The U.S. Cash Grain Trade in 1974: Participants, Transactions, And Information Sources, 1974

By Richard C. Heifner, James L. Driscoll, John W. Helmuth, Mack N. Leath, Floyd F. Niernberger, Bruce H. Wright et al.

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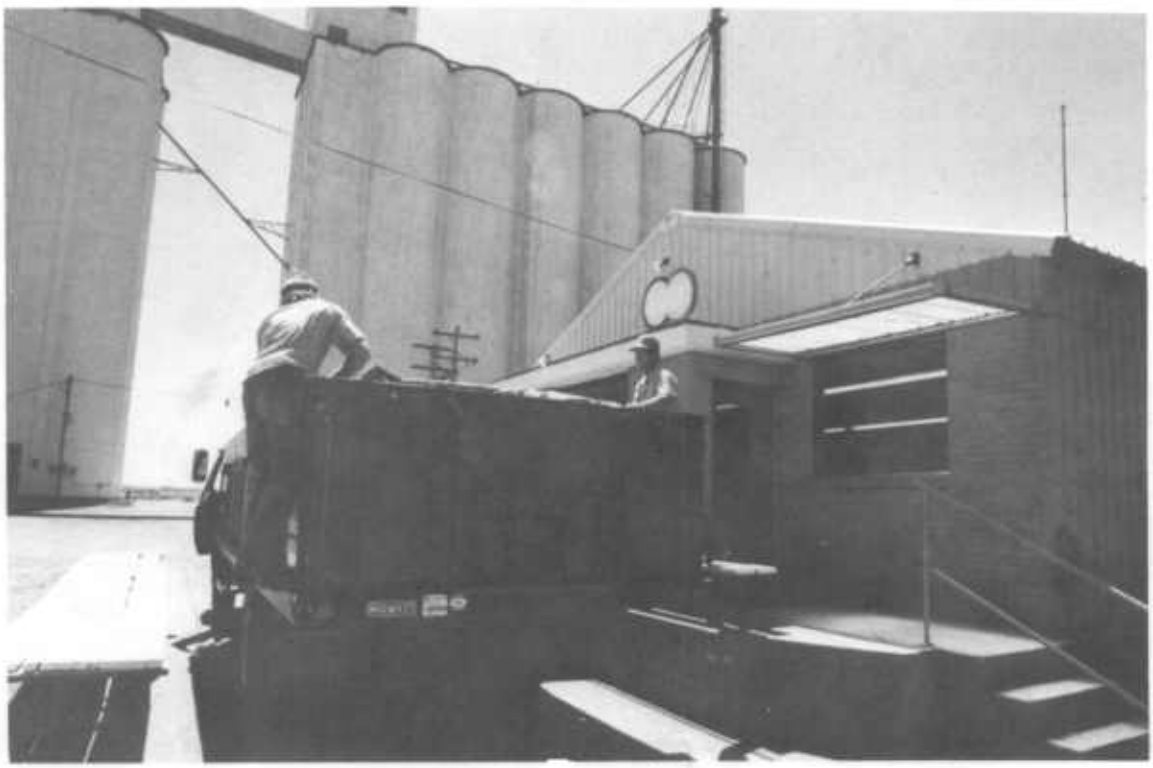

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Abstract

The commercial cash grain market in the United States is dispersed; most sales are made to buyers located away from the traditional terminals. The market primarily involves contracts for deferred delivery entered verbally by telephone and followed by written confirmation. The typical country elevator sells to only a few buyers. It relies upon telephone contact with them along with radio and teletype reports of futures prices, as sources of information for pricing decisions. Much of the basic information needed by traders is assembled in USDA's Grain Market News and distributed to users through commercial commodity news services.

Keywords: Grain market news, grain pricing, cash grain trade.

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Grain markets in the United States differ from many other commodity markets in that a very large number of traders are involved, ranging from farmers and small elevators to large processors and exporters. Traders are geographically dispersed; most work at locations in major grain growing areas while some are at ports and at processing and feeding centers elsewhere in the country. Most trades are conducted by telephone and a variety of delivery terms are used. Each buyer and seller contacts a limited number of other traders, but the contacts overlap so that the whole market is tied together. No single focal point or pricing center exists where prices are registered for the bulk of cash transactions. Instead, they are determined at many locations concurrently. Also, they differ because of differences in quality, location, and time of delivery.

Most trading involves deferred delivery with delivery periods ranging from a few days to several months ahead. Establishing price before delivery is common for grain purchased from farmers. In 1974, about a third of the wheat and half the corn and soybeans were purchased before delivery, while about 14 percent of the wheat and 20 percent of the corn and soybeans were bought over 30 days before delivery.

Of all corn sales by country elevators, 88 percent were for deferred delivery; for wheat and soybeans, shares were 70 and 84 percent, respectively. Over 50 percent of corn and soybean and over 40 percent of wheat sales occurred more than 10 days before delivery. Such sales were much more common for subterminal and terminal elevators than for country elevators, representing about 95 percent for terminal sales.

Trucks transported more than half of the corn and soybeans shipped by country elevators while railroads took two-thirds of the wheat. Terminals, however, shipped half or more of their corn and wheat by rail, almost three-fifths of their soybeans by barge, and overall, 10 percent of their grains by truck.

Futures trading--trading standardized forward contracts on organized exchanges--plays a major part in grain pricing. Prices for cash transactions are frequently quoted in terms of the basis (the difference between the futures price and the cash price). Some one-third of country elevators and two-thirds of terminal elevators use the basis often to specify price in sales agreements.

The major grain merchants and processors commonly issue new cash grain bids each afternoon following the close of futures trading. These bids, not fixed for any specific period, typically change during the day in response to market conditions, but the basis they imply often remains constant, or nearly so, for extended periods. Substantial cash grain trading occurs before, during, and after the trading on the futures markets. Thus, generation and use of cash price information continue throughout the day.

Telephone contact with other buyers and sellers remains the primary source of price information for most grain merchants. Other widely used sources include private, electronic news services, such as those employing teletypes, video

screens, and sideband radios; and USDA market news, particularly the published reports.

Several implications emerge for farmers and grain merchants and for grain price reporting, based on study findings. Because the pricing process is so widely dispersed, sellers and buyers need pricing information for numerous locations to adequately assess their marketing alternatives. Thus, more emphasis should be given to reporting prices outside the traditional terminal markets. Also, since much trading is for deferred delivery, more attention should be focused on reporting prices for such delivery, and the delivery periods should be specified in the reports.

THE U.S. CASH GRAIN TRADE IN 1974: PARTICIPANTS, TRANSACTIONS, AND INFORMATION SOURCES

INTRODUCTION

The sharp fluctuations in grain prices in recent years have heightened the concern among farmers, grain merchants, and the general public about how grain prices are determined and reported. Both producers and consumers have at times felt that prices were inequitable. And since market prices provide the signals that guide decisionmakers, pricing aberrations can result in bad decisions and wasted resources. Grain pricing is a complex and imperfectly understood process. In this report we contribute to better understanding of the process by describing the participants, the information sources they use, and the transactions they conduct.

Two interrelated systems facilitate the flow of grains from farms to final users. The physical system provides conditioning, handling, storage and transportation services. The exchange system establishes prices for products bought and sold under diverse conditions, with respect to quality, and time and place of delivery. The pricing process depends in part on the physical attributes of the commodity itself and in part on the system handling it. Thus, a brief digression into the physical aspects of grain marketing will help to form a perspective from which to view the exchange system and the pricing process.

The most distinctive physical feature of U.S. grain marketing is the sheer volume of commodities involved. Corn production increased from around 4 billion bushels annually in the mid-sixties to over 5 billion bushels annually in the mid-seventies; almost all of this increase enters commercial channels. Wheat production increased from about 1.3 billion bushels to about 2 billion bushels over the same interval while soybean production climbed from about 0.8 billion bushels to 1.3 billion bushels.

Meanwhile the number of establishments involved in marketing and processing grain probably declined somewhat. Consequently, the average volume handled per establishment has increased substantially. This added capacity has been achieved through enlarging and improving existing facilities, replacing outmoded plants with new, larger ones, and increasing use of facilities (more throughput).

The task of marketing grains involves assembling the output of many farms dispersed over a broad producing area at a limited number of processing and exporting points. This assembly process typically takes place in stages, first at country elevators, then at terminals and subterminals, and finally at processing points and export elevators. In the United States, this process developed during an era when rail was the dominant mode of transportation; and rail centers, such as Chicago, Minneapolis, and Kansas City, became primary concentration points. But, with improvements in highways and inland waterways, new transportation technology and increased exports, these patterns have changed.

The proportion of grains that pass through the primary terminal markets is less than in the past; more move directly to ports, particularly to the Gulf. During the past 5 years, exports averaged about 30 percent of the total production of food and feed grains; exports via the Gulf represented 60 to 65

percent of the total. Thus, around a fifth of the total production of U.S. grains has been channeled through Gulf ports in recent years. Most corn, soybeans, and soft wheat move through the New Orleans area, while hard winter wheat moves primarily through Texas Gulf ports.

No other concentration of grain flows compares to that at the Gulf Coast. Minneapolis, Kansas City, and Buffalo remain centers for milling flour, but their relative importance has declined in recent years as new mills have been built nearer the population centers of the East Coast. Soybean crushing and corn milling facilities are predominantly located in the main producing areas, but again, they are somewhat scattered. Feeding facilities, even more widely scattered, extend across the entire country.

In earlier years, much grain moved in boxcars under "transit" rates. These rates allow one or more intermediate stops between the origin and ultimate destination for inspection, diversion, processing, and storage. In fact, the ultimate destination need not be specified on the bill of lading prepared at the origin--the shipper simply consigns the car to a receiver at an allowable stopping point. Today, much of the grain moves on jumbo hopper cars under freight rates calling for multiple-car shipments on a single bill of lading billed directly to the ultimate destination. A single transaction under the transit rate structure could involve one boxcar (about 2,000 bushels); whereas one transaction under the multiple car tariffs typically involves a minimum of five hopper cars at about 3,000 bushels per car.

Among the major effects of multiple-car freight rates are: (1) the encouragement of larger transactions and less frequent sales; (2) greater exposure to price risks at country points because of the large inventories that must be assembled before shipment; (3) investment in upgraded or new handling facilities and rail sidings; and (4) potentially greater demand for short-haul truck movements to train loading elevators. Selling large volumes in a single transaction means that elevators must become more sophisticated in their marketing practices. Often, several days or even weeks may be required to accumulate the quantity needed for a single transaction of a multiple-car shipment. During this time the country elevator is exposed to price risk on its accumulating inventories, forcing increased reliance upon hedging in the futures market to reduce this risk. Some country elevators find it necessary to promote alternative purchasing arrangements--specifically, forward contracting and deferred pricing--to obtain needed volumes of grain and high flexibility in operations.

The Exchange System in Grain Marketing

Paralleling the physical system of marketing grain is an exchange system which facilitates information transfer, price setting, risk shifting and transfer of ownership. The exchange system for grains includes a cash market and a futures market. The futures market is highly visible; grain futures contracts are traded openly on the organized exchanges at Chicago, Minneapolis, and Kansas City; and each price change is recorded and widely disseminated. In contrast, most trading on the cash market is difficult to observe. It is primarily a telephone market involving large numbers of traders operating from offices scattered throughout the country.

Futures markets provide a focal point for grain pricing in the United States. Cash grain traders closely follow futures quotations during the hours when the grain futures markets are open. Typically, the bids to country elevators by terminals and processors are in terms of "basis," that is, so many cents per bushel below or above a specific futures quotation. The country buyer determines the price he quotes to farmers throughout the day by applying the basis bid by his buyers to the latest futures quotation and then subtracting his handling charge and freight, if necessary. Changes in the basis at any given location are generally smaller and less frequent than are changes in the absolute price level.

Given the important role of futures markets in pricing grains, one might wonder what pricing function is served by the cash market. We must note that the futures market provides quotations for only a few very specific conditions; for example, Number 2 yellow corn delivered in Chicago (St. Louis or Toledo) during December. The cash market registers prices for transactions throughout the year and for locations and grades that are not deliverable on the futures contracts.

Changes in the physical grain distribution system have caused changes in the pricing system. Alternative freight rates for rail shipment--for example, multicar, single bill of lading and nontransit rates--and increased capacity for truck and barge movements have encouraged more shipments directly from producing areas to domestic deficit regions and ports, bypassing traditional "terminal" markets. Expansion of processing facilities in growing areas further reduces the proportion of supply moving through terminal markets. As a result, a price quotation for spot delivery at a terminal market may have a different meaning now than it did only a few years ago. Shippers now consider a terminal price quotation along with quotations from other markets, but the terminal cash price quotation is not necessarily viewed as establishing the market. It becomes a price rather than the price.

The decentralization of grain marketing makes price reporting difficult because quotations must be collected from broader geographic areas. And, as trading areas change, new markets may be overlooked in the price reporting effort unless the system is periodically updated. In some cases, price reporting may continue to concentrate on individual markets and trading practices that no longer represent an important segment of the trade. The physical movement of grain through a location may not indicate the volume of trading which occurs there.

Not only the location of trading, but also the terms of trade have been changing with changes in the physical distribution of grain. More grain is sold under contract for deferred delivery and less is sold for spot delivery than formerly.

Price information is used in different ways by different users. It is used for making decisions about buying and selling each day, for assessing trends for longer run decisions, and for resolving disputes about price and value. The relative importance of timeliness and degree of detail vary with these different uses. For example, timeliness is of utmost importance in making pricing decisions, but not so crucial in resolving disputes about price and value, where accuracy is more important.

Objectives

This study was designed to provide information useful to USDA's Agricultural Marketing Service for improving grain price reporting, and general information of interest to the public on cash grain pricing. The specific study objectives were to:

Describe the participants in the grain pricing process--the number, type and location of buyers (sellers) who trade with each seller (buyer).

Describe the flows of price information in grain markets.

Describe the terms of trade and the nature and number of transactions in grains.

Assess users' evaluations of currently available market information.

Determine implications for AMS Grain Market News.

We present here the findings of general interest.1/

Procedures

The study involved two major data collection efforts. A mail survey with interview followup of nonrespondents in August 1975 provided data on the volume of grain traded between decisionmakers at selected points during 1974, and on terms of trade and information used by grain firms in making their buying and selling decisions. Approximately 100 open-ended interviews with selected grain industry representatives and market reporters provided supplementary information about trading practices and use of market information within companies.

