorporate these decisions into marketing practices and procedures.

The elevator managers were questioned concerning their perception of the wheat marketing preferences of the producers. The wheat producers were asked to indicate which methods they preferred for the marketing of their wheat. The results of this questioning appear in Table 8. Wheat producers indicated they would like to store 70 percent of their wheat at the elevator and speculate on price. This preference is known to the elevator manager because this method received the highest ranking by that group also. This awareness indicates that the elevator manager understands this marketing goal of the producer and is therefore in a position to help make this marketing decision an effective decision through the services he/she provides the producer. An example would be to provide the producer with the types of information he may need to analyze prices. This information could include current and past price quotes, futures trading information, exporting situation information, gulf port bids, government policy news, crop estimates and carryover information.

The survey indicated that half of the elevator managers questioned provide information on futures activity, exporting situations, government policy news, crop estimates and carryover information. Three-fourths of the elevator managers questioned provide Gulf port cash bids. Ninety-two percent of the elevator managers make current and past price quotes available to their customers. This situation indicates that the elevator manager is recognizing and attempting to meet the needs of the producer in making marketing decisions.

The Operation and Management of Oklahoma

Country Elevators

This section includes further discussion of specific management practices of Oklahoma country elevator managers.

The role of the elevator manager is essential to the efficient operation of the wheat marketing system as a whole. Achieving a

TABLE 8. OKLAHOMA WHEAT PRODUCER PREFERENCE RELATING TO WHEAT MARKETING METHODS^a

METHOD	PRODUCER PREFERENCE	MANAGER EXPECTATION OF PRODUCER PREFERENCE
Store at local elevator and speculate on rising prices	1	1
Store on farm and speculate on rising prices	2	2
Sell at harvest with no prior contract	3	3 (tie)
Contract to local elevator prior to harvest	4	3 (tie)
Hedge on futures market prior to harvest	5	5

^a A rating of 1 indicates the most preferred method.

TABLE 9. AVERAGE MAXIMUM UTILIZATION OF OKLAHOMA COUNTRY ELEVATOR STORAGE CAPACITY DURING WHEAT HARVEST BY ELEVATOR SIZE, 1979

SIZE OF ELEVATOR	AVERAGE MAXIMUM STORAGE UTILIZATION (PERCENT)
Less Than 300,000 Bushels	94.0
300,000 to 999,000 Bushels	87.3
1,000,000 Bushels or More	86.3
Average of All	89.0

successful local wheat buying and selling business is dependent upon good management, full utilization of facilities and up-to-date machinery. The operations and practices of farmers, wheat buyers, the transportation industry, and government and financial institutions interact with operations of the local grain elevator firm. If the manager is well informed about the operations of the system as a whole and is aware of the needs and problems of the other participants in the chain, he/she is better prepared to run the operation in the most efficient manner to deal with these situations. Such efficiency may result in a better wheat price being offered to producers.

Facilities and Services

Utilization of Facilities. On the average, all elevator managers indicated that maximum utilization of grain storage capacity during harvest was 89 percent (Table 9). Responses of individual managers ranged from 25 percent maximum utilization to 100 percent maximum utilization during harvest. The smaller the storage capacity of the firm, the greater the percentage of storage capacity used during harvest.

The survey results summarized in Table 10 indicate that elevator receiving and outloading capacity increases with elevator storage capacity. This evidence of increased speed in handling capacity at the larger elevators does not necessarily indicate faster service, due to the greater quantity of grain handled at the larger elevators.

TABLE 10. AVERAGE MAXIMUM RAIL AND TRUCK RECEIVING AND UNLOADING CAPACITY IN HUNDREDS OF BUSHELS PER HOUR OF OKLAHOMA COUNTRY ELEVATORS, BY ELEVATOR SIZE, 1979

FUNCTION	MODE	ELEVATOR STORAGE CAPACITY IN BUSHELS			
		Less Than 300,000	300,000 to 999,000	1,000,000 or More	ALL ELEVATORS
Receiving:	Rail	no rail receipt	80.00	185.00	156.36
	Truck	84.00	110.53	174.17	127.41
Outloading:	Rail	59.00	59.74	129.06	86.72
	Truck	59.17	79.22	81.11	74.92

The survey results summarized in Table 11 indicate that the smaller elevators reach their maximum receiving and outloading capacity more days each year than do the larger elevators.

TABLE 11. AVERAGE NUMBER OF DAYS PER YEAR OKLAHOMA COUNTRY ELEVATORS REACHED MAXIMUM RECEIVING AND OUTLOADING CAPACITY FOR GRAIN, 1979

FUNCTION	ELEVATOR STORAGE CAPACITY IN BUSHELS			
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	ALL ELEVATORS
Receiving	11.3	8.9	7.3	9.0
Outloading	10.1	12.3	8.3	10.0

Elevator managers were asked if a reduction in the intensified use of elevator facilities and smoother movement of grain over time could result in possible savings in handling costs. As shown in Table 12, the majority of all managers said a decrease in cost would be possible, with a greater number of positive responses in the intermediate and large elevator size groups. The managers of the elevators with the smallest storage capacity indicated that 4.0 cents per bushel could be saved with the elimination of peak use of facilities for only short time periods. Probable savings per bushel decreased with an increase in the elevator storage capacity. On the average, all elevator managers indicated a 3.1 cents per bushel savings could result from a more constant utilization of elevator handling facilities. "Overtime" was most frequently mentioned as an extra cost from intensive use of the facilities.

Wheat Testing. The number of wheat characteristics tested and the thoroughness of testing is directly related to the ability of the elevator firm and the marketing system to control and handle different qualities of wheat and to signal from buyer to seller the preference of the market concerning various wheat qualities. Elevator managers indicated they test for wheat quality but not at the same level for all characteristics. The most complete testing was performed for moisture, with an average of 81.6 percent of the wheat being tested (Table 13). Test weight was the next characteristic most frequently evaluated, with an average of 63.7 percent of wheat arriving at all elevators being checked for test weight. Protein was the characteristic tested least frequently, with only 2.7 percent of the wheat tested.

Purchasing Wheat

Methods of Purchasing Wheat. The method by which wheat is purchased by the elevator from the producer greatly influences the grain handling operation of the firm. Awareness by the manager of the price expectation and sale dates of his customers is important for efficient vertical coordination of the market. The methods of wheat marketing discussed in the survey are detailed in Table 14.

TABLE 12. RESPONSE OF ELEVATOR MANAGEMENT CONCERNING INTENSITY OF USE OF GRAIN HANDLING FACILITIES AND POSSIBLE SAVINGS FROM MORE UNIFORM MOVEMENT OF WHEAT, 1979

QUESTION	ELEVATOR STORAGE CAPACITY IN BUSHEL							
	Less Than 300,000		300,000 to 999,000		1,000,000 or More		ALL ELEVATORS	
	Number of Firms Responding							
	Yes	No	Yes	No	Yes	No	Yes	No
Is a cost reduction possible?	6	6	12	7	10	8	28	21
	Cents/Bushel							
How many cents per bushel could be saved? (average of positive responses)	4.0		3.3		2.3		3.1	

TABLE 13. PERCENT OF WHEAT TESTED FOR SELECTED CHARACTERISTICS BY OKLAHOMA COUNTRY ELEVATORS, BY SIZE OF ELEVATOR, 1979

CHARACTERISTIC TESTED	STORAGE CAPACITY OF ELEVATOR IN BUSHEL			
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	ALL ELEVATORS
Moisture	80.0	83.4	80.7	81.6
Test Weight	79.2	71.8	44.8	63.7
Dockage	30.8	66.1	32.6	49.1
Shrunken Kernels	19.6	43.2	26.2	30.7
DHV	4.2	17.7	6.6	10.0
Protein	0.0	4.1	3.1	2.7

TABLE 14. PERCENT OF WHEAT WHICH WAS PURCHASED FROM FARMERS BY SELECTED METHODS AT SAMPLED OKLAHOMA ELEVATORS IN 1978 AND 1979

METHOD OF SALE	YEAR	ELEVATOR STORAGE CAPACITY IN BUSHELS			ALL ELEVATORS	CHANGE FROM 1978 TO 1979
		Less Than 300,000	300,000 to 999,000	1,000,000 or More		
Purchased for Cash at Harvest	1978	28.0	18.8	20.7	21.8	Increase
	1979	34.6	32.1	29.5	31.7	
Stored for Farmer and Purchased at Later Date	1978	49.4	54.1	70.6	59.0	Decrease
	1979	43.3	52.8	62.1	53.9	
Bought on Contract Made Before Harvest	1978	3.6	3.3	2.9	3.2	Increase
	1979	9.9	6.9	4.8	7.0	
Bought at Harvest But Payment Deferred	1978	1.4	1.4	2.4	1.8	Increase
	1979	2.5	3.2	2.7	2.8	
Purchased from Farm Storage After Harvest	1978	9.5	6.6	6.6	7.3	Decrease
	1979	9.7	6.2	3.8	6.2	

The survey results indicate a reduction in 1979 from 1978 in the percentage of grain purchased from farm storage after harvest and the amount stored at the elevator for farmers to be purchased at a later date. The actual quantity in bushels may have increased for all categories due to the large 1979 harvest. However, the figures indicate how the proportions by method of sale changed. These results indicate an increased move in 1979 over 1978 for the farmer and manager to be locked into a wheat price at the time of harvest rather than arranging for the opportunity to speculate on price after harvest.

Factors Affecting Price. The elevator manager is faced with many factors in determining the price that will be offered to producers for their wheat. The results of the survey indicate that all elevator managers, regardless of the size of the elevator, place great importance on two of these factors (Table 15). Transportation costs to the Gulf or to the terminal and the Kansas City or Gulf bid are rated by all managers in each of the size categories as the most important factors affecting price. The handling costs and the cost of services provided by the elevator and the price that is offered by competitors are also important factors in determining the price offered to producers. In individual size categories, the wheat handling capacity of the elevator influenced price less as size increased. This variation indicates the possibility of greater flexibility in decision making by the manager of a larger elevator who is not constrained by size limitations.

Destination Quality Grading. Tying the price offered to farmers to the quality of each farmer's wheat is an operation involving a price risk to the elevator firm. The risk is that the elevator firm may have incorrectly rated the quality of the wheat too high and thus be forced to accept a lower quality grade and a lower price than expected from the buyer of the elevator firm's wheat. For this reason, the managers were asked whether they would prefer the price of wheat to farmers be tied to destination grade determined by the elevator's buyer at the regional, terminal, or port elevator. The responses, as indicated in Table 16, were overwhelmingly in favor of having the producer's wheat price tied to destination grade. The survey indicates that 86 percent of all elevator managers would like producer price to be tied to destination grade. The elevator managers were also asked if a savings could result from such an arrangement. The average of all responses of the elevator managers indicated the possibility for a 3.2 cents per bushel savings under such an arrangement. This type of purchasing method means a reduction in risk for the elevator manager which could eventually benefit the producer. The producer should be informed of the possible advantages of marketing wheat under this system.

Risk

Risk Aversion. The elevator managers were asked what methods they utilize to protect wheat purchases against risk of price change. The results of this questioning are summarized in Table 17. Sixty-five percent of all managers sell a cash contract with another grain firm to guard against price change. About 20 percent of the managers indicated they normally use no method of risk aversion and about the same percentage sell contracts in the futures market. The data seem to indicate that as the size of the elevator increases more emphasis is placed on protecting wheat purchases against risk. Compared to the larger elevator managers, a greater percentage of the managers of smaller elevators

TABLE 15. THE IMPORTANCE* OF SELECTED FACTORS IN SETTING THE CASH WHEAT PRICE OFFERED TO FARMERS BY MANAGERS OF OKLAHOMA COUNTRY ELEVATORS, 1979

FACTOR	ELEVATOR STORAGE CAPACITY IN BUSHELS			ALL ELEVATORS
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	
Transportation Costs to Terminal or Gulf	1	1	2	2
Kansas City/Gulf Bid	2	2	1	1
Competitors' Prices for Wheat	3	4	3	4
Handling Charges and Other Services	4	3	4 (tie)	3
Wheat Handling Capacity of Elevator	5	7	**	5
Moisture of the Wheat	6	5	5	7
Protein of the Wheat	7	6	7	8
Price Received from Buyer (not Gulf or Kansas City)	8	**	4 (tie)	6
Risk	9	9	8	10
Financial Limitations	10	8	6	9
Expected Area Production	**	**	**	**
Volume Sold by Individual Producer	**	**	**	**

* A rating of 1 signifies the most important factor.