The mail survey was conducted by USDA's Statistical Reporting Service. Its list of grain storage facilities in the United States was used as a sampling frame. Of the approximately 14,000 establishments on the list, some 5,000 were selected by a stratified random sampling procedure. A subsample of the nonrespondents was interviewed, and a total of 2,664 usable questionnaires obtained. Data from the questionnaires were expanded by ERS analysts to obtain estimated totals for all establishments with grain storage facilities in the United States.2/

1/ Specific recommendations for Grain Market News are contained in a separate report, Cash Grain Price Reporting in the United States, a Summary Report to the Agricultural Marketing Service, U.S. Dept. Agric., Econ. Res. Serv., July 23, 1976, 26 pp.

2/ Additional information about the sample and expansion procedures is presented in the Appendix.

The data were summarized according to the 10 standard Federal administrative regions (figure). Some regions were combined in certain tabulations because of the small numbers of establishments included. In the major grain producing areas, the standard Federal administrative regions were subdivided to show more detail about the grain trade. In some tables, the data are further broken down by city, river point, and port area. It must be emphasized that the data reported for these finer breakdowns are subject to larger relative errors than the regional and national totals.

Validity of the Estimates

Much of the information collected for this study differs from that collected before. Therefore, the possibilities for comparing results with other studies are limited. However, some comparisons are possible: (1) storage capacity estimates can be compared with SRS figures and with data from other sources and (2) estimated total purchases from farmers can be compared with SRS data on sales from farms. These comparisons were made to verify, to the extent possible, the validity of the survey results.

Storage Capacity Comparisons

In making storage capacity comparisons, it is important to understand the types of facilities included in the sample. Each respondent was asked to classify his facility into 1 of 10 categories including country, subterminal, terminal, and export elevators; soybean processors; flour mills; feed mills; feedlots; poultry producers; and others.

Estimated total storage capacities from the survey by area and type of operation are shown in table 1. These estimates were derived by expanding storage capacity reported by respondents to a regional or national total. The storage capacity request in the questionnaire did not specify a date, so it is logical to assume that respondents provided capacity as of the date of the survey--about mid-1975. The estimated national total is very near the average of SRS estimates for January 1, 1975, and January 1, 1976.

The estimates of capacity by region differ from the official estimates in some cases, but the differences do not appear to be large enough to invalidate the sample. This illustrates the potential for error in the estimates of volume of business below the national level. Since the volume bought and sold per unit of storage capacity may vary among regions, one cannot infer that the direction and magnitude of any error in the estimated volume of business is proportional to that of the estimated storage capacity.

The survey results indicate that country elevators operated nearly three-fifths of the commercial storage capacity in the United States. Terminal elevators accounted for about one-sixth of the storage capacity, and processors, one-tenth. Those respondents choosing to categorize themselves as subterminals represented only about 7 percent of the total capacity. Less than 3 percent of the total capacity were export elevators. The latter estimate represents a little less than half of the storage capacity of export


STANDARD FEDERAL ADMINISTRATIVE REGIONS
WASH.
OREG.
CALIF.
NEV.
IDAHO
MONT.
WYO.
UTAH
ARIZ.
COLO.
N. MEX.
N. DAK.
S. DAK.
NEBR.
KANS.
OKLA.
TEX.
MINN.
IOWA
MO.
ARK.
LA.
WIS.
MICH.
ILL.
IND.
OHIO
KY.
TENN.
MISS.
ALA.
GA.
FLA.
S.C.
N.C.
VA.
W.VA.
PA.
N.Y.
VT.
MAINE
N.H.
MASS.
R.I.
CONN.
N.J.
DEL.
MD.
REGIONS IX and X
REGION VIII
REGION VII
REGION V
REGIONS I, II and III
REGION VI
REGION IV

Table 1--Estimated total storage capacity by type of operation and SRS estimates of capacity 1/

Location	Elevators				Processors	Feedlots and poultry producers	Total	SRS estimates as of	
	Country	Subterminal	Terminal	Export				January 1, 1975	January 1, 1976
	Million bushels								
Illinois	459	90	28	0	53	62	691	628	665
Indiana, Ohio, Michigan	322	37	132	0	55	10	556	445	476
Minnesota, Wisconsin	159	8	220	7	51	63	508	475	471
Iowa, Missouri	518	37	163	0	48	25	792	717	750
Kansas, Nebraska	810	134	186	0	60	4	1,194	1,235	1,234
Region IV	90	16	22	2	136	9	274	291	309
Region VI	675	33	211	106	57	31	1,112	1,160	1,201
Region VIII	282	28	16	0	18	10	354	379	383
Regions I, II, III	21	1	16	31	39	25	134	180	182
Regions IX, X	239	17	32	18	23	80	410	408	432
Total 2/	3,576	401	1,025	164	540	320	6,025	3/5,918	3/6,103
	Percent								
Share of total	59.4	6.6	17.0	2.7	9.0	5.3	100.0	---	---

1/ Estimates derived from a mail survey of grain storage facilities.
2/ Totals may not add due to independent rounding.
3/ Includes 1 million bushels of storage capacity not allocated to States by SRS.

elevators having uniform grain storage agreements with the Commodity Credit Corporation. A check against other sources reporting export elevator capacities reveals that the estimated capacity in Region VI is reasonable. Capacities in all other areas were underestimated, especially in the States along the Great Lakes and on the Pacific Coast. Capacity of export facilities at locations on the Great Lakes was underestimated by at least 100 million bushels, and on the Pacific Coast, by 50 million bushels.

Estimates of storage capacity for "official elevators" in the United States were published by Milling and Baking News in 1975. The term "official" designates warehouses capable of providing certified weights and grades, which are recognized by railroads in the settlement of claims. Such elevators generally belong to the category "subterminal and terminal elevators" used in this report. While capacities were reported for most but not all elevators and companies, the total capacity reported by Milling and Baking News still exceeds 1.3 billion bushels. Our estimate for subterminal and terminal elevators is 1.4 billion bushels. Thus, the two estimates appear consistent.

The storage capacity comparisons validate the survey results at the national level but indicate that caution should be exercised in interpreting regional or "type of facility" breakdowns.

Comparisons with Reported Sales Off Farms

Reported purchases from farmers were compared with SRS estimates of sales from farms as another check for expanded totals. These comparisons are shown in table 2; however, several caveats are in order. First, the survey results are for calendar year 1974 while the SRS figures are for crop years. Second, the survey results represent purchases from farmers by establishments having grain storage capacity, and they exclude sales to other farmers or to buyers without storage facilities. Furthermore, the survey results could include purchases of grain from farm storage of previous crops which are not included in the SRS figures. Deferred pricing arrangements and forward contracting may have caused differences in the respondent's determination of the time grain was bought and the time indicated by SRS. Finally, some elevators may have reported data by fiscal rather than calendar year. Thus, comparisons in table 2 are only approximate. Probably the best check for the survey results is the estimated calendar year sales from farms, based on the percentage of crop marketed by months, and shown at the bottom of the table.

For corn, the survey results deviated 11 percent from the SRS 1973 crop year figure, 6 percent from the SRS 1974 crop year figure, and 1 percent from the estimated calendar year figure. For wheat, the survey results deviated 12 percent from the SRS 1973 crop year figure, 8 percent from the SRS 1974 crop year figure, and 11 percent from the estimated calendar year figure. For soybeans, the deviations were 28 percent, less than 1 percent, and 20 percent, respectively. Thus, while the estimates do not conform exactly to the data from SRS, the differences are believed to be tolerable for the purposes of this study.

Table 2--Grain purchases from farmers by region, survey results compared to SRS estimates 1/

Location	Corn			Wheat			Soybeans		
	Survey results, calendar year 1974	SRS 1973 crop	SRS 1974 crop	Survey results, calendar year 1974	SRS 1973 crop	SRS 1974 crop	Survey results, calendar year 1974	SRS 1973 crop	SRS 1974 crop
	1,000 bushels								
Illinois	742,589	717,127	598,198	68,738	35,030	50,501	289,555	286,897	203,531
Indiana, Ohio, Michigan	498,150	575,897	498,366	144,184	62,187	144,058	201,927	237,297	187,003
Minnesota, Wisconsin	338,667	358,322	246,828	63,311	77,730	81,288	98,713	130,384	86,785
Iowa, Missouri	805,521	777,312	643,325	61,870	23,780	34,975	316,836	389,645	290,466
Kansas, Nebraska	396,377	482,374	381,717	472,887	464,623	404,146	49,599	61,267	47,734
Region IV	125,964	211,660	254,012	31,031	20,146	39,124	131,692	228,373	217,383
Region VI	41,997	54,455	69,443	272,349	261,244	190,095	89,724	165,937	139,960
Region VIII	67,766	118,436	86,667	493,388	462,324	448,406	8,582	14,958	10,291
Regions I, II, III	83,004	111,212	115,299	30,317	20,095	32,330	20,982	26,939	25,493
Regions IX, X	6,504	31,800	30,171	219,253	211,776	282,576	0	0	0
Total	3,106,539	3,438,595	2,924,026 2/(3,136,765)	1,857,328	1,638,935	1,707,499 2/(1,658,258)	1,207,610	1,541,697	1,208,646 2/(1,445,671)

1/ Agricultural Statistics, USDA, 1974 and 1975. SRS figures are for sales from farms during the crop year.
2/ Estimate for calendar year 1974 based on percent of crop marketed by months.

LOCATION AND INTERACTION OF BUYERS AND SELLERS

The pricing of grain in the United States is a complex process involving numerous participants at many different locations. Participants range in size from small farmers and elevators to large processing and export firms. Usually a single lot of grain is sold several times before its ownership passes to final users. Initial transactions between farmers and first handlers are dispersed throughout the growing areas while final transactions tend to be concentrated in cities where merchandisers and processors have offices.

Locations Where Buying and Selling Decisions Are Made

For grains, as for other products, each trade or exchange involves: a decision to sell, a decision to buy, an agreement on the price and on other conditions of the trade, a change of title, and a transfer of funds. In traditional markets, these five events take place at a single time and location and they are associated with physical delivery. But, in modern grain markets, they are typically separated in space and time. For example, a country elevator manager in north-central Iowa may decide to sell a train load of corn to a buyer in Des Moines with payment to be made when the grain is delivered at a Gulf elevator not more than 30 days in the future. In this case, the decision to sell, the decision to buy, and the change of title occur at three different locations.

Because grain buying and selling decisions are so often separated from physical delivery, the statistics on grain movements provide only limited insight into the exchange process. For example, the decline in the proportion of grain marketings which move through the traditional central or terminal markets does not necessarily imply that such markets have become less important in pricing grain. Merchandisers at these locations may be instrumental in arranging purchases and sales of grain that is delivered elsewhere while managers of handling or processing facilities may have nothing to do with the purchase and sale of the grain.

In our study, we focused upon the location of buying and selling decisions rather than on physical movements or points of delivery. Each respondent was asked to report the location of the office where decisions about pricing for purchases and sales were made, if such decisions were made at a location different from that of the respondent. Respondents also were asked to identify the location of sellers/buyers for their purchases/sales. This information was expanded to population totals based upon number of responses relative to the total number of facilities in each stratum within each State.

The data refer to the location of the buyer or seller, not the origin or destination of the grain. For example, a country elevator in Pratt, Kansas, might report that it sold 10,000 bushels of wheat to a buyer in Kansas City. The buyer may have ordered the grain shipped to any destination (for example, Houston). The destination of the grain was not specified. Thus, the data measure the importance of locations where buying and selling decisions are made. The major destinations of grain shipments are already reasonably well known through published information.

Respondents to the survey were asked to report: (1) the amounts of grain purchased from farmers, (2) the amounts bought from other elevators and merchants, and (3) the amounts sold to other elevators and merchants. Local sales to farmers and amounts of grain processed were not reported. Buyers of grain were asked to name the States where sellers' offices were located and to report the percentage of total purchases coming from each State. Space was provided on the questionnaire to specify four different States. The respondents aggregated all other purchases without specifying the origin.

Sellers were asked to identify the cities where buyers' offices were located. Again, percentages sold to buyers in each city were requested, and up to four locations could be specified. Buyers were asked to specify States rather than cities. It was expected that much of the volume reported by buyers would be purchases from country elevators scattered among numerous towns; the specific locations of individual country elevators were not essential to the study. Sellers, however, were asked to report cities since the location of buyers were deemed to be of importance in identifying major pricing centers.

For all grains, the estimated volume of sales exceeds the estimated volume of purchases.3/ There are several reasons for this. First, no complete list of grain buyers was available. Instead, the SRS list of establishments with grain storage capacity was used as a sampling frame. The questionnaire was sent to establishments with storage facilities and information concerning that location was requested. Merchandising offices without storage facilities thus were not included in the sample.

Another reason why estimated purchases are less than estimated sales can be stated as a hypothesis. The firms with purchases or sales to other elevators and merchants fall into three broad categories: (1) those that sold more than they purchased from elevators and merchants, mainly country elevators and other first handlers, (2) those who bought and sold approximately equal amounts, mainly terminal and subterminal elevators, and (3) those who bought more than they sold domestically, including exporters, processors, and feeders. For total purchases to equal total sales, the excess of purchases over sales for group 3 must equal the excess of sales over purchases (excluding purchases from farmers) for group 1. Our hypothesis is that the firms in group 3 responded at a lower level than firms in group 1 from the same stratum, which resulted in underestimation of total purchases relative to total sales. This outcome seems plausible in view of the known error in estimating the storage capacity of export elevators. But, it is difficult to verify the hypothesis based on our data. Because of the underestimation of purchases and the difficulties in determining the causes, the information reported by sellers is more complete and meaningful.4/

3/ We should also point out that both estimates of total purchases and total sales were subject to sampling error. However, the divergence is greater than can be explained solely by sampling error.

4/ We caution that the data should not be interpreted as estimates of gross grain sales (that is, volume sold by farmers multiplied by the number of times it is sold in the marketing system). Since grain merchants without storage facilities were not in the sample, any sales by them are not captured in our estimates.