** Not considered important.

TABLE 16. THE WILLINGNESS OF ELEVATOR MANAGERS TO PURCHASE WHEAT WITH PRODUCER WHEAT PRICE TIED TO DESTINATION GRADE AND POSSIBLE SAVINGS RESULTING FROM SUCH METHOD OF PURCHASE

RESPONSE	ELEVATOR STORAGE CAPACITY IN BUSHELS			
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	ALL ELEVATORS
	----- Number of Elevators Responding -----			
Yes	11	16	15	42
No	1	3	3	7
	----- Cents per Bushel -----			
Possible Savings	2.94	3.72	2.73	3.20

TABLE 17. PERCENTAGE OF OKLAHOMA ELEVATOR MANAGERS WHO USE SELECTED METHODS OF RISK AVERSION

METHOD	ELEVATOR STORAGE CAPACITY IN BUSHELS			
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	ALL ELEVATORS
Sell a Cash Contract with Another Firm	50	63	78	65
No Method	33	21	11	20
Sell a Contract in the Futures Market	8	11	33	18

TABLE 18. THE IMPORTANCE* OF SELECTED FACTORS IN MAKING HOLD/SELL DECISIONS BY OKLAHOMA COUNTRY ELEVATOR MANAGERS

FACTOR	ELEVATOR STORAGE CAPACITY IN BUSHEL			ALL ELEVATORS
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	
Established Policy of the Firm	1	1	3	1
Financial Needs	2	6	5	4
Quality Deterioration	3	3	7	7
Lack of Storage Facilities	4	7	6	6
Cash Price	5	2	1	2
Futures Price	6	5	4	5
Basis	7	4	2	3

* Number 1 signifies the most important factor.

TABLE 19. PERCENTAGE OF WHEAT SOLD TO VARIOUS BUYERS BY COUNTRY ELEVATOR MANAGERS IN OKLAHOMA, 1979

TYPE OF BUYER	ELEVATOR STORAGE CAPACITY IN BUSHEL			ALL ELEVATORS
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	
Coop Inland Terminals	38	75	50	56
Port Terminals	36	21	29	29
Millers	14	1	1	3
Non-Coop Inland Terminals	10	3	19	11
Cash Brokers	1	0	1	1
Farmers	1	0	0	0
Other	0	0	0	0

indicated they use no method at all. One-third of the managers of the elevators in the largest size category indicated they utilize the futures market while only 8 percent of the elevator managers in the smallest elevator category use this method. Selling a cash contract with another firm to protect against price risk is the method most utilized by managers in all size categories.

Hold/Sell Decisions. Many elevator managers constantly face the option of holding grain in anticipation of a higher price or selling grain at the existing price. Several factors may be influential in this decision-making process. The elevator managers' responses relating to hold/sell decisions are shown in Table 18. Overall, the elevator managers indicated they make hold/sell decisions based on established policy of the firm. This procedure could mean that managers of a cooperative are directed by the bylaws of the firm or that managers of an independent elevator have specific guidelines established as to the operating policy of the firm. Also rated high by managers was the cash price and basis. The managers of the largest size elevators seemed to be less restricted by firm policy than the managers of the smaller elevators. The managers of these large elevators rated basis and cash price as being more important in decision making than the policy of the firm.

Selling and Related Services

Methods of Sale. As indicated in Table 19, 56 percent of the wheat handled by the sampled elevators is sold directly to Cooperative inland terminals. Nearly one-third of the wheat is shipped from the country elevator to port terminals.

The largest percentage of wheat shipped to Cooperative inland terminals is by the country elevators in the intermediate size category. The country elevators in the smallest size category indicated they sell 36 percent of their wheat to port terminals. The smallest size elevators also reported selling a substantial percentage of their wheat directly to millers.

Obtaining Bids for Wheat Sale. Almost half of the elevator managers interviewed indicated that they utilize the Grain Instant News network which is a direct line to the Kansas City Board of Trade. This figure indicates that many of the elevator managers have up-to-the-minute information useful in decision making for wheat sales.

Responses to questioning concerning the number of bids obtained by elevator managers ranged from as low as one bid per day to as high as 25 bids per day.

Receipt of Premiums for Various Marketing Practices. It is sometimes possible for the elevator manager to provide services or follow marketing practices which may increase the value of the wheat to the buyer. The elevator managers were asked if they ever receive premiums for providing some of these marketing services. The responses of the elevator managers are summarized in Table 20.

A majority of the elevator managers indicated it is presently possible to obtain a premium for the sale of high protein wheat. Other

TABLE 20. NUMBER OF OKLAHOMA ELEVATORS REPORTING ON THE POSSIBILITY OF PREMIUMS FOR VARIOUS MARKETING PRACTICES

IS IT PRESENTLY POSSIBLE TO RECEIVE A PREMIUM WITH THE FOLLOWING PRACTICE?	ELEVATOR STORAGE CAPACITY IN BUSHEL									ALL ELEVATORS		
	Less Than 300,000			300,000 to 999,000			1,000,000 or More					
	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know
Sales in large volumes or round lots	2	9	1	1	18	0	1	2	0	5	43	1
Forward contracting for future delivery	6	5	1	10	9	0	7	11	0	23	25	1
Pooling	1	9	2	0	18	1	1	16	1	2	43	4
Multiple shipments	2	9	1	0	17	1	0	17	0	2	43	2
Delayed pricing	3	8	1	4	13	0	2	15	1	9	36	2
Rapid delivery of grain	3	8	1	6	13	0	8	10	0	17	31	1
Storage of grain for buyer	2	8	1	6	13	0	4	13	1	12	34	2
Sale of consistently high quality grain	2	9	1	3	16	0	6	12	0	11	37	1

TABLE 20. (Continued)

	ELEVATOR STORAGE CAPACITY IN BUSHELS											
	IS IT PRESENTLY POSSIBLE TO RECEIVE A PREMIUM WITH THE FOLLOWING PRACTICE?									ALL ELEVATORS		
	Less Than 300,000			300,000 to 999,000			1,000,000 or More					
	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know
Long history of good business relationship	7	4	1	3	14	1	3	15	0	13	33	2
Delayed shipment	3	8	1	11	8	0	6	10	0	20	26	1
Sale of high protein wheat	5	6	1	12	7	0	9	8	1	26	21	2
Sale of cleaned grain	3	8	1	1	18	0	1	5	12	9	38	1
Sale of uniform protein lots (blended)	2	9	1	0	19	0	3	13	0	5	41	1
Prompt delivery	3	8	1	5	14	0	9	8	0	17	30	1

marketing practices for which many elevator managers could receive a premium were "forward contracting for future delivery" and "delayed shipment of wheat." These possibilities indicate an effort on the part of the buyers to guarantee the availability of wheat although delivery of the grain may be delayed.

In addition, the elevator managers were asked for which of these same marketing practices they would like to receive a premium (Table 21). The majority of all elevator managers indicated they would like to receive a premium for rapid delivery of grain, storage of grain for the buyer, a long history of good business relationship, sale of high-protein wheat, and the sale of blended or uniform protein lots. With one exception these preferences are generally agreed upon by the elevator managers when divided into size categories. The elevator managers in the smallest size category were overwhelmingly opposed to the receipt of premiums for selling wheat in uniform or blended protein lots.

The elevator manager should be made aware of the steps that he can take in order to receive premiums or to avoid discounts. If the manager is able to participate in these practices, some of the benefit derived could be returned to the producer in the form of higher wheat prices.

Cost of Transaction Time. The time that elapses between the purchase agreement of the elevator manager and his buyer, and the actual completion of the transaction, is very valuable time. It is a time period that the elevator manager must forego the receipt of interest on the amount of the sale, and a time when he has decreased his working capital as a result of his investment in the wheat. Reduction of this time period would be extremely beneficial to the elevator manager and his firm.

The results of the survey indicate that the number of days that pass between the loading of a shipment of wheat to a buyer and the day payment is actually received is highly variable. Elevator managers indicate that 0 to 30 days pass as a minimum and that 1 to 90 days pass as a maximum, with an average minimum of 6.5 days and an average maximum of 39.3 days. When asked the opportunity cost involved in this time lapse in terms of a rate of interest, the responses ranged widely. The cost ranged from an interest rate of 0 to 14 percent, with an average of 6.2 percent.

Services Provided by the Buyer. The buyers with which the country elevators deal may be in a position to lend valuable assistance to the elevator manager. Due to the diversified nature of the buyer's organization, there are many services which could be provided for use by elevator management. The elevator managers were questioned as to the availability and the importance of these services provided by the buyer (Table 22). The managers were asked if the service was provided and how important that service is or would be if it were provided.

The consensus of all managers of all sizes of elevators is that they are provided market information by their buyers and feel that this service is important in their marketing decisions. Almost three-fourths of the managers indicated that they are able to receive advice on rail freight rates and tariffs from their buyers. This service was also rated very high in importance. The next service most readily available to elevator managers is public relations assistance.

TABLE 21. NUMBER OF OKLAHOMA ELEVATORS REPORTING ON MARKETING PRACTICES FOR WHICH OKLAHOMA COUNTRY ELEVATOR MANAGERS WOULD LIKE PREMIUMS

WOULD YOU LIKE TO RECEIVE PREMIUMS FOR THIS MARKETING PRACTICE?	ELEVATOR STORAGE CAPACITY IN BUSHEL									ALL ELEVATORS		
	Less Than 300,000			300,000 to 999,000			1,000,000 or More					
	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know
Sales in large volumes or round lots	4	5	0	3	14	1	8	7	0	15	26	1
Forward contracting for future delivery	4	4	0	4	9	1	6	9	0	14	22	1
Pooling	2	6	1	1	13	2	2	13	1	5	32	4
Multiple shipments	1	2	0	3	12	1	2	12	1	7	30	2
Delayed pricing	1	6	0	2	11	1	3	10	3	6	27	4
Rapid delivery of grain	3	5	0	10	6	1	8	6	1	21	17	2
Storage of grain for buyer	4	4	0	7	8	1	10	3	1	21	15	2
Sale of consistently high quality grain	3	6	0	5	10	1	8	8	0	16	24	1

TABLE 21. (Continued)

WOULD YOU LIKE TO RECEIVE PREMIUMS FOR THIS MARKETING PRACTICE?	ELEVATOR STORAGE CAPACITY IN BUSHELS									ALL ELEVATORS		
	Less Than 300,000			300,000 to 999,000			1,000,000 or More					
	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know	Yes	No	Don't Know
Long history of good business relationship	4	3	0	7	8	1	9	7	0	20	18	1
Delayed shipment	1	6	0	7	6	1	7	6	0	15	18	1
Sale of high protein wheat	6	2	0	9	4	0	11	4	0	26	10	0
Sale of cleaned grain	3	5	0	5	10	1	7	7	0	15	22	1
Sale of uniform protein lots (blended)	1	7	0	5	10	1	9	5	0	20	16	1
Prompt delivery	4	4	0	10	6	1	6	6	0	3	6	0