Volume of Grain Traded Between Selected Locations

Tables 3, 4, and 5 show the estimated volumes of corn, wheat, and soybeans traded between buyers and sellers at selected locations during 1974. The entry in each cell represents trades between sellers in the region shown at the top of the table and buyers at the city or points shown at the left side. The estimates are based upon information provided by sellers. For example, the entry in the first row and fourth column of table 3 shows that sellers in Iowa and Missouri sold an estimated 296 million bushels of corn to buyers in Des Moines. Each table shows purchases by buyers in the 10 cities with largest estimated purchases of the grain shown. The "other river points" and "other coastal points" exclude the 10 leading cities, and "other interior points" shows the residual after the purchases at leading cities, river points, and coastal points are subtracted from total purchases by buyers in each of the 10 State and regional groupings shown. The row labeled "unspecified" at the bottom of the tables shows reported sales where the seller did not designate the location of the buyer.

The tables show that the U.S. commercial cash grain market is dispersed. Minneapolis and Kansas City were the most important buying locations when all grains are taken together, but these two terminal cities combined accounted for only about one-eighth of corn, one-eighth of soybean, and less than one-third of wheat purchases where location was specified. The five leading cities in corn and soybean purchases accounted for about 30 percent of total purchases while the five leading cities in wheat purchases accounted for more than half of total wheat purchases. The percentages of purchases accounted for by the 10 leading cities were 43 for corn, 42 for soybeans, and 62 for wheat. Thus, more than half of wheat purchases took place in the 10 leading cities, while these cities accounted for less than half of total purchases for either corn or soybeans.

The results also show that grain buying centers are not necessarily located at major centers for physical assembly or processing of grain. For example, Des Moines ranked first in corn purchases and third in soybean purchases while New York ranked sixth or seventh in purchases of each of the three grains. Neither of these cities would rank particularly high in terms of the volume of grain handled.

Tables 3 and 5 also show the importance of river points in buying corn and soybeans. Buyers on the Illinois and Mississippi Rivers combined accounted for more corn and soybean purchases than buyers at any single city.

These data must be used with caution since they are for a single year, 1974. Also, as noted previously, city and regional data are subject to larger relative sampling errors than are the U.S. totals. Nevertheless, the data provide considerable information about the relative importance of the various locations in buying and selling grain.

Numbers of Transactions at Major Decision Points

In describing the grain trade, the volume of business is not the only variable of interest. A location may have a high volume of activity in terms of the

Table 3--Corn: Volume traded between selected locations, as reported by sellers with storage facilities, 1974 1/

Location of buyer	Location of seller										Total
	Illinois	Indiana, Ohio, Michigan	Minnesota, Wisconsin	Iowa, Missouri	Kansas, Nebraska	Region IV	Region VI	Region VIII	Regions I, II, III	Regions IX, X	
	Million bushels										
Leading cities:											
Des Moines	8	0	5	296	0	0	0	0	0	0	309
Minneapolis	2/	7	202	4	0	0	0	9	0	16	238
Kansas City	2	0	2	155	24	1	0	2/	0	3	187
Decatur	133	10	7	1	0	0	0	0	0	0	151
Chicago	58	40	1	20	0	2/	0	1	0	0	121
Omaha	0	0	0	17	82	0	0	6	0	0	105
New York	20	22	6	0	1	1	2/	0	41	0	92
St. Louis	42	0	3	42	2/	3	1	0	0	0	91
Peoria	88	0	0	2/	0	0	0	0	0	0	88
New Orleans	9	0	3	74	1	0	0	0	0	0	86
Other river points:											
Illinois River	200	0	1	2	0	0	0	0	0	0	203
Ohio River	7	52	0	2/	0	0	0	0	0	0	59
Mississippi River	13	0	11	101	0	1	2/	0	5	7	138
Other coastal points:											
Gulf	3	0	1	1	1	4	3	0	0	7	19
Atlantic	26	50	2/	9	0	6	0	0	22	0	103
Pacific	0	0	8	2	13	0	2	2	0	1	27
Other interior points:											
Illinois	201	8	2/	44	0	2/	0	0	0	0	254
Indiana, Ohio, Michigan	2	263	2/	4	0	1	0	0	0	0	269
Minnesota, Wisconsin	0	0	79	5	0	0	2/	2/	0	0	85
Iowa, Missouri	0	0	2	154	8	0	0	7	0	0	170
Kansas, Nebraska	0	1	0	6	130	0	0	3	0	0	141
Region IV	16	20	0	6	0	60	0	0	2/	0	103
Region VI	0	0	0	37	15	0	34	1	0	0	88
Region VIII	0	0	2	0	34	0	0	31	0	0	67
Regions I, II, III	1	2/	0	0	0	2	2/	0	15	0	19
Regions IX, X	0	0	1	13	12	1	1	2/	0	2/	28
Foreign	0	0	0	0	0	5	145	0	0	0	150
Unspecified	97	86	77	119	101	16	92	162	11	2/	763
Total	925	560	410	1,103	424	100	280	222	96	34	4,154

1/ Excludes transactions between farmers and first handlers. Totals may not add because of rounding.
2/ Less than 0.5 million bushels.

Table 4--Wheat: Volume traded between selected locations, as reported by sellers with storage facilities, 1974 1/

Location of buyer	Location of seller										
	Illinois	Indiana, Ohio, Michigan	Minnesota, Wisconsin	Iowa, Missouri	Kansas, Nebraska	Region IV	Region VI	Region VIII	Regions I, II, III	Regions IX, X	Total
	Million bushels										
Leading cities:											
Minneapolis	0	1	151	6	5	0	0	230	0	2/	392
Kansas City	2/	0	27	64	116	1	17	4	0	0	230
Portland	0	0	56	0	0	0	0	28	0	138	223
Enid	0	0	0	1	35	0	159	0	0	0	195
Hutchinson	0	0	0	2/	100	0	2/	0	0	0	101
New York	0	1	37	0	0	2/	51	0	11	0	100
Great Falls	0	0	2/	0	0	0	0	55	0	0	55
Salina	0	0	0	2/	45	0	0	6	0	0	51
Omaha	0	0	0	2/	41	2/	2/	5	2/	0	47
Houston	0	0	0	0	2	0	43	2/	0	0	46
Other river points:											
Illinois River	5	0	0	2/	0	0	0	0	0	0	5
Ohio River	1	10	0	0	0	2/	0	0	0	0	12
Mississippi River	23	0	1	7	2/	6	37	2/	1	0	74
Other coastal points:											
Gulf	2/	2/	1	2	2/	3	2	0	0	0	9
Atlantic	0	15	0	0	2/	2	0	0	10	5	32
Pacific	0	0	4	1	2/	0	1	12	0	18	36
Other interior points:											
Illinois	14	7	2	1	0	0	0	2/	0	0	24
Indiana, Ohio, Michigan	0	107	2/	2/	0	2/	0	0	0	2/	108
Minnesota, Wisconsin	0	0	11	2/	0	0	0	28	0	0	39
Iowa, Missouri	0	0	2/	3	3	0	2/	1	0	0	8
Kansas, Nebraska	0	2/	0	2/	72	0	0	4	0	0	76
Region IV	2	3	2/	1	0	3	0	0	2/	0	10
Region VI	0	0	0	4	14	0	67	1	0	0	85
Region VIII	0	0	2	1	35	0	0	67	0	4	110
Regions I,II, III	0	0	0	0	0	2/	0	0	4	0	4
Regions IX, X	0	0	0	0	2/	2/	0	6	0	20	26
Foreign	0	0	0	0	0	1	4	0	0	0	5
Unspecified	4	32	60	48	48	2	142	34	4	3	377
Total	49	176	354	140	517	19	522	483	31	189	2,482

1/ Excludes transactions between farmers and first handlers. Totals may not add because of rounding.
2/ Less than 0.5 million bushels.

Table 5--Soybeans: Volume traded between selected locations, as reported by sellers with storage facilities, 1974 1/

Location of buyer	Location of seller										Total
	Illinois	Indiana, Ohio, Michigan	Minnesota, Wisconsin	Iowa, Missouri	Kansas, Nebraska	Region IV	Region VI	Region VIII	Regions I, II III	Regions IX, X	
	Million bushels										
Leading cities:											
Kansas City	2/	0	0	81	2	6	3	0	0	1	93
Des Moines	0	0	1	82	1	0	0	0	0	0	84
St.Louis	39	0	0	23	0	12	12	0	0	0	86
Decatur	65	3	7	2	0	0	0	0	0	0	77
Minneapolis	2/	1	66	2/	0	0	0	2	0	3	72
New York	13	5	7	2/	0	3	1	0	8	0	37
Indianapolis	0	35	0	1	0	0	0	0	0	0	37
Cedar Rapids	0	0	0	32	0	0	0	0	0	0	32
Toledo	0	29	0	0	0	0	0	0	0	0	29
Bloomington	28	0	0	0	0	0	0	0	0	0	28
Other river points:											
Illinois River	56	0	2/	2/	0	0	0	0	0	0	56
Ohio River	2	19	0	0	0	2/	0	0	0	0	21
Mississippi River	2	0	6	29	0	7	12	0	0	1	57
Other coastal points:											
Gulf	2	0	2/	24	0	20	12	0	0	2/	59
Atlantic	1	14	0	0	0	4	0	0	13	0	33
Pacific	0	0	0	0	0	0	2/	0	0	0	2/
Other interior points:											
Illinois	64	12	2/	40	0	0	0	2/	0	0	117
Indiana, Ohio, Michigan	2/	84	0	2/	0	0	0	0	0	0	85
Minnesota, Wisconsin	0	0	40	4	0	0	0	1	0	0	45
Iowa, Missouri	0	0	8	73	2	0	1	5	0	0	88
Kansas, Nebraska	0	0	0	11	43	2/	2/	0	0	0	54
Region IV	8	13	1	2	0	45	0	0	2/	0	70
Region VI	0	0	0	1	2/	1	34	0	0	0	36
Region VIII	0	0	2/	0	2/	0	0	1	0	0	1
Regions I, II, III	2/	0	0	0	0	0	0	0	4	0	4
Regions IX, X	0	0	0	0	0	2/	0	0	0	0	2/
Foreign	2/	0	0	0	0	4	70	0	0	0	74
Unspecified	32	25	10	63	9	3	22	32	3	3	203
Total	313	242	147	470	56	107	166	40	28	8	1,577

1/ Excludes transactions between farmers and first handlers. Totals may not add because of rounding.
2/ Less than 0.5 million bushels.

bushels bought or sold, but it could be relatively inactive if trading were in large lots at infrequent intervals. Accordingly, respondents were asked to report the number of separate transactions used in buying and selling each grain in 1974. The data were expanded to estimate the total number of separate transactions for all elevators and merchants (tables 6, 7 and 8). They generally show the same trading patterns as the bushel volumes reported in tables 3, 4, and 5.

Average Size of Transaction

The estimated average size of transaction at selected decision points appears in table 9. These data are the estimated volume traded divided by the estimated number of transactions. Note that a single transaction could encompass a volume deliverable in anything from a single straight truck to a unit train. Transactions at leading cities and coastal points tended to be larger than at river points and other interior points. On the average, a transaction represents the equivalent of about one hopper car or two standard boxcars of grain. This is probably more representative of sales by country elevators than of transactions among subterminals, terminals and processors. Transactions in soybeans tended to be smaller than for corn and wheat.

Interaction of Buyers and Sellers

The marketing of grain involves assembling the output of many widely dispersed producers at a limited number of processing, feeding, and export points. Traditionally, this assembly process occurs in stages starting at the country elevator or first handler level and proceeding through terminal or subterminal elevators to points of utilization or export. Each major buyer throughout the system typically purchases from many sellers, while each seller tends to sell to relatively few buyers. This asymmetry in numbers of buyers and sellers has implications for grain pricing and for the distribution of market news.

Because of size, major merchandisers can better afford to develop in-house information and to subscribe to commercial systems for market news. In contrast, smaller firms (for example, country elevators) may have greater needs for publicly available information.

Volume of Sales by Size Class

A typical seller of grains handles a relatively small volume annually. One-third to one-half of the establishments selling grain in 1974 sold 100,000 or fewer bushels of any one grain to other elevators and merchants (table 10), an amount representing only 50-60 standard boxcars or about 30 jumbo hopper cars. One-half of the sellers of corn and three-fourths of the sellers of wheat and soybeans sold 250,000 or fewer bushels of grain.

The average annual volume of corn sold by the typical elevator tended to be greater than that for other grains, partly because of the greater density of corn production per square mile. Moreover, the total volume of corn sold by farmers nearly equaled the total for wheat and soybeans combined. Of course,

Table 6--Corn: Number of transactions between selected locations, as reported by sellers with storage facilities, 1974 1/

Location of buyer	Location of seller										Total
	Illinois	Indiana, Ohio, Michigan	Minnesota, Wisconsin	Iowa, Missouri	Kansas, Nebraska	Region IV	Region VI	Region VIII	Regions I, II, III	Regions IX, X	
	100 transactions										
Leading cities:											
Des Moines	2/	0	3	1,048	0	0	0	0	0	0	1,051
Minneapolis	1	2/	298	9	0	0	0	40	0	2	350
Kansas City	1	0	2/	291	63	12	0	2/	0	2/	368
Decatur	211	4	5	1	0	0	0	0	0	0	220
Chicago	36	101	2	15	0	3	0	33	0	0	191
Omaha	0	0	0	166	417	0	0	6	0	0	589
New York	1	3	5	0	1	3	2/	0	1	0	15
St. Louis	132	0	2/	54	2/	17	2	0	0	0	205
Peoria	239	0	0	2/	0	0	0	0	0	0	239
New Orleans	6	0	2	360	2	0	0	0	0	0	370
Other river points:											
Illinois River	697	0	3	6	0	0	0	0	0	0	707
Ohio River	14	143	0	1	0	0	0	0	0	1	158
Mississippi River	82	0	56	340	0	4	2/	0	2/	1	483
Other coastal points:											
Gulf	1	0	0	2	2/	19	4	0	0	1	27
Atlantic	7	24	2/	0	0	15	0	0	85	0	131
Pacific	0	0	22	2	10	0	2/	3	0	6	43
Other interior points											
Illinois	531	25	2/	29	0	0	0	0	0	0	586
Indiana, Ohio, Michigan	1	1,151	2	18	0	1	0	0	0	0	1,173
Minnesota, Wisconsin	0	0	170	12	0	0	2/	4	0	0	187
Iowa, Missouri	0	0	2	754	46	0	0	43	0	0	845
Kansas, Nebraska	0	1	0	22	498	0	0	3	0	0	525
Region IV	136	27	0	9	0	149	0	0	2/	0	323
Region VI	0	0	0	18	106	0	21	1	0	0	146
Region VIII	0	0	3	0	155	0	0	36	0	0	194
Regions I, II, III	1	1	0	0	0	25	2/	0	68	0	94
Regions IX, X	0	0	3	9	7	6	2	2/	0	2	28
Foreign	0	0	0	0	0	1	4	0	0	0	5
Unspecified	108	181	71	275	245	94	3	27	15	2/	1,018
Total	2,205	1,661	648	3,441	1,550	350	37	197	168	12	10,269

1/ Excludes transactions between farmers and first handlers. Totals may not add because of rounding.
2/ Less than 50 transactions.

Table 9--Average size of transaction by location of buyer, for selected grains, 1974

Location	Corn	Wheat	Soybeans
		1,000 bushels	
Ten leading cities	4.1	3.9	2.8
Other river points	3.0	3.8	1.9
Other coastal points	7.4	5.0	2.5
Other interior points	3.0	2.7	2.3

Table 10--Establishments selling selected grain by volume of sales, 1974 1/

Size class by sales volume (1,000 bushels)	Corn	Wheat	Soybeans
		Number	
Under 101	2,275	4,075	2,625
101-250	1,000	1,450	1,750
251-500	1,200	1,075	1,025
501-750	650	375	200
751-1,000	450	225	100
1,001-2,000	500	225	75
2,001-5,000	175	75	50
5,001 and over	75	50	25
Total	6,300	7,550	6,100

1/ Rounded to the nearest multiple of 25.

more corn was sold for feed use or in the local area than wheat and soybeans, but the larger volume sold in the market still would present greater opportunity for a higher volume of operations. Additionally, fewer establishments sold corn than wheat in 1974 (nearly 20 percent less); and the number selling soybeans was only slightly smaller than the number selling corn.

Number of Buyers Per Seller

The typical elevator sold grain to only a few commercial buyers. About one-eighth of the sellers of corn and one-quarter of the sellers of wheat and soybeans sold to only one buyer in 1974 (table 11). About three-fifths of the sellers of corn and four-fifths of the sellers of wheat and soybeans dealt with five or fewer buyers. At the other extreme, a much larger percentage of the sellers of corn dealt with 10 or more buyers than did sellers of wheat or soybeans.

The relatively limited degree of interaction with buyers is more evident in tables 12, 13, and 14 which disaggregate the data from table 11 by size categories. When viewed by individual size categories, about 1 in 10 corn sellers and 1 in 6 wheat and soybean sellers sold 100,000 bushels or less in 1974 and dealt with only 1 buyer. About 1 in 4 of the sellers of corn, 1 in 2 of the sellers of wheat, and 4 in 10 of the sellers of soybeans sold to 5 or fewer buyers and sold fewer than 100,000 bushels in 1974. Thus, most sellers not only sold relatively small volumes of grain, but also dealt with only a few buyers.

Elevators other than those which identified themselves as country elevators tended to sell grain to a larger number of buyers in 1974 than did country elevators (tables 15 and 16). A larger percentage of the country elevators sold to 5 or fewer buyers than did the other elevators. However, only country elevators selling wheat had a relatively greater concentration of sales to a single buyer than did other elevators. For all three grains, there was a much larger percentage of other elevators selling to 10 or more buyers than country elevators.

Country elevators organized under the corporate form of ownership tended to sell to 5 or fewer buyers less often than did other country elevators (table 17). However, the difference between corporate establishments and the average was not very large. The proprietary elevators tended to have a slightly higher than average proportion of establishments selling to 5 or fewer buyers, but again, the difference is very small. For cooperatives, the percentage that sold to only one buyer was not markedly larger than for other forms of ownership. Form of ownership thus is unlikely to indicate the degree of market activity in terms of the number of buyers with which an establishment transacts business.

Percentage Sold to Largest Buyer

Concentration of buyers relative to sellers also may be viewed in terms of the percentage of sales going to the establishment's most important buyer. Table 18 shows that about 3 in 4 of the country elevator sellers of corn, and 6 in 7 of the country elevator sellers of wheat and soybeans sold more than half their volume to their largest buyer.

Table 11--Distribution of establishments selling selected grains by number of buyers per seller, 1974

Grain	Buyers				Total
	1	2-5	6-10	11 and over	
	Percent				
Corn	13	47	23	17	100
Wheat	27	54	12	7	100
Soybeans	24	60	12	4	100

Table 12--Corn: Distribution of establishments by volume of sales and number of buyers per seller, 1974 1/

Size class by sales volume (1,000 bushels)	Buyers				Total
	1	2-5	6-10	11 and over	
	Percent				
Under 101	8.9	19.2	5.0	3.0	36.2
101-250	1.2	10.0	2.9	1.9	16.0
251-500	.4	9.0	5.4	4.0	18.8
501-750	.5	3.2	3.6	3.1	10.3
751-1,000	.6	3.1	1.8	1.4	6.9
1,001-2,000	.8	2.0	3.5	1.5	7.9
2,001 and more	.3	1.0	.8	1.8	4.0
Total	12.7	47.6	23.0	16.7	100.0

1/ Totals may not add due to independent rounding.

Table 13--Wheat: Distribution of establishments by volume of sales and number of buyers per seller, 1974 1/

Size class by sales volume (1,000 bushels)	Buyers				Total
	1	2-5	6-10	11 and over	
	Percent				
Under 101	15.7	33.4	3.1	2.0	54.3
101-250	4.9	10.1	2.8	1.3	19.1
251-500	3.9	6.2	2.7	1.4	14.2
501-750	1.2	2.1	1.2	.5	5.0
751-1,000	.7	1.6	.2	.3	2.8
1,001-2,000	.7	.6	1.4	.7	3.3
2,001 and more	2/	.3	.4	.7	1.4
Total	27.1	54.2	11.8	6.9	100.0

1/ Totals may not add due to independent rounding.
2/ Less than 0.05 percent.

Table 14--Soybeans: Distribution of establishments by volume of sales and number of buyers per seller, 1974 1/

Size class by sales volume (1,000 bushels)	Buyers				Total
	1	2-5	6-10	11 and over	
	Percent				
Under 101	16.6	25.7	1.7	1.0	45.0
101-250	3.7	20.0	4.6	1.5	29.8
251-500	2.2	11.1	3.8	.4	17.5
501-750	.4	1.6	.8	.4	3.3
751-1,000	.2	1.0	.6	.1	1.9
1,001-2,000	.5	.5	.3	2/	1.4
2,001 and more	.3	.3	.3	.3	1.2
Total	23.9	60.1	12.0	3.9	100.0

1/ Totals may not add due to independent rounding.
2/ Less than 0.05 percent.

Table 15--Distribution of country elevators selling selected grains by number of buyers per seller, 1974

Grain	Buyers				Total
	1	2-5	6-10	11 and over	
	Percent				
Corn	11	49	25	15	100
Wheat	28	56	11	5	100
Soybeans	22	63	12	3	100

Table 16--Distribution of other elevators selling selected grains by number of buyers per seller, 1974

Grain	Buyers				Total
	1	2-5	6-10	11 and over	
	Percent				
Corn	12	16	26	46	100
Wheat	12	29	32	27	100
Soybeans	21	33	31	15	100

Table 17--Distribution of country elevators selling selected grains by number of buyers per seller and form of ownership, 1974

Grain and form of ownership	Buyers per seller				Total
	1	2-5	6-10	11 and over	
	Percent				
Corn:					
All elevators	11	49	25	15	100
Proprietary	16	52	17	15	100
Cooperative	15	49	23	13	100
Corporate	6	48	29	17	100
Wheat:					
All elevators	28	56	11	5	100
Proprietary	27	67	4	2	100
Cooperative	33	51	11	5	100
Corporate	22	56	15	7	100
Soybeans:					
All elevators	22	63	12	3	100
Proprietary	27	62	10	1	100
Cooperative	26	62	10	2	100
Corporate	15	65	15	5	100

Table 18--Distribution of country elevators selling selected grains by percent to the largest buyer, 1974

Grain	Percent to largest buyer			Total
	1-49	50-90	91 and over	
	Percent of establishments			
Corn	27	60	13	100
Wheat	15	53	32	100
Soybeans	15	58	27	100

The prevalence of small sellers having limited interaction with buyers again is evident in tables 19, 20, and 21 which report data for all establishments. About 3 in 10 corn sellers, 1 in 2 wheat sellers, and 2 in 5 soybean sellers were in the smallest category of sales (100,000 bushels or less) and sold more than 50 percent to their largest buyer.

Relatively more country elevators sold 50 percent or more of their grain to their largest buyer than did other elevators (table 22). However, the majority of terminal and subterminal elevators also sold more than half their grain to the largest buyer. The percentage of terminal and subterminal elevators which sold 90 percent or more to the largest buyer does not differ markedly from the country elevators, except for wheat, where it was smaller for terminals and subterminals than for country elevators.

Many elevators apparently depend heavily upon a single major buyer as an outlet for their grain. This relationship can arise from the existence of integrated cooperative or corporate organizations; that is, most sales are made to other offices of the cooperative or corporation. However, the pattern of sales of proprietary elevators did not differ markedly from that of cooperative and corporate elevators, suggesting that sales within an integrated organization do not fully explain the concentration of sales to the largest buyer. A concentration of sales to a single buyer thus may result from habit, custom, good working relationships, or other factors. It infers that the seller has confidence that the buyer is competitive with other potential buyers in terms of price and other attributes associated with a transfer of ownership.

In summary, the typical grain seller in 1974 sold to a small number of commercial buyers. Further, most sellers tended to sell a relatively high proportion of their grain to a single buyer. Of course, these data cannot be interpreted to mean that sellers do not contact (or are not contacted by) a greater number of potential buyers before a sale is made. In interviewing country elevators, we found that most are in regular contact with 3 to 5 potential buyers. Nevertheless, the data suggest that many sellers are exposed to only a limited number of buyer contacts and that they may well need price information from sources other than buyers.

TERMS OF TRADE AND NATURE OF TRANSACTIONS

This section describes the terms under which grain is bought and sold, including the time of pricing relative to time of delivery, use of basis in quoting price, and mode of shipment. The time of day when trades are made and the nature of transactions are also described.

Time of Pricing Relative to Time of Delivery

Respondents to the survey provided data on the pricing arrangements associated with purchases and sales in 1974. Pricing arrangements were specified for three categories of transactions: (1) purchases from farmers, (2) purchases from other elevators and grain merchants, and (3) sales to other elevators and grain merchants.

Table 19--Corn: Distribution of establishments by volume of sales and percent sold to largest buyer, 1974 1/

Size class by sales volume (1,000 bushels)	Share sold to largest buyer			Total
	Less than 50	51-90	91 and more	
	Percent			
Under 101	7.5	19.4	9.2	36.1
101-250	3.7	11.0	1.8	16.5
251-500	5.4	12.1	1.2	18.8
501-750	4.1	5.4	.5	10.0
751-1,000	1.9	4.4	.6	6.9
1,001-2000	1.9	5.0	1.0	7.9
2,001 and more	1.6	2.0	.3	3.9
Total	26.0	59.4	14.7	100.0

1/ Totals may not add due to independent rounding.

Table 20--Wheat: Distribution of establishments by volume of sales and percent sold to largest buyer, 1974 1/

Size class by sales volume (1,000 bushels)	Share sold to largest buyer			Total
	Less than 50	51-90	91 and more	
	Percent			
Under 101	4.3	31.7	17.8	53.8
101-250	3.5	9.3	6.3	19.2
251-500	2.5	7.3	4.8	14.4
501-750	.7	2.4	2.0	5.0
751-1,000	.6	1.1	1.1	2.9
1,001-2,000	1.1	1.5	.7	3.3
2,001 and more	.6	.5	.3	1.3
Total	13.2	53.7	33.0	100.0

1/ Totals may not add due to independent rounding.

Table 21--Soybeans: Distribution of establishments by volume of sales and percent sold to largest buyer, 1974 1/

Size class by sales volume (1,000 bushels)	Share sold to largest buyer			Total
	Less than 50	51-90	91 and more	
	Percent			
Under 101	3.6	23.0	18.9	45.5
101-250	4.7	19.3	5.6	29.6
251-500	2.6	11.3	3.3	17.2
501-750	1.0	1.6	.7	3.3
751-1,000	.3	1.2	.3	1.8
1,001-2,000	.2	.5	.6	1.3
2,001 or more	.4	.5	.4	1.2
Total	12.7	57.4	29.8	100.0

1/ Totals may not add due to independent rounding.

Table 22--Distribution of terminal and subterminal elevators selling selected grains by relative sales to the largest buyer, 1974

Grain	Share to largest buyer			Total
	Less than 50	51-90	91 and more	
	Percent			
Corn	43	42	15	100
Wheat	48	31	21	100
Soybeans	32	41	27	100

Purchases from Farmers

Grain merchants and processors employ a variety of pricing arrangements in buying grain from farmers. Frequently, the price is set when the farmer turns over ownership of the grain. This may coincide with the physical delivery of the grain to the buyer's elevator, or it may occur later if the farmer has first placed the grain in the elevator for storage. But agreement on price need not occur at the same time that ownership is transferred. Through forward contracting, the price can be set well ahead of the time when ownership changes. Or though delayed pricing, ownership can be transferred before the price is set. Substantial portions of the grain bought from farmers are purchased under such forward contracts or delayed pricing agreements.

The estimated proportions of grain purchased from farmers during 1974 under alternative pricing arrangements appear in table 23. Forward contracting was more common for corn and soybeans than for wheat and accounted for about one-half of the purchases. The majority of these contracts were made within a month of delivery date; however, prices were established more than 30 days before delivery for about 20 percent of total purchases of these commodities. Note that the category "1 to 30 days before delivery" includes the traditional practice of striking a bargain and allowing a few days for movement from farm storage.

About one-third of the wheat was marketed under contracted prices. Nearly half was priced at time of delivery or change of title. Pricing after change of title was used to some extent for each of the grains.