TABLE 22. PERCENT OF OKLAHOMA COUNTRY ELEVATORS THAT RECEIVE SERVICES PROVIDED BY THE WHEAT BUYER, 1979

AREA OF SERVICE	ELEVATOR STORAGE CAPACITY IN BUSHELS			ALL ELEVATORS
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	
Market Information	75	84	89	84
Advice on Rail Freight Rates and Tariffs	50	89	67	71
Public Relations Assistance	42	68	61	59
Assistance with Truck Scheduling	42	68	56	57
Brokerage and Hedging Services	42	58	61	55
Management and Personnel Training	42	42	44	43
Board of Directors Development Programs	42	47	33	41
Investment Opportunities	33	53	33	41
Auditing and/or Billing Services	17	37	22	27
Assistance with Rail Car Scheduling	0	32	22	20
Financial Planning Assistance	17	21	17	18
Assistance with Stock and Bond Sales and Credit Procurement	8	21	11	14

Assistance with rail car and truck scheduling does not appear to be made available in general to elevator managers by their buyers. The elevator managers did indicate, however, that this service would be very important to them. The value that is placed on these types of services reinforces the difficulties faced by the elevator manager in dealing with transportation.

Factors Which Affect the Elevator Manager's Choice of Buyers. The elevator manager may examine a wide variety of factors when making a decision as to which firm wheat will be sold. These factors include many different services performed by the buyer including transportation and financial services. The elevator managers were questioned in this survey as to which factors influenced their marketing decision and whether or not these factors currently require improvement on the part of the buyer (Table 23).

Price was rated as the most important factor in determining the buyer. Also considered important in this decision process are the time and the manner of payment for grain by the buyer, the premium and discount practice of the buyer, and the ability of the buyer to supply frequent and consistent bids. Of these highly rated factors the elevator managers indicated that the time and manner of payment and the premium and discount policies could be improved. Rated highest as the factor which is in need of improvement is transportation service. This need is still another indication of the severity of the transportation situation from time to time.

Sources of Cash Requirements

Elevator management has access to working capital from various sources. The actual percentages of cash requirements received from each of these sources by the elevator managers included in this survey are shown in Table 24.

Most of the cash requirement of country elevators is obtained from local elevator capital and from commercial banks. The elevators in the largest size group utilize these sources most heavily. The elevators in the smallest size category rely most heavily on commercial banks while elevators in the intermediate size category rely most heavily on local elevator capital and working capital provided by the Bank for Cooperatives.

Communication With Other Wheat Market Participants

The managers of grain elevators are actively involved in the grain market and must communicate with other market participants in the grain market in order to operate effectively. The elevator manager can maintain this line of communication in several ways.

Elevator managers indicated that the most important method of communicating the needs for improvement of the marketing system is through word of mouth to other market participants. The managers also use premiums or discounts to indicate to the producer what things might help to improve the marketing system, such as improving the quality of wheat delivered to the elevator. The use of newsletters was also ranked as being important in communicating the needs of the elevator to other market participants.

TABLE 23. THE IMPORTANCE OF SELECTED FACTORS IN DETERMINING TO WHOM OKLAHOMA COUNTRY ELEVATOR MANAGERS SELL THEIR WHEAT

FACTOR	ALL ELEVATORS*	
	Importance	Improvement Needed
Price	1	5
Time and Manner of Payment	2	2
Premium and Discount Practice	3	3
Source of Frequent and Consistent Bids	4	13
Weights and Measures	5	7
Loyalty	6	12
Transportation Service	7	1
Source of Market Information	8	6
Terminal or Processor Facilities	9	11
Personnel Expertise	10	8
Penalties for Delays in Shipments	11	4
Advances or Short-Term Credit	12	10
Size of Dividends and Investment Opportunities	13	15
Contractual Arrangements for Cash Grain Delivery	14	14
Management and Financial Services	15	9
Premiums for Large Volumes	16	13
Brokerage Services	17	16

* 1 is the highest rating.

TABLE 24. AVERAGE PERCENT OF CASH REQUIREMENTS OF OKLAHOMA COUNTRY ELEVATORS, FURNISHED BY SELECTED SOURCES, 1978

SOURCE	ELEVATOR STORAGE CAPACITY IN BUSHELS			ALL ELEVATORS
	Less Than 300,000	300,000 to 999,000	1,000,000 or More	
Commercial Banks	43.3	21.1	38.8	33.3
Bank for Cooperatives	8.3	28.6	19.1	20.0
Interest-Bearing Advances from Buyers	0.0	0.0	0.0	0.0
Parent Organization Capital	2.7	0.0	5.6	2.8
Farmers Who Delayed Receiving Payment on Delivered Grain	3.8	7.7	3.2	5.0
Your Own Local Elevator Capital	27.3	41.2	32.1	34.3
Loans From Patrons	0.0	0.6	0.0	0.21
Commodity Credit Government Program	0.0	0.0	1.1	0.42

TABLE 25. POSSIBLE AVERAGE WHEAT HANDLING COST REDUCTIONS FACILITATED BY OTHER WHEAT MARKET PARTICIPANTS

PARTICIPANT	POSSIBLE COST REDUCTION (CENTS/BUSHEL)	PERCENTAGE OF MANAGERS WHO RESPONDED
Railroad	7.58	65
Government Agency	5.94	51
Truckers	5.08	37
Producer	4.50	22
Buyer	3.75	8
Lending Institutions	2.95	8

Reduction of Wheat Handling Costs Through Cooperation With Other Market Participants

The operational procedures of other participants in the wheat marketing system can have adverse effects on the elevator, thus increasing operating costs. The elevator managers were questioned concerning other market participants and how some of their practices could be altered in order to decrease the cost at the elevator. The managers were also asked how much their costs could be reduced, in cents per bushel, if the other participants were willing and able to adopt their suggestions (see Table 25).