Table 23--Distribution of grain purchases from farmers, by time of purchase relative to time of delivery, 1974

Time of purchase, days for delivery	Corn	Wheat	Soybeans
		Percent	
More than 30	20	14	20
1-30	35	19	29
Same day	37	49	40
Priced after change of title (delayed pricing)	8	18	11
Total	100	100	100

Although considerable variation was found among grains, the pricing arrangement used appeared to depend more on geographic area than on commodity. The quantities of each grain purchased from farmers under the various pricing arrangements in each geographic area are shown in tables 24 through 26. Establishing the price prior to delivery was especially common in the Iowa-Missouri Region, where it accounted for about two-thirds of corn and soybean purchases, and in Illinois, where almost 62 percent of the corn was priced prior to delivery. These arrangements were not as common in other areas, but they still represented one-third to one-half of the business in many areas.

Delayed pricing--after change of title--has become an important marketing practice in some regions during recent years. The practice allows the farmer to speculate on price while his grain is moved into commercial channels, thereby freeing country elevator storage and handling capacity to handle additional farmers' grains. Interviews confirmed that the practice was important in the eastern Corn Belt, but suggested that very little pricing occurred after change of title in Kansas and other hard winter wheat-growing States. Apparently, some respondents in these States included in this category grain dumped during the harvest rush and held in "open" account until the farmer had time to specify whether it was to be sold or stored.

The estimated percentages of grain purchased by various types of buyers from farmers under the different pricing arrangements are shown in tables 27-29. Since country elevators are the major outlet for farm sales, the country elevator percentages are almost identical to the total percentages for all establishments combined. Consequently, the variation among other buyers with respect to purchases from farmers has little impact on the overall results shown in tables 24-26. However, a few noticeable deviations were found compared with other buyer groups; export elevators tended to favor the longer term forward contracts while processors, compared with other buyers, made greater use of the delayed pricing arrangement.

Purchases from Elevators and Merchants

Information about transactions between grain merchants and processors was obtained from both buyers and sellers. As noted previously, the data obtained from sellers more completely represent the total market than do data obtained from buyers. It is important to remember that the data were obtained from establishments with storage facilities. In some cases, buyers indicated that buying decisions were made at locations different from the locations of the storage facilities. In presenting these data, the volume purchased is credited to the location of the office where the buying decision was made.

Estimates of the importance of alternative terms of trade based on the information provided by buyers are presented in tables 30-32 by location and type of grain. These quantities were assigned to location according to the location of the buyer's pricing decisions, and they do not represent actual flows of grain. Volume figures for specific locations are subject to substantial sampling errors and they should be viewed with caution. A zero volume of purchases indicates that no pricing decisions were reported for a location.

Table 24--Corn: Quantity purchased from farmers, by time of purchase relative to time of delivery, 1974

Location of buyer	Time of purchase								Total	
	More than 30 days before delivery		1-30 days before delivery		At delivery or change of title		After change of title			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	194	26.2	263	35.5	237	32.0	48	6.4	742	100
Indiana, Ohio, Michigan	86	17.4	122	24.6	218	43.7	71	14.3	498	100
Minnesota, Wisconsin	89	23.5	122	36.1	130	38.2	7	2.1	338	100
Iowa, Missouri	152	18.9	404	50.3	199	24.7	49	6.1	806	100
Kansas, Nebraska	62	15.5	105	26.5	180	45.4	50	12.6	396	100
Region IV	16	12.7	16	13.0	87	69.4	6	4.9	126	100
Other regions	39	19.0	36	18.0	108	54.1	18	8.8	199	100
U.S. total	628	20.2	1,070	34.4	1,158	37.2	249	8.0	3,107	100

Table 25--Wheat: Quantity purchased from farmers, by time of purchase relative to time of delivery, 1974

Location of buyer	Time of purchase								Total	
	More than 30 days before delivery		1-30 days before delivery		At delivery or change of title		After change of title			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	15	22.2	10	15.2	41	59.7	2	2.8	68	100
Indiana, Ohio, Michigan	12	9.0	21	14.9	76	52.5	34	23.6	144	100
Minnesota, Wisconsin	10	16.3	23	36.5	28	44.6	1	2.5	63	100
Iowa, Missouri	7	11.7	14	22.0	35	57.3	5	9.1	62	100
Kansas, Nebraska	39	8.3	51	10.9	239	50.5	143	30.3	472	100
Region VI	7	2.4	16	6.0	187	68.8	62	22.8	272	100
Region VIII	101	20.6	182	36.9	180	36.5	30	6.0	493	100
Other regions	64	23.0	40	14.3	126	44.8	50	18.0	280	100
U.S. total	258	13.9	359	19.3	912	49.1	328	17.7	1,857	100

Table 26--Soybeans: Quantity purchased from farmers, by time of purchase relative to time of delivery, 1974

Location of buyer	Time of purchase								Total	
	More than 30 days before delivery		1-30 days before delivery		At delivery or change of title		After change of title			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	65	22.6	86	29.8	114	39.3	24	8.3	290	100
Indiana, Ohio, Michigan	32	15.7	39	19.3	94	46.8	37	18.2	202	100
Minnesota, Wisconsin	22	21.9	36	36.7	39	39.8	1	1.7	98	100
Iowa, Missouri	58	18.2	148	46.9	85	26.9	25	8.0	316	100
Region IV	29	22.3	19	14.7	63	47.9	20	15.2	132	100
Other regions	34	20.5	20	11.6	86	51.1	28	16.7	168	100
U.S. total	240	19.9	349	28.9	482	39.9	136	11.3	1,208	100

Table 27--Corn: Percent by time of purchase from farmers relative to time of delivery, by type of establishment, 1974

Type of establishment	Time of purchase				Total
	More than 30 days before delivery	1-30 days before delivery	At delivery or change of title	After change of title	
	Percent				
Country elevator	20.0	35.0	36.7	8.3	100
Subterminal elevator	25.6	33.2	29.9	11.3	100
Terminal elevator	29.8	35.7	27.9	6.6	100
Export elevator	37.3	19.7	41.1	2.0	100
Processor	20.8	35.0	19.3	24.9	100

Table 28--Wheat: Percent by time of purcahse from farmers relative to time of delivery, by type of establishment, 1974

Type of establishment	Time of purchase				Total
	More than 30 days before delivery	1-30 days before delivery	At delivery or change of title	After change of title	
	Percent				
Country elevator	13.8	19.4	48.5	18.3	100
Subterminal elevator	14.1	16.7	48.9	20.3	100
Terminal elevator	11.9	26.9	49.7	11.5	100
Export elevator	73.5	15.8	10.7	0	100
Processor	5.5	18.0	51.4	25.1	100

Table 29--Soybeans: Percent by time of purchase from farmers relative to time of delivery, by type of establishment, 1974

Type of establishment	Time of purchase				Total
	More than 30 days before delivery	1-30 days before delivery	At delivery or change of title	After change of title	
	Percent				
Country elevator	20.1	30.0	39.4	10.6	100
Subterminal elevator	21.2	29.5	34.4	14.9	100
Terminal elevator	27.5	27.1	29.8	15.6	100
Export elevator	34.4	33.8	31.8	0	100
Processor	17.5	21.5	44.7	16.2	100

Table 30--Corn: Quantity purchased from elevators and merchants by establishments with storage facilities, by time of purchase relative to time of delivery, 1974

Location of buyer	Time of purchase										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Selected terminals :												
Chicago	5	6.5	14	18.7	17	22.7	17	21.7	23	30.4	77	100
Peoria	1	5.5	1	9.2	6	37.9	6	34.3	2	13.1	16	100
Minneapolis	7	4.3	22	13.8	77	47.4	33	20.3	23	14.2	163	100
Kansas City	9	20.0	2	4.9	13	28.3	11	24.2	10	22.6	45	100
St. Louis	1/	6.4	3	43.6	2	28.3	1	18.4	1/	3.3	8	100
Omaha	1/	8.0	6	40.3	6	39.3	1	4.7	1/	7.7	16	100
Toledo	5	20.8	4	17.2	6	26.0	4	18.0	4	18.0	24	100
Milwaukee	1	2.7	7	33.6	6	28.7	6	27.0	2	8.0	22	100
Subtotal	29	7.9	62	16.6	134	36.3	78	21.2	66	17.9	370	100
River points	4	5.0	19	26.7	30	41.9	10	13.6	9	12.7	72	100
Ocean points	1	.9	10	6.1	32	20.1	44	27.4	72	45.5	159	100
Other interior points:												
Illinois	23	6.4	71	19.8	201	56.0	14	4.0	50	13.8	360	100
Indiana, Ohio, Michigan	22	12.5	52	29.6	69	38.9	19	10.6	15	8.4	177	100
Minnesota, Wisconsin	6	25.1	16	65.4	2	8.8	1/	.5	1/	.2	24	100
Iowa, Missouri	22	5.1	73	17.1	125	29.3	102	23.9	105	24.6	426	100
Kansas, Nebraska	8	5.4	104	70.5	16	11.0	9	6.0	10	7.1	148	100
Region IV	7	5.7	37	29.7	48	38.6	21	16.9	12	9.2	126	100
Region VI	4	1.9	68	32.7	47	22.6	43	20.5	46	22.3	207	100
Region VIII	5	10.2	29	54.5	9	17.7	9	16.1	1	1.5	53	100
Regions I, II, III	2	4.8	17	38.9	19	44.2	5	10.4	1	1.7	44	100
Regions IX-X	1	0	2	8.8	11	49.1	8	36.6	1	5.5	22	100
Subtotal	100	6.3	470	29.6	548	34.5	229	14.4	240	15.2	1,586	100
Total	134	6.1	560	25.6	744	34.0	360	16.5	388	17.7	2,187	100

1/ Less than 0.5 million bushels.

Table 31--Wheat: Quantity purchased from elevators and merchants by establishments with storage facilities, by time of purchase relative to time of delivery, 1974

Location of buyer	Time of purchase										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Selected terminals:												
Chicago	1/	0.9	1	9.4	2	36.4	2	37.5	1	15.8	5	100
Hutchinson	0	0	1	2.1	36	89.9	2	6.0	1	2.0	40	100
Wichita	8	26.4	7	22.2	13	40.6	3	10.8	0	0	32	100
Minneapolis	32	6.2	116	22.1	171	32.8	131	25.0	73	14.0	523	100
Kansas City	25	16.0	65	41.0	50	31.5	9	5.7	9	5.8	159	100
Omaha	8	16.2	34	67.6	6	11.5	2	3.4	1	1.2	50	100
Toledo	2	9.9	4	16.2	11	44.2	5	20.0	2	9.7	25	100
Enid	38	37.2	10	9.4	50	48.4	5	4.5	1	.5	102	100
Forth Worth	11	21.1	17	34.6	16	32.3	3	6.6	3	5.4	50	100
Subtotal	126	12.7	254	25.7	355	36.0	162	16.4	90	9.2	987	100
Ocean points	1	.5	9	6.6	52	37.4	34	24.5	43	31.0	139	100
River points	1	2.4	4	10.2	6	16.6	7	20.3	18	50.4	35	100
Other interior points:												
Illinois	1/	4.3	1/	5.3	8	84.9	1/	5.5	1/	.1	9	100
Indiana, Ohio, Michigan	7	7.6	26	27.7	36	39.5	11	11.5	13	13.6	92	100
Minnesota, Wisconsin	1	4.5	6	28.0	14	62.0	1	3.5	1/	2.0	22	100
Iowa, Missouri	1/	1.7	1/	16.0	1	44.6	1/	25.7	1/	12.0	2	100
Kansas Nebraska	8	14.3	9	16.5	30	53.8	7	12.7	1	2.6	55	100
Region IV	2	30.6	2	24.6	2	29.6	1	9.1	1/	6.1	8	100
Region VI	1/	1.3	1	3.9	20	53.4	15	40.2	1/	1.3	37	100
Region VIII	14	20.9	15	22.5	24	36.4	8	11.6	6	8.6	66	100
Regions I, II, III	1	8.0	1	13.8	6	60.5	1	9.1	1	8.6	10	100
Regions IX-X	1/	.7	1	4.2	19	63.2	7	21.7	3	10.3	30	100
Subtotal	34	10.3	62	18.9	159	48.1	50	15.1	25	7.6	331	100
Total	161	10.8	329	22.1	572	38.3	253	17.0	177	11.8	1,492	100

1/ Less than 0.5 million bushels.

Table 32--Soybeans: Quantity purchased from elevators and merchants, by establishments with storage facilities by time of purchase relative to time of delivery, 1974

Location of buyer	Time of purchase										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Selected terminals :												
Chicago	1	5.3	5	19.1	11	38.1	5	18.0	5	19.5	28	100
Minneapolis	3	7.2	6	11.3	24	44.4	12	22.8	8	14.3	54	100
Kansas City	3	23.9	2	17.4	3	20.6	3	23.3	2	14.9	12	100
St. Louis	1/	.7	1/	5.3	3	48.7	3	43.4	1/	2.0	6	100
Toledo	2	22.0	2	18.0	2	20.0	2	20.0	2	20.0	11	100
Subtotals	11	9.7	16	14.3	42	37.9	25	22.4	17	15.6	112	100
River points	13	20.4	18	27.7	14	21.2	11	16.8	9	13.9	64	100
Ocean points	5	6.3	10	12.6	12	14.3	25	31.1	29	35.7	82	100
Other interior points :												
Illinois	8	3.2	56	21.6	39	53.3	21	8.1	36	13.7	260	100
Indiana, Ohio, Michigan	13	7.8	44	26.7	63	38.0	26	15.8	20	11.8	166	100
Minnesota, Wisconsin	1	1.2	11	15.0	45	59.6	12	15.8	6	8.5	76	100
Iowa, Missouri	10	6.3	34	20.9	66	40.2	26	15.6	28	17.1	164	100
Kansas, Nebraska	12	32.7	17	48.2	6	17.2	1	1.8	1/	.1	36	100
Region IV	19	16.2	39	34.0	35	30.0	11	9.8	12	9.9	116	100
Region VI	5	5.6	8	10.3	25	28.5	24	28.9	22	26.7	82	100
Region VIII	0	0	1/	90.2	0	0.0	0	0.0	1/	9.8	1	100
Regions, I, II, III	1	11.0	3	37.5	1	19.4	1	22.3	1	9.7	7	100
Regions IX-X	0	0	1/	34.4	1	65.6	0	0	0	0.0	1	100
Subtotal	69	7.5	215	23.6	380	41.8	122	13.4	124	13.6	909	100
Total	98	8.4	259	22.2	448	38.3	183	15.7	180	15.4	1,167	100

1/ Less than 0.5 million bushels.

The estimates in table 30 indicate that corn buyers located in the selected terminal markets accounted for about 17 percent of total reported purchases from elevators. Only about 8 percent of this volume was purchased on or after day of delivery. Kansas City and Toledo were the only terminal buyer locations where purchases on day of delivery accounted for as much as 20 percent of total purchases. For buyers located at "other interior points," the most important arrangement was purchases 11-30 days before delivery, representing about one-third of total purchases. About 30 percent was purchased 1-10 days before delivery and only about 7 percent was purchased on day of delivery. Purchases more than 60 days before delivery accounted for over 20 percent of purchases by buyers located in Iowa-Missouri, Region VI, and several terminal and ocean port markets.

In contrast to corn, wheat buyers located in the selected terminal markets accounted for nearly two-thirds of total reported purchases from elevators and merchants. The spot market was more important than for corn but remained small. Purchases on day of delivery accounted for about 13 percent of purchases by terminal market buyers. Spot purchases accounted for 26 and 37 percent of total purchases at Wichita and Enid, respectively. In addition, spot transactions accounted for 16 percent or more of the volume purchased by buyers in Kansas City, Omaha, and Fort Worth. At Minneapolis, spot purchases amounted to only about 6 percent of the total reported. Spot purchases were negligible at Chicago where buyers purchased over half their needs 31 days or more before delivery. Purchases 11-30 days before delivery were the most important arrangement for buyers in 5 of the 9 selected terminal locations, while purchases 1-10 days before delivery were most numerous at 3 locations.

As with terminal locations, purchases for deferred delivery were the most common arrangement for buyers located at "other interior points." Purchases 11-30 days before delivery were most common at almost all locations. Purchase agreements calling for delivery more than 30 days in the future were used more often by buyers in the Iowa-Missouri Region and in Region VI than in other locations.

The delivery arrangements associated with soybean purchases resembled those for corn with respect to terminal locations. Minneapolis had the largest volume in both total and spot soybean purchases but only about 7 percent in the spot category. Spot purchases accounted for only 5 percent of the volume at Chicago. At Kansas City and Toledo, buyers purchased 20 percent or more of their needs on day of delivery. Purchase on day of delivery accounted for 33 percent of purchases at interior points in the Kansas-Nebraska Region.

In contrast to wheat, soybean buyers located at the selected terminal markets accounted for only 10 percent of total purchases while buyers at other interior points accounted for 75 percent of purchases. In general, buyers preferred delivery within 30 days.

Sales by Elevators

The estimated amounts of grain sold by country elevators by delivery period are summarized in table 33 and regional data appear in tables 34-36. About 12

Table 33--Quantity of selected grains sold by country elevators, by time of delivery relative to sale, United States, 1974 1/

Time of delivery, days after sale	Corn		Wheat		Soybeans	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Same day	272	12	420	28	154	16
1-10	704	30	401	27	288	30
11-30	807	34	423	28	327	34
31-60	329	14	167	11	101	10
More than 60	230	10	69	5	97	10
Total	2,343	100	1,481	100	968	100

1/ Totals may not add due to independent rounding.

percent of the corn sold in 1974 was sold on or after day of delivery and about 88 percent was sold on a to-arrive basis. To-arrive sales with an 11-30 day delivery period, found to be most common, accounted for about one-third of sales. This delivery period was most common in Illinois (31 percent), Iowa-Missouri (43 percent), and Kansas-Nebraska (37 percent). These regions accounted for 68 percent of total corn sales by country elevators. The 1-10 day delivery period was used most often in the other two major corn producing regions (Ohio-Indiana-Michigan and Minnesota-Wisconsin), representing about one-third of sales in each case.

Wheat sales by country elevators involved significantly different terms of delivery than corn sales. Although to-arrive sales were used extensively, sales on or after day of delivery accounted for about 28 percent of transactions. Spot sales accounted for 20 percent or more of country elevator sales in all the major producing regions. This type of sale was found to be particularly common in Region VI, where it accounted for 54 percent of sales (table 35). The 11-30 day delivery period was most common in Illinois, Iowa-Missouri, and Region VIII while the 1-10 day delivery period was most common in the other major producing regions.

Delivery terms for soybean sales generally resembled those for corn. About a third of country elevator soybean sales called for delivery in 1-10 days while another third called for delivery in 11-30 days (table 36). A notable deviation from this pattern was found in the Southeastern States (Region IV), where spot sales were the most common, accounting for about one-third of the volume.

Table 34--Corn: Quantity sold by country elevators, by time of sale relative to time of delivery, 1974

Location of seller	Time of sale										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	66	10.0	190	28.6	209	31.5	104	15.7	94	14.2	663	100
Indiana, Ohio, Michigan	64	18.7	121	35.1	105	30.6	26	7.6	27	7.9	344	100
Minnesota, Wisconsin	33	13.0	90	35.5	88	34.8	22	8.7	20	8.0	253	100
Iowa, Missouri	42	6.8	150	24.4	262	42.9	110	17.9	49	8.1	613	100
Kansas, Nebraska	48	16.1	90	30.1	112	37.3	38	12.5	12	4.0	300	100
Region IV	4	7.6	36	63.2	9	15.2	3	4.8	5	9.1	57	100
Other regions	15	12.8	28	24.7	20	18.4	28	24.5	22	19.6	113	100
U.S. total	272	11.6	704	30.1	807	34.4	329	14.1	230	9.8	2,343	100

Table 35--Wheat: Quantity sold by country elevators, by time of sale relative to time of delivery, 1974

Location of seller	Time of sale										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	10	20.0	10	20.1	24	48.8	3	6.3	2	4.8	50	100
Indiana, Ohio, Michigan	24	20.3	56	47.6	28	23.5	5	4.0	5	4.6	118	100
Minnesota, Wisconsin	10	20.9	19	38.3	15	32.9	3	5.1	1	2.8	50	100
Iowa, Missouri	6	26.4	6	28.1	7	28.5	2	8.5	2	8.5	23	100
Kansas, Nebraska	95	22.6	139	33.2	103	24.7	70	16.7	12	2.8	419	100
Region VI	116	53.8	54	24.9	31	14.4	8	3.7	7	3.2	216	100
Region VIII	125	29.2	90	21.0	156	36.5	44	10.3	13	3.0	428	100
Other regions	35	19.4	26	14.8	57	32.1	33	18.6	27	15.1	178	100
U.S. total	420	28.4	401	27.1	423	28.5	167	11.3	69	4.7	1,481	100

Table 36--Soybeans: Quantity sold by country elevators, by time of sale relative to time of delivery, 1974

Location of seller	Time of sale										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	31	12.9	60	24.7	97	40.3	29	12.0	24	10.1	241	100
Indiana, Ohio, Michigan	30	17.3	66	38.6	54	31.3	10	5.7	12	7.1	171	100
Minnesota, Wisconsin	12	14.7	23	28.4	30	37.9	8	10.4	7	8.6	80	100
Iowa, Missouri	25	9.5	80	29.8	112	42.0	33	12.2	17	6.4	267	100
Region IV	27	32.5	22	26.8	11	13.8	8	9.6	14	17.3	83	100
Other regions	30	23.9	38	29.9	22	17.7	14	10.9	22	17.6	126	100
U.S. total	155	16.0	288	29.7	327	33.8	101	10.5	97	10.0	968	100

These data, when considered in conjunction with the purchase data of tables 30-32, reveal a somewhat different trading pattern for wheat compared with those of the other grains. About 56 percent of country elevator wheat sales were made at time of delivery or called for delivery within 10 days, compared with 42 percent and 46 percent for corn and soybeans, respectively (tables 34-36). This practice is probably associated with the fact that a larger proportion of the wheat was sold to buyers located in the major terminal markets than for corn and soybeans (tables 3-5). Consequently, spot prices at terminal markets represent a larger portion of the trade in wheat than in corn and soybeans.

Estimated grain sales by subterminal and terminal elevators are shown in table 37 by type of delivery arrangement. As was true of country elevators, to-arrive sales calling for delivery in 11-30 days were the most common terms of trade. In contrast to country elevators, sellers operating subterminal and terminal elevators used the longer delivery periods much more. About half of their sales for each of the three grains were made more than 30 days prior to delivery and about one-fifth were contracted more than 60 days before delivery.

An estimated 95 percent or more of sales of corn, wheat, and soybeans by terminal and subterminal elevators were sold on a to-arrive basis. The 11-30 day delivery period was most common overall, accounting for about one-third of sales (table 38). In the Ohio-Indiana-Michigan and Minnesota-Wisconsin Regions, the 31-60 day delivery period was most common, and over two-thirds of sales called for delivery more than 30 days after time of sale.

Table 37--Quantity of selected grains sold by terminal and subterminal elevators, by time of sale relative to delivery, United States, 1974 1/

Time of sale, days before delivery	Corn		Wheat		Soybeans	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Same day	52	4	23	3	18	5
1-10	210	17	96	12	56	15
11-30	383	31	263	33	139	38
31-60	342	28	243	31	88	24
More than 60	245	20	162	21	70	19
Total	1,232	100	787	100	371	100

1/ Totals may not add due to independent rounding.

Table 38--Corn: Quantity sold by terminal and subterminal elevators, by time of sale relative to time of delivery, 1974

Location of seller	Time of sale										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	16	5.9	46	17.8	96	36.6	59	22.5	44	17.1	261	100
Indiana, Ohio, Michigan	1	.6	16	9.9	36	21.7	67	40.2	46	27.7	167	100
Minnesota, Wisconsin	4	2.3	12	6.3	44	24.0	88	46.7	39	20.7	187	100
Iowa, Missouri	19	4.3	81	18.4	149	33.8	104	23.5	88	19.9	441	100
Kansas, Nebraska	3	3.8	28	33.1	29	34.0	6	7.3	18	21.8	85	100
Region IV	7	11.0	18	29.4	19	30.8	11	17.7	7	11.1	63	100
Other regions	2	6.3	7	26.8	9	33.5	7	27.0	2	6.4	26	100
U.S. total	52	4.2	210	17.0	383	31.1	342	27.8	245	19.9	1,232	100

Wheat and soybean sales showed substantially the same pattern as for corn (tables 39 and 40). In fact, the most common type of sale in the Indiana-Ohio-Michigan Region involved delivery more than 60 days in the future. The delivery periods for terminal sales of corn and wheat appear to be influenced more by location than by type of grain involved.

Basis Pricing

Interviews with grain merchants and processors revealed that in buying and selling grain, prices are often stated in terms of "basis." Basis simply expresses the relationship between a cash price and the price for a specific futures contract. For example, a buyer might bid "20 cents off the March" to a country shipper, meaning that he will pay 20 cents less than the price quoted for the March future whenever the country shipper wants to sell. Within the day, the basis normally holds relatively constant for substantial fluctuations in the futures and cash prices. This enables market participants to determine the current cash bid price any time during the day by simply applying the basis to the latest futures price quotation.

Often, sales agreements specify price in terms of the basis. In the grain trade, this practice is commonly called "booking the basis." Either the buyer or seller (by mutual agreement) is allowed a specified period of time to choose a date when the cash price for the transaction is determined by applying the agreed-upon basis to the then-current futures quotation. Booking the basis sets the delivery terms and fixes the price relative to a specific futures price, but it leaves both buyer and seller exposed to price level risk. Hence, the practice is frequently accompanied by hedging in the futures or further cash-forward contracting by one or both parties. Such a sales agreement may be fulfilled by an exchange of the seller's cash commodity for the buyer's long futures position at the agreed--upon price. The futures exchanges have special rules to facilitate this type of trade, which is called an "ex-pit transaction."

Estimates of the frequency of use of basis by country elevators for specifying price in sales agreements are presented in table 41. In this report, use of the basis 50 percent of the time or less is termed occasional use. Use of basis more than 50 percent of the time is called frequent use. Overall, about 39 percent of country elevators in the United States never used basis in pricing, 33 percent used it occasionally, and 28 percent were frequent users. The proportion of country elevators that never used basis pricing ranged from a low of 23 percent in Region VIII (Northern Plains and Mountain States) to a high of 52 percent in regions I, II, and III (Northeastern States). The regions where frequent use of the basis was most common include Minnesota-Wisconsin (40 percent) and Region VI (39 percent).

Region VIII ranked highest--43 percent--in the proportion of sellers that used the basis occasionally. Region VIII is mainly a spring wheat-producing area where wheat protein premiums tend to be large and volatile during years when average protein levels of the spring and winter wheat crops are low. Since the futures contracts provide no protection against variations in protein premiums, the practices of hedging and booking the basis tend to decline when protein premiums are high and uncertain. This behavior may help to explain

Table 39--Wheat: Quantity sold by terminal and subterminal elevators, by time of sale relative to time of delivery, 1974

Location of seller	Time of sale										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	1	17.5	1	16.3	1	25.3	1	18.2	1	22.6	5	100
Indiana, Ohio, Michigan	1/	.7	4	9.7	7	17.2	14	32.0	17	40.5	43	100
Minnesota, Wisconsin	1	.5	10	3.4	57	18.9	132	43.7	101	33.5	302	100
Iowa, Missouri	1/	1.5	14	25.3	23	43.0	14	26.0	2	4.2	54	100
Kansas, Nebraska	4	4.1	14	16.7	58	65.9	6	7.9	4	5.4	87	100
Region VI	6	3.0	41	19.7	89	42.8	56	26.7	16	7.9	209	100
Region VIII	9	16.6	9	17.9	13	24.8	12	22.7	9	17.9	52	100
Other regions	1	2.8	3	7.4	14	40.0	8	22.5	9	27.2	35	100
U.S. total	23	2.9	96	12.3	263	33.4	243	30.8	162	20.6	787	100

1/ Less than 0.5 million bushels.