At the time the elevator managers were surveyed, 65 percent suggested that a possible cost reduction could be achieved through changes in the current operating policy of the railroads. On the average, these producers indicated that these changes could amount to a savings of 7.58 cents per bushel. Some of the necessary changes indicated by the managers were improving efficiency by utilizing facilities better and updating equipment. Other suggestions included providing more rail cars, improve scheduling, and stockpiling rail cars during harvest in key geographical areas. Another possibility was to charge railroads demurrage after the cars were loaded. The overall opinion of the elevator managers was that costs could be reduced if the railroads were able to increase their reliability and dependability.

Elevator managers indicated that many of the policies and operating procedures of government agencies increased the cost of handling grain. These government agencies include the FGIS and OSHA, as well as other policy-making agencies. The most prevalent suggestion made by elevator managers concerning government agencies was to reduce "red tape" or bureaucracy within the government. They indicate the belief that the numbers of people in government reduce efficiency. The elevator managers also suggested that many of the regulations they must adhere to were unrealistic and costs could be decreased if these regulations were revised. Overall, elevator managers indicated that an average of 5.94 cents per bushel could be saved in handling costs by changes in some policies of government agencies.

The elevator managers also indicated that an average of 5.08 cents per bushel could be saved on handling costs by changes in the trucking industry. In general, a lack of dependability seemed to account for much of the problem. Elevator managers indicated that truckers could reduce elevator costs by contracting with particular elevators, maintaining better schedules, setting regular hours, and making equipment improvements. Other suggestions included obtaining backhauls and setting up a harvest rate structure.

The elevator managers indicated that the producer could also aid in the reduction of wheat handling costs by an average of 4.5 cents per bushel. Some of the changes which would be required include 100 percent delivery on contracts, production of higher quality wheat, and delivery of cleaner wheat with less dockage. The elevator managers indicated that costs could be reduced if the producer were able to help plan, in advance, for peak volumes, and aid in developing a more orderly delivery

process. Also included as means of producers helping the elevator reduce costs are forward contracting and accepting delayed payment for grain.

Several factors were listed as ways that elevator costs could be reduced by actions of lending institutions. These include higher lending limits and larger capitalization of local banks.

Operational Goals and Procedures of Oklahoma Wheat Producers

In addition to the data already presented, other questions were asked of the wheat producers in the sample pertaining to their marketing goals, procedures, and needs. The following sections give a brief synopsis of the data obtained in hopes of providing information useful to the coordination of the entire Oklahoma wheat marketing system.

Wheat Price Received by Oklahoma Producers

The marketing practices used by the producer allow him the opportunity to receive the highest possible price for his grain based on his needs and obligations. The marketing strategy of the producer is greatly affected by seasonality, capital and cash flow requirements, and financial obligations, as well as a working knowledge of the market for wheat.

As shown in Table 26, 70 percent of the Oklahoma wheat producers sampled believe that on the average, over the past five years, they have received better than the average annual market price for wheat. The table also shows that the largest percentage of producers who feel they received less than the average annual wheat market price for wheat were producers with less than 300 acres of wheat. The survey shows that as the amount of acreage produced increases, so does the percentage of producers who believe they received greater than the average annual price.

TABLE 26. PERCENT OF OKLAHOMA WHEAT PRODUCERS WHO BELIEVE THEY HAVE RECEIVED BETTER OR WORSE THAN THE AVERAGE ANNUAL MARKET PRICE FOR WHEAT OVER THE PAST FIVE YEARS, 1975-1979

STATUS	PRODUCER WHEAT ACREAGE			ALL PRODUCERS
	Less Than 300 Acres	300-699 Acres	700 Acres or More	
Better	68	71	79	70
Worse	32	29	21	30

The producers were asked to indicate some of the factors which influence their decision to sell or store their wheat (Table 27). Rated as most important was the current price of wheat. Also rated as being important by all groups of producers were price expectations and the need to meet cash flow requirements. This last factor could be an expensive barrier for the producer as it may prevent him from selling his wheat at a time which would yield maximum profit.

The price that the producer is able to receive for his wheat could also be affected by his awareness of the market situation and his ability to react rapidly to changes in the market. Over half of the producers involved in the survey indicated that they are aware of a change in the price of wheat within several hours of the time that change occurs. Almost 90 percent of the producers said that they are aware of daily prices. One-third of the producers surveyed indicated that they are able to react to a change in price by selling wheat within one hour of the time they become aware of significant price changes. Ninety-five percent of the respondents indicated that they could sell their wheat on the day that they actually learn of a change in price.

The wheat price received by farmers can also be affected by the types of market information available and how well these resources are utilized. The producers in this survey were asked to rank selected sources of market information as to how important those sources are in the decision-making process. The results of this questioning are shown in Table 28.

The producers ranked the most common forms of media--radio, television, and newspaper--as being very important. Also considered very important is the elevator cash bid. The wheat producers indicated that they do not rely heavily on the opinions of their neighbors in their decision-making processes. They also indicated little value is placed on government marketing articles or farm magazines as sources of market information.

Wheat Storage

The producer has the option of constructing and maintaining on-farm storage of grain, storing at the local elevator, or immediately shipping to terminal, mill or port locations.

The average capacity of on-farm storage of the producers surveyed in Oklahoma in 1978 was 9,872 bushels (Table 29). Average on-farm storage capacity ranged from 2,568 bushels for the smallest size operations to 20,058 bushels for producers in the largest size category.

Table 29 also shows the percentage of producers in each size category who intend to increase their on-farm grain storage capacity in the next five years. Forty percent of the producers in the largest size category indicated that they would be investing in on-farm storage in the near future. Only 20 percent of those producers with the smallest acreage planted indicated any plans for future investment in on-farm storage. Table 30 shows that 60 percent of all the producers involved in the survey believe that on-farm storage is less costly than elevator storage. However, quality control and handling problems, capital requirements, and sufficient storage already available are all reasons why more producers are not planning more on-farm storage.