Table 40--Soybeans: Quantity sold by terminal and subterminal elevators, by the time of sale relative to time of delivery, 1974

Location of seller	Time of sell										Total	
	On or after day of delivery		1-10 days before delivery		11-30 days before delivery		31-60 days before delivery		More than 60 days before delivery			
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	7	10.4	11	16.5	21	30.2	16	22.9	14	20.1	69	100
Indiana, Ohio, Michigan	1/	.5	5	9.6	14	29.3	14	28.7	15	31.9	48	100
Minnesota, Wisconsin	1/	.6	5	7.8	19	30.5	25	41.6	12	19.6	61	100
Iowa, Missouri	4	2.6	27	17.3	77	49.3	27	17.1	22	13.8	156	100
Region IV	3	11.7	5	22.4	5	22.9	4	19.3	5	23.7	23	100
Other regions	3	25.0	2	20.4	3	26.8	2	14.1	1	13.6	12	100
U.S. total	18	4.7	56	15.0	139	37.6	88	23.8	70	18.9	371	100

1/ Less than 0.5 million bushels.

Table 41--Country elevators: Percent using basis for quoting price in sales agreements, 1974

Location	Never use basis	Occasionally use basis	Frequently use basis	Total
		Percent		
Illinois	41.2	39.6	19.2	100
Indiana, Ohio, Michigan	47.2	35.6	17.2	100
Minnesota, Wisconsin	25.8	33.6	40.5	100
Iowa, Missouri	37.9	38.0	24.1	100
Kansas, Nebraska	47.8	21.8	30.4	100
Region IV	25.5	35.9	38.6	100
Region VI	41.1	19.5	39.4	100
Region VIII	23.3	43.1	33.6	100
Regions I, II, III	52.0	31.8	16.2	100
Regions IX, X	33.3	36.8	29.9	100
U.S. average	38.4	33.2	28.4	100

Table 42--Terminal and subterminal elevators: Percent using basis for quoting price in sales agreements, 1974

Location	Never use basis	Occasionally use basis	Frequently use basis	Total
		Percent		
Illinois	4.3	21.6	74.2	100
Indiana, Ohio, Michigan	0	31.0	69.0	100
Minnesota, Wisconsin	0	12.7	87.3	100
Iowa, Missouri	0	4.4	95.6	100
Kansas, Nebraska	53.7	7.1	39.1	100
Regions I, IV	37.8	17.9	44.3	100
Region VI	13.0	17.0	70.1	100
Regions VIII, IX, X	12.8	47.5	39.7	100
U.S. average	15.5	18.5	66.0	100

why a large proportion of the country elevators in the region quote the basis occasionally, but not frequently, in sales agreements.

Use of basis pricing by terminal and subterminal elevators in sales agreements is shown in table 42 by region. Basis pricing was used more extensively by this group; two-thirds reported frequent use. In addition, another 18 percent used it occasionally, leaving only 16 percent that never priced sales in terms of the basis.

Frequent use of the basis was found to be more common in the Iowa-Missouri and Minnesota-Wisconsin regions, where basis pricing was frequently used by 96 and 87 percent of the establishments, respectively. All establishments in these regions as well as the Indiana-Ohio-Michigan Region used basis pricing to some extent. An interesting contrast was found in the Kansas-Nebraska Region where 54 percent of the establishments never used basis in specifying price in sales agreements. Most of the other establishments in that region were frequent users; very few reported occasional use.

Transportation and Pricing

The price for grain at a particular point often varies with the mode of shipment. Survey respondents were asked what percentage of purchases and sales were shipped and/or received by each mode of transportation. The results were summarized by location, type of elevator, and type of grain.

Country Elevator Shipments

The mode of transportation used by country elevators for shipping grain is shown in tables 43-45 by region and type of grain. They shipped over one-half of their 1974 sales of corn to other elevators and merchants by truck. Only in Iowa-Missouri and Region IV were rail movements more important. Overall, 42 percent of sales to other elevators and merchants went by rail and 2 percent, by barge. More than one-half of the barge shipments originated in Illinois.

In contrast to corn, over two-thirds of wheat sales by country elevators were shipped by rail. However, country elevators in the soft red winter wheat-producing regions east of the Mississippi River shipped more wheat by truck than rail. Thus, price quotations for trucked wheat are probably more important for that class of wheat while rail quotes are more important in the hard winter and spring wheat areas.

Over two-thirds of the soybeans sold by country elevators were shipped by truck. This mode predominated in all regions except Region IV, where rail and truck were equally important. Most barge shipments originated in Illinois, and in States along the lower Mississippi River. However, less than 4 percent of shipments moved by barge.

Thus, both truck and rail shipments are important at the country elevator level. In general, more truck movement occurred in the Eastern Corn Belt

Table 43--Corn: Quantity sold by country elevators by mode of shipment, 1974

Location of seller	Truck		Rail		Barge		Total	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	440	66.4	192	29.1	30	4.5	662	100
Indiana, Ohio, Michigan	226	63.1	132	36.9	0	0	358	100
Minnesota, Wisconsin	169	66.9	84	33.1	0	0	253	100
Iowa, Missouri	226	36.2	399	63.8	1/	.1	625	100
Kansas, Nebraska	160	53.4	140	46.6	0	0	300	100
Region IV	27	47.0	29	51.0	1	2.1	57	100
Other regions	67	65.6	26	25.4	9	9.0	102	100
U.S. total	1,316	55.8	1,002	42.5	40	1.7	2,358	100

1/ Less than 0.5 million bushels.

Table 44--Wheat: Quantity sold by country elevators by mode of shipment, 1974

Location of seller	Truck		Rail		Barge		Total	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	33	66.7	11	23.0	5	10.3	50	100
Indiana, Ohio, Michigan	97	80.2	24	19.8	0	0	121	100
Minnesota, Wisconsin	19	37.4	31	62.6	0	0	50	100
Iowa, Missouri	10	41.2	14	57.6	1/	1.2	24	100
Kansas, Nebraska	53	12.7	366	87.3	0	0	420	100
Region VI	60	27.5	156	71.4	2	1.1	218	100
Region VIII	143	32.0	304	68.0	0	0	448	100
Other regions	56	31.6	108	61.2	13	7.2	177	100
U.S. total	472	31.3	1,015	67.3	21	1.4	1,508	100

1/ Less than 0.5 million bushels.

Table 45--Soybeans: Quantity sold by country elevators by mode of shipment, 1974

Location of seller	Truck		Rail		Barge		Total	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	161	68.3	65	27.5	10	4.2	236	100
Indiana, Ohio, Michigan	152	87.6	21	12.4	0	0	173	100
Minnesota, Wisconsin	69	88.7	9	11.3	0	0	78	100
Iowa, Missouri	136	50.0	135	49.6	1	.4	272	100
Region IV	37	44.6	37	44.8	9	10.6	83	100
Other regions	92	75.9	15	12.2	14	11.9	121	100
U.S. total	647	67.2	282	29.3	34	3.5	963	100

whereas more grains moved by rail in the Western Corn Belt and in the wheat-producing areas of the Great Plains. Trucks normally are essential for short hauls. Among other things, the volume moved by truck will be affected by the concentration of domestic users, availability of transit, export rates by rail, and availability of barges. The latter is especially important since much of the grain moved by barges probably was shipped by truck from the country receiving point to a river point.

Terminal and Subterminal Elevator Shipments

In contrast to country plants, terminals and subterminals used trucks less and barges more (tables 46-48). Their overall truck-rail-barge movement of corn was 7, 50, and 43 percent, respectively. Barge shipments were most common in the Illinois and Minnesota-Wisconsin Regions, accounting for 76 percent of shipments in the latter. Rail and barge were about equal in importance for Iowa-Missouri terminals while rail was the dominant mode in Indiana-Ohio-Michigan, Kansas-Nebraska, and Region IV.

Rail was the most common mode for terminal shipments of wheat, accounting for 56 percent of the volume reported shipped in 1974. Barges are very important in some regions; they carried over 80 percent of the total volume originated in the Minnesota-Wisconsin area.

Shipments of soybeans by terminals and subterminals (table 48) were more barge oriented than those of any other grain. Over one-half of total soybean sales went by barge in 1974. In the five regions with sales of 10 million bushels or more, barge was the most used mode in all except the Indiana-Ohio-Michigan Region; there, over half moved by rail, and truck and barge were about equally important.

Time of Day When Trades Are Made

Both country elevators and other establishments conducted major shares of their trading between 9:30 a.m. and 1:15 p.m., central time, the period when futures are traded on principal markets (table 49). About 38 percent of country elevator sales and over 50 percent of sales by other establishments occurred during these hours. This preference may be associated with hedging activities on the futures market.

The hours following the close of the futures market were generally the second most active trading period. The only exception was purchases by other establishments; a somewhat larger number indicated significant purchases prior to 9:30 a.m., central time.

Few differences emerged in the timing of purchases and sales between harvest and the rest of the year. During harvest, country elevators tended to purchase more grain in the afternoon (after 1:15 p.m., central time). Country elevator sales during the afternoon were greater in the nonharvest period. Other establishments indicated slightly more purchases before 9:30 a.m., central time during harvest relative to the remainder of year, and country

Table 46--Corn: Quantity sold by terminal and subterminal elevators by mode of shipment, 1974

Location of seller	Truck		Rail		Barge		Total	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	4	1.4	102	38.8	156	59.7	261	100
Indiana, Ohio, Michigan	20	11.4	133	75.4	23	13.2	176	100
Minnesota, Wisconsin	1	.4	44	23.5	142	76.1	187	100
Iowa, Missouri	18	4.2	214	48.4	209	47.4	441	100
Kansas, Nebraska	12	14.3	72	84.2	1	1.5	85	100
Region IV	11	17.3	49	75.0	5	7.7	65	100
Other regions	24	65.3	13	34.7	0	0	37	100
U.S. total	90	7.2	626	49.9	537	42.9	1,253	100

Table 47--Wheat: Quantity sold by terminal and subterminal elevators by mode of shipment, 1974

Location of seller	Truck		Rail		Barge		Total	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	1/	0.6	1	25.0	4	74.4	5	100
Indiana, Ohio, Michigan	6	12.8	35	78.1	4	9.0	45	100
Minnesota, Wisconsin	1/	0	50	16.6	252	83.4	302	100
Iowa, Missouri	1/	1.0	39	71.9	15	27.2	55	100
Kansas, Nebraska	3	3.2	83	94.4	2	2.5	88	100
Region VI	25	11.8	188	87.9	1	.3	214	100
Region VIII	11	21.2	42	78.8	0	0	53	100
Other regions	4	10.2	8	23.1	24	66.7	36	100
U.S. total	49	6.2	447	56.0	301	37.8	797	100

1/ Less than 0.5 million bushels.

Table 48--Soybeans: Quantity sold by terminal and subterminal elevators by mode of shipment, 1974

Location of seller	Truck		Rail		Barge		Total	
	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.	Mil. bu.	Pct.
Illinois	12	16.7	8	11.4	50	72.0	70	100
Indiana, Ohio, Michigan	11	21.3	27	52.6	13	26.0	51	100
Minnesota, Wisconsin	4	6.0	17	28.7	40	65.4	61	100
Iowa, Missouri	8	5.2	57	36.4	91	58.4	157	100
Region IV	1	3.0	5	22.8	17	74.1	23	100
Other regions	2	13.6	7	53.0	5	33.4	14	100
U.S. total	37	9.8	122	32.5	216	57.7	375	100

Table 49--Time of day when grain was bought and sold, central time, 1974

Item	Before 9:30 a.m.	Between 9:30 a.m. and 1:15 p.m.	After 1:15 p.m.	Total
		Percent		
Country elevators				
Purchases				
During harvest	17.6	41.0	41.2	100
Remainder of year	19.0	43.4	37.8	100
Sales				
During harvest	29.9	38.3	31.7	100
Remainder of year	27.8	38.5	33.7	100
Other firms:				
Purchases				
During harvest	29.4	45.0	25.6	100
Remainder of year	26.9	48.1	25.0	100
Sales				
During harvest	19.5	50.2	30.3	100
Remainder of year	19.3	51.1	29.7	100

elevators had a corresponding increase in sales for that period during harvest.

Many buyers set their bids each day after the close of futures trading, bids that generally hold until futures trading opens the next day unless unexpected market developments occur. Often, the basis bid remains the same through the next day's futures trading session, and potential sellers know that the cash bid will fluctuate directly with the futures price. Thus, the prices bid each afternoon, combined with the next day's futures price quotations, contain most of the important price information generated in each 24-hour period.

Currently, the Agricultural Marketing Service does most of its cash grain price collection and reporting in the afternoon after the close of futures markets. Because of the custom of issuing bids after the close of the futures, bid prices collected at this time of day are more comparable with each other and with closing futures quotations than are bid prices collected at other times.

INFORMATION SOURCES USED BY GRAIN FIRMS

Because decisionmaking in grain markets is highly dispersed, wide distribution of market information is essential. Information needed by decisionmakers ranges all the way from the most general, such as economic indicators of business conditions, to the most specific, such as the latest price change on the futures market. Grain prices themselves are only one part of the information needed, but an important part. Most decisions about production,

distribution, and consumption depend critically on existing or anticipated prices.

In grain marketing, the process of cash pricing is largely one of trial and error. In the first stage, merchandisers, processors, and other traders evaluate market conditions using various information sources and form their ideas on what the current basis should be. Next comes a period of testing. A few telephone calls to others with whom they frequently trade enables them to test their ideas about the appropriate price. Based upon the information gleaned at this stage, an adjustment may be made in the prices bid or offered. The adjustment is not necessarily toward the average.

A firm which is not really interested in buying grain that day may adjust its buying price downward if it feels that its initial bids were too competitive. A firm which needs grain may adjust upward if it finds that its bid is not attracting sufficient interest. Other firms then are forced to reevaluate their bids and formulate a response. There is no fixed schedule by which this process is done; rather, it is a continuing process of finding out what the competition is doing.

Grain traders use many information sources in their buying and selling decisions. In recent years, commercial electronic information services providing general market information have become more prominent. These services deliver information to the subscriber through teletype and video displays. Prices usually are carried perioically and other information fills the time between such transmissions. These services provide futures market prices regularly during the day. The key information from major statistical reports--for example, USDA's Crop Production, Cattle on Feed, and the like--is available within minutes of release. The flow of information is so voluminous that each user tends to select only those items of interest in his individual operation.

In addition to the general market information services using teletype and video screen displays, there are special price quotation services. Some, such as the ticker (electronic or mechanical) report the price of every transaction occurring upon an organized exchange. There are side-band radio systems which periodically broadcast prices. There also are systems which enable the user to inquire about a specific price (last trade, today's high, and so on) rather than accept solely the information being transmitted at the moment. Some commercial radio stations broadcast futures prices every half hour or hour.