TABLE 27. THE IMPORTANCE* OF SELECTED FACTORS WHICH INFLUENCE THE DECISION OF OKLAHOMA WHEAT PRODUCERS TO SELL OR STORE WHEAT

FACTOR	PRODUCER WHEAT ACREAGE			
	Less Than 300 Acres	300-699 Acres	700 Acres or More	ALL PRODUCERS
Current Wheat Price	1	1	1	1
Expectation of Higher Prices	2	2	2	2
Availability of Elevator Storage	3	6	6	6
Need to Meet Cash Flow Requirements	4	3	3	3
Storage Charges at the Elevator	5	5	5	5
Need to Delay Income to Next Year	6	4	4	4
Farm Storage Capacity	7	7	3	7
Shrinkage and Spoilage Loss	8	8	9	8
Option of Protein Premium After Harvest	9	10	8	9
Option of Selling Direct to Terminal, Mill, or Gulf	10	9	7	10
Landlord's Decision	11	11	10	11
Commitments to Market Organization	12	12	11	12

* 1 signifies the most important factor.

TABLE 28. THE IMPORTANCE* OF SELECTED SOURCES OF MARKET INFORMATION TO OKLAHOMA WHEAT PRODUCERS

SOURCE	PRODUCER WHEAT ACREAGE			ALL PRODUCERS
	Less Than 300 Acres	300-699 Acres	700 Acres or More	
Radio and Television	1	1	1	1
Elevator Cash Bid	2	2	2	2
Newspaper	3	3	3	3
Marketing Newsletter	4	6	6	4
Extension Economists Marketing Analyses	5	4	5	5
Consultation with Bankers, Brokers, and Others	6	5	4	6
Farm Magazines	7	7	8	7
Government Marketing Articles	8	8	7	8
Opinions of Neighbors and Friends	9	9	9	9

* 1 signifies the most important items.

TABLE 29. AVERAGE ON-FARM WHEAT STORAGE CAPACITY OF OKLAHOMA PRODUCERS BY ACREAGE PLANTED, 1979

ACREAGE	AVERAGE ON-FARM CAPACITY (BUSHELLS)	PERCENT OF PRODUCERS WHO EXPECT TO INCREASE ON-FARM STORAGE CAPACITY IN THE NEXT FIVE YEARS
Less Than 300 Acres	2,568	20
300 - 699 Acres	7,629	32
700 Acres or More	20,058	40
All Producers	9,872	30

TABLE 30. PERCENTAGE OF WHEAT PRODUCERS WHO FEEL ON-FARM GRAIN STORAGE COSTS LESS THAN ELEVATOR STORAGE, BY ACREAGE PLANTED

ACREAGE	PERCENT
Less Than 300 Acres	45
300 - 699 Acres	61
700 Acres or More	68
All Producers	60

Buyers of Oklahoma Wheat

In 1978 the majority of wheat produced in Oklahoma was sold by the producer to local elevators. As shown in Table 31, almost 90 percent of all wheat produced was sold in this manner. When these average percentages are grouped by acreage planted, it is evident that the producer in the smallest acreage category sells the greatest percentage of his wheat to the local elevator. As the number of acres planted increases, the percentage of grain sold to the local elevator decreases as an increasing percentage is sold to various other buyers. The producer with the largest number of acres in production exhibits a much greater degree of versatility in the buyers of his wheat. This may be some indication of the flexibility in marketing methods of larger producers. The smaller producer is faced with greater restrictions relative to the larger producer who may be more diversified and better able to withstand more risk due to the nature of the larger operation. The greater quantity of wheat available from the larger producer provides him an opportunity for a more diversified market.

In marketing wheat with the local elevator, the producer may face many difficulties which are costly to him and which would benefit him if they could be avoided. The producers involved in the survey were asked to identify some of these problems which may arise when marketing wheat at the local elevator. The results of this questioning are found in Table 32.

Insufficient storage capacity and the speed of handling wheat at the elevator were listed as the most important problems which the producer faces in marketing wheat with the elevator. Producers in all categories indicated that the most severe problems are in these areas while they experience less difficulty in the areas of contractual arrangements, and testing and scale facilities.

Summary

The marketing of wheat involves many participants who perform a variety of functions and operations important to the success of the marketing system. These functions may be performed efficiently at a given level in the marketing channel. However, these functions are interrelated and must be treated as a system rather than as isolated activities. Therefore, to facilitate the efficiency of the total system, the wheat marketing system must be capable of coordinating the activities of the market participants throughout the marketing levels involved.

The objective of this study is to identify the nature of some of the interrelationships between marketing functions relating to various goals, operational procedures and decision processes of Oklahoma wheat producers and grain elevator managers. Areas for improved coordination may then be determined and evaluated as to their effects on the wheat marketing system.

In 1979 and 1980, personal interviews and mail surveys were used to gather data from 524 Oklahoma wheat producers and managers of 49 Oklahoma country grain elevators. The surveys were constructed and compiled so as to enable the evaluation and comparison of the goals and

TABLE 31. AVERAGE PERCENTAGE OF WHEAT SOLD TO VARIOUS BUYERS BY OKLAHOMA WHEAT PRODUCERS IN 1979

BUYER	PRODUCER WHEAT ACREAGE			ALL PRODUCERS
	Less Than 300 Acres	300-699 Acres	700 Acres or More	
Local Grain Elevators	93.2	92.8	76.7	87.9
Gulf Elevators	1.2	2.0	8.5	3.6
Inland Terminal Elevators	0.5	2.3	7.4	3.1
Neighboring Farms	0.5	1.3	3.8	2.5
Millers	1.0	0.0	2.2	0.6

TABLE 32. THE IMPORTANCE* OF PROBLEMS AND DIFFICULTIES FOUND AT THE LOCAL ELEVATOR BY OKLAHOMA WHEAT PRODUCERS

PROBLEM	PRODUCER WHEAT ACREAGE			ALL PRODUCERS
	Less Than 300 Acres	300-699 Acres	700 Acres or More	
Speed of Dumping and/or Testing Wheat	1	1	2	2
Insufficient Storage Capacity	2	2	1	1
Insufficient Price Information	3	4	3	3
Not Enough Employees	4	3	4	4
Elevator Will Not Contract	5	5	6	5
Inadequate Testing Facilities	6	6	5	6
Size of Truck Scale	7	7	7	7

* A rating of 1 indicates the most important problem.

operational procedures which interrelate between the producer, elevator, and other sectors of the wheat marketing system.

Some of the goals and objectives of elevator managers and producers in marketing wheat were found to differ. While the majority of the producers feel that obtaining the top price and making a profit on all sales are the most important objectives, elevator managers generally indicated that trading wheat with price based on grade was of the most importance. These differences reflect the differing areas of risk for the two parties. With respect to risk aversion methods, producers did not place as much importance on forward contracting and futures market hedging as did elevator managers.

Producers were asked what influenced their decision as to when and where they marketed their wheat. Daily prices along with export activity and expectations were important in the timing of wheat sales. Elevator managers, on the other hand, did not generally rate these factors as important in the timing of wheat trades. They tended not to speculate on the cash market, but rather preferred to lock in a margin through forward contracting or hedging on the futures market.

Along with geographic location and price, producers rated the attitude and reliability of management as a major determinant in where they sold their wheat. Managers did not perceive that producers would rate this latter factor very high. Also important to the producers in their selection of a wheat buyer was the speed and convenience of unloading facilities. Producers generally expressed satisfaction with the storage service objectives of the elevator managers. The producers felt that generally the managers meet the needs of their storage customers by providing, on the average, excellent market information. However, to aid in their wheat marketing, 30 percent of the producers expected to increase their on-farm storage.

In trading with elevator managers, 70 percent of the producers felt they received a price above the yearly average wheat price. Many producers expressed that the need to sell wheat to meet cash flow requirements hindered their ability to wait for a higher wheat price.

In responding to questions concerning tests performed on wheat, 83 percent of the producers preferred their wheat be tested for moisture at the time of delivery to the elevator. However, only 27 percent of the elevator managers felt that producers would prefer such a test. The majority of the producers also expressed support for tests for dockage and foreign material, and for weight. However, producers in general were not aware of any premiums, as such, being given for high quality wheat.

With respect to premiums, elevator managers of those facilities with a storage capacity greater than 300,000 bushels were in favor of receiving protein premiums from their buyers, which could in turn be reflected in producers' wheat prices if facilities permitted the appropriate handling of the wheat.

Several perceived inefficiencies in the marketing of wheat were addressed by the producers and elevator managers. Government regulations and red tape, along with difficulties in transporting wheat from

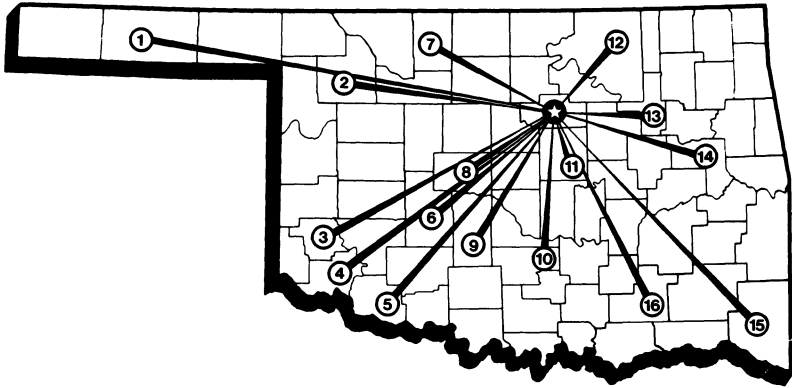
country elevators to terminals and other markets were listed among the areas of greatest inefficiency in marketing wheat. It is perceived that impractical government regulations and excessive red tape costs the wheat marketing participants an average of nearly six cents per bushel of wheat. Also, managers feel that improved transportation facilities and scheduling could reduce marketing costs an average of 7.6 cents per bushel. Lack of dependability of some truckers also added to costs.

According to the managers, additional savings could be realized (from 2 to 4 cents per bushel) if extreme peak periods for unloading and loading of wheat could be eliminated by more uniform movement of wheat. The managers of those elevators with less than 300,000 bushel storage capacity found this to be a bigger cost factor than did the managers of larger elevators. Managers also mentioned that a costly factor in wheat marketing is that they may not receive payment from their wheat buyer for up to 90 days from the time of shipment.

Another area of possible savings through improved coordination in the wheat marketing industry is the grading of wheat delivered at the country elevator according to destination grade, i.e. on the basis of the official USDA grade assigned, as at the Gulf. Sixty-six percent of the producers and 88 percent of the elevator managers would prefer to market wheat on this basis. The latter percentage tends to weaken the argument of some that elevators obtain high profits on the average from blending ungraded grain purchased from producers in order to meet USDA grade specifications. The managers estimated an average of 3.2 cents per bushel could be saved, because of reduced risk, if they purchased all wheat on the basis of destination grade.

Improved coordination in several marketing areas could lead to substantial cost savings which in turn could be reflected in producer wheat prices. Market participants need to be cognizant of the costs to themselves or to others of various operational procedures, and be encouraged to take steps to reduce those costs where mutual benefits can be realized or negotiated.

OKLAHOMA AGRICULTURAL EXPERIMENT STATION System Covers the State



Main Station—Stillwater, Perkins and Lake Carl Blackwell

1. Panhandle Research Station — *Goodwell*
2. Southern Great Plains Field Station — *Woodward*
3. Sandyland Research Station — *Mangum*
4. Irrigation Research Station — *Altus*
5. Southwest Agronomy Research Station — *Tipton*
6. Caddo Research Station — *Ft. Cobb*
7. North Central Research Station — *Lahoma*
8. Southwestern Livestock and Forage Research Station — *El Reno*
9. South Central Research Station — *Chickasha*
10. Agronomy Research Station — *Stratford*
11. Pecan Research Station — *Sparks*
12. Veterinary Research Station — *Pawhuska*
13. Vegetable Research Station — *Bixby*
14. Eastern Research Station — *Haskell*
15. Kiamichi Field Station — *Idabel*
16. Southeastern Oklahoma Agricultural Research and Extension Center — *Atoka*