Some merchandisers use leased telegraphic wires to transmit information between and among their offices. Offices may transmit information to any station, all stations simultaneously, or only specified stations. Besides the obvious need for rapid transmission of proprietary information, some firms have expressed the opinion that commercial services are "too slow" when conditions are changing rapidly. "Too slow" may be a matter of 2-3 minutes.

Despite the proliferation of other electronic information systems, the telephone remains the key system for price discovery in the grain trade and it is used in numerous ways. Country shippers call buyers throughout their marketing area--often on inward WATS lines--to obtain current bids, negotiate

business, and get a feeling for market conditions. At higher levels of the marketing system, grain is traded by telephone among major merchants, exporters, and processors.

The telephone provides the grain trade with a powerful tool. At the same time, it probably has contributed to the decline of the central auction markets. There is no need for traders to meet face to face if they can efficiently transfer ownership by other means. One major benefit--often overlooked--is that the telephone enables country shippers to participate directly in the marketing. If all grain were to be traded only on central markets, country shippers would need to hire commission agents.

In the study, we assessed the importance of information sources both for making pricing decisions and for appraising market trends. Twenty different sources of grain market information were listed on the questionnaire and respondents were asked to rate each source used regularly as to importance in making pricing decisions and in assessing market trends. The rating depended on whether they considered the source of little or no importance, some importance, or maximum importance.

Sources of Information Used by Country Elevators

Telephone contact with grain merchants was the most frequently mentioned source of market information used by country elevators both to assess market trends (table 50) and to make pricing decisions (table 51). Not only was it the most often mentioned source for both purposes, it also ranked as the most important source for both purposes.

Radio was the next most frequently used source, but it ranked only fourth in importance for each of the purposes. Thus, while a large proportion of country elevators used radio for market information, telephone contacts with terminal and subterminal elevators and with the elevator's own head office were both rated as more important than radio for making pricing decisions and assessing market trends. The data did not distinguish between general commercial radio stations and the specialized side-band price reporting systems available in some areas.

As with radio, newspapers and television are sources of information that ranked higher in frequency of use than they did in importance. Apparently, importance of a source depends upon whether the user can consummate a trade through it. That is, media information is used by a large segment of the trade, but its importance is overshadowed by direct telephone contact with market participants, particularly merchants and elevators and the company's own head office.

Published reports of USDA ranked fourth in use and fifth in importance for assessing market trends, a showing considerably above other USDA information sources. Telephone contact with a USDA market reporter ranked higher in use than the recorded telephone report. And, in terms of importance, telephone contact with the reporter was ninth while the recorded telephone report was

seventeenth. However, the recorded telephone report and access to the USDA teletype system are new services which may not have been generally available prior to the survey. They may win greater acceptance as they become more widely available and familiar. Our data do not permit us to infer the origination of contact with reporters. Some contacts might have been initiated by the respondents, but others could be interaction with reporters making regular calls to compile market information.

Comparison of the information contained in tables 50 and 51 shows many of the market information sources were ranked the same in importance, both for assessing market trends and for making pricing decisions. Telephone contact with other traders was definitely the most important method of acquiring market information. Telephone communication with grain merchants, terminal and subterminal elevators, and the head office ranked one, two, and three, respectively, for both purposes. Radio ranked fourth for each purpose. Sources ranking fifth through eleventh for pricing also held the same grouping for assessing market trends although not in the exact order. Similarly, those sources ranking at the bottom for one purpose also ranked there for the other.

Sources of Information Used by Respondents Other than Country Elevators

Telephone contact with grain merchants was the most frequently mentioned source and most important source of market information for respondents not classified as country elevators. This was true both for assessing market trends (table 52) and for making pricing decisions (table 53). Newspapers ranked second as the most frequently used source for both purposes. They ranked lower in importance than in frequency of use as a source of market information. This evidence resembled that for country elevators. Again, USDA published reports ranked higher than other methods of providing USDA market information.

Comparison of information contained in tables 52 and 53 shows somewhat the same pattern as in the country elevator results. Telephone contact with grain merchants and the respondents' head offices were the two most important sources of information for both purposes. USDA published reports tied for second in assessing market trends, two positions higher than for pricing decisions. Still, all sources ranking in the first nine positions for assessing market trends also ranked in the first nine as sources of pricing decision information. Similarly, the five lowest ranking sources for one purpose held the same rank for the other purpose.

Regional Differences in Use of Market Information

Tables 54 and 55 summarize regional tabulations indicating that telephone contacts with grain merchants were the market information source most frequently mentioned and the source most often receiving the highest average rating of importance by survey respondents. Radio was the market information source second most frequently mentioned by country elevators geographically, but usually did not rank high among sources when an average rating of

Table 50--Use and importance of information sources for assessing market trends, country elevators

Source	Frequency of use rank	Importance of information rank
Telephone: Merchants	1	1
Radio	2	4
Telephone: Terminal and subterminal elevators	3	2
USDA: Published reports	4	5
Newspaper	4	8
Telephone: Processors	6	6
Face-to-face contact	7	10
Television	7	14
Telephone: Head offices	9	3
Grain Instant News	10	7
Telephone: Country elevators	11	11
USDA: Telephone contact with price reporters	12	9
Bid cards	13	12
Reuters	14	16
USDA: Recorded telephone reports	14	17
USDA: Teletype	16	13
AP	17	18
Telephone: Foreign buyers	18	15
UPI	18	19
Telex with buyers or sellers	20	20

Table 51--Use and importance of information sources for pricing decisions, country elevators

Source	Frequencey of use rank	Importance of information rank
Telephone: Merchants	1	1
Radio	2	4
Telephone: Terminal and subterminal elevators	3	2
Newspaper	4	11
USDA: Published reports	5	8
Telephone: Processor	6	5
Face-to-face contact	7	7
Telephone: Head office	7	3
Television	9	16
USDA: Telephone contact with price reporter	10	9
Grain Instant News	10	6
Bid cards	12	12
Telephone: Country elevators	13	10
USDA: Recorded telephone report	14	14
Reuters	15	17
USDA: Teletype	16	13
AP	16	19
UPI	18	19
Telephone: Foreign buyer	19	15
Telex with buyer or seller	20	18

Table 52--Use and importance of information for assessing market trends, all respondents except country elevators

Source	Frequency of use rank	Importance of information rank
Telephone: Merchants	1	1
Newspaper	2	5
USDA: Published reports	3	2
Radio	4	8
Telephone: Terminal and subterminal elevators	5	4
Face-to-face contact	6	9
Telephone: Processors	6	7
Telephone: Country elevators	8	6
Television	9	12
Bid cards	10	18
Grain Instant News	10	10
Reuters	10	11
Telephone: Head office	13	2
AP	13	14
USDA: Telephone contact with price reporter	13	13
Telephone: Foreign buyers	16	14
UPI	16	16
USDA: Teletype	16	17
USDA: Recorded telephone report	19	19
Telex with buyer or seller	20	20

Table 53--Use and importance of information sources for pricing decisions, all respondents except country elevators

Source	Frequency of use rank	Importance of information rank
Telephone: Merchants	1	1
Newspaper	2	7
Radio	3	9
Face-to-face contact	3	4
USDA: Published reports	5	4
Telephone: Country elevators	6	3
Telephone: Terminal and subterminal elevators	7	4
Television	8	11
Telephone: Processor	8	8
Telephone: Head office	10	2
Bid cards	11	18
Grain Instant News	11	11
Reuters	11	13
AP	11	14
USDA: Recorded telephone report	11	18
USDA: Telephone contact with price reporter	11	10
USDA: Teletype	11	16
UPI	18	16
Telephone: Foreign buyers	19	14
Telex with buyer and seller	20	20

Table 54--Country elevators' use of market information

Location	Pricing decisions		Assessing market trends	
	Most frequently	Highest average rating	Most frequently	Highest average rating
Illinois	Grain merchants	Grain merchants	Radio	Grain merchants
Indiana, Ohio, Michigan	Terminals and subterminals	Terminals and subterminals	Grain merchants	Grain merchants
Minnesota, Wisconsin	Grain merchants	Grain merchants	Grain merchants	Grain merchants
Iowa, Missouri	Radio	Grain merchants	Radio	Grain merchants
Kansas, Nebraska	Radio	Grain merchants	Radio	Head office
Region IV	Grain merchants	Grain merchants	Grain merchants	Grain merchants
Region VI	Grain merchants	Grain merchants	Grain merchants	Grain merchants
Region VIII	Radio	Head office	Radio	Head office
Regions I, II, III	Grain merchants	Grain merchants	Grain merchants	Terminals and subterminals
Regions IX, X	Grain merchants	Grain merchants	Grain merchants	Grain merchants
United States	Grain merchants	Grain merchants	Grain merchants	Grain merchants

Table 55--Use of market information by firms other than country elevators

Location	Pricing decisions		Assessing market trends	
	Most frequently	Highest average rating	Most frequently	Highest average rating
Illinois	Radio	Terminals and subterminals	Radio	Terminals and subterminals
Indiana, Ohio, Michigan	Grain merchants	Terminals and subterminals	Grain merchants	Grain merchants
Minnesota, Wisconsin	Newspaper	Head office	Newspapers	Grain merchants
Iowa, Missouri	Grain merchants	Grain merchants	Terminals and subterminals	Terminals and subterminals
Kansas, Nebraska	Newspapers	Head office	Newspapers	Head office
Region IV	Grain merchants	Grain merchants	Grain merchants	Grain merchants
Region VI	Grain merchants	Grain merchants	Grain merchants	Grain merchants
Region VIII	Grain merchants	Grain merchants	Grain merchants	Grain merchants
Regions I, II, III	Newspapers	Grain merchants	Grain merchants	Grain merchants
Regions IX, X	Grain merchants	Grain merchants	Grain merchants	Grain merchants
United States	Grain merchants	Grain merchants	Grain merchants	Grain merchants

importance of the source was used. Newspapers, in contrast, were the second most frequently mentioned source of market information by reporting establishments other than country elevators. Again, newspapers as a source did not rank high in most cases.

Regional Variation in Use and Importance of USDA Federal-State Market News

Nationwide, almost all country elevator respondents reported using USDA published reports more frequently than any other type of USDA market news dissemination system, whether for pricing decisions or assessing market trends. A majority also rated published reports as the most important of the types; however, for pricing decisions, respondents in several regions rated direct telephone contact with the market news reporter as more important.

Other establishments indicated published reports as by far the most frequently used USDA market information source for pricing decisions. Only in Regions VI and VIII were the teletype systems mentioned more frequently. For assessing market trends, unanimous consensus emerged in all regions for USDA published reports--both for frequency of use and importance. This latter tabulation confirms what was learned through personal contacts with members of the trade. Those visited indicated that the most important use of USDA published reports was for assessing market trends.

Respondents' Observations About Changes in Grain Pricing Methods and Importance of Information

At the end of the questionnaire, respondents were asked, "What do you think have been the most important changes over the last 20 years in the methods of pricing grain and what types of cash grain price information have become important as a result of these changes?" Many respondents did not answer this question while some entered several different observations. Each distinct observation was tabulated separately. Replies were then grouped into categories and ranked by the number of times each category was mentioned (table 56). The most frequently mentioned observations are closely related in that they suggest a need for accurate and timely information. The responses point to a worldwide grain trade that requires competitive participants to be well informed and able to shift the price risks involved in handling inventories of grains.

Information in table 57, tabulated from answers to the second part of the question, largely confirms the growth seen over the last 20 years in commercial news services and teletype facilities. Grain merchants and brokers stand at the center of the flow of grain market information.

Several factors appear to limit the applicability and use of certain types of market information and to favor the use of others. First, timeliness of information was mentioned frequently by respondents as the major change over the past 20 years. Certainly in periods of rapidly changing prices, as in grain markets since 1973, once-per-day price reporting does not fit the needs

Table 56--Changes in grain pricing in past 20 years mentioned by respondents

Changes	Times mentioned
	Number
Better and/or faster information	120
Exports and the world market are more important	116
Increased importance of futures markets	101
Markets more volatile	95
Increased importance of basis pricing	62
Increased use of forward pricing	38
Farmers are better informed and more knowledgeable	31
No longer having Government (CCC) storage	31
More hedging	31
Other transportation changes	30
Politics and Government interference	25
More farmers selling forward	20
More delayed or deferred contract pricing	19
More on-farm storage	10
A shift from rail to truck transport	10
The development of unit trains	8
Total	747

Table 57--Important types of cash grain price information mentioned by respondents

Types of information	Times mentioned
	Number
Commercial news services and teletypes	85
Telephone	52
USDA reports and crop estimates	40
Radio	21
Television	11
Total	209

of many persons. Moreover, dissemination via newspaper or mailing often makes the reports out of date for pricing decisions by the time they reach the user. This hypothesis was supported by our interviews; numerous firms indicated they no longer relied on bid cards because of delays in the mail.

The ability to trade at figures published or quoted may be the major reason that telephone contacts with grain merchants, brokers, terminals, subterminals, and processors ranked as important market information sources. Ratings of USDA's recorded telephone reports, direct telephone contact, or teletype system were not high, perhaps due to their newness as services. But it could be that users associate importance of the market information with ability to make trades; that is, second-party willingness to trade at the pricing figures quoted. However, this conclusion does not explain why radio, newspapers, and published reports were rated high and frequently mentioned as used regularly both for pricing decisions and for assessing market trends.

IMPLICATIONS

The picture of the U.S. grain trade that emerges from this study is one of a highly dispersed market wherein most cash grain buying and selling decisions occur at points away from the traditional terminal markets. Kansas City and Minneapolis remain important centers for the cash grain trade. But larger volumes of cash grains are purchased by buyers at cities such as Des Moines, Decatur, and Enid than at Chicago, implying that price information is generated over a broad geographic area.

We found that USDA's Grain Market News reports are ranked among the more important sources of information used by the grain trade. However, more

emphasis should be placed on reporting prices outside of the traditional terminal markets. And more attention should be given to reporting prices for deferred rather than spot delivery. The delivery periods involved should be specified in the reports.

The study illustrates the many conditions in grade, location, and time of delivery which enter into grain pricing. News media and the public tend to focus on only one or a very few price quotations for each commodity, such as No. 2 Yellow corn at Chicago or No. 2 Hard Red Winter wheat, ordinary protein, at Kansas City. However, changes in the patterns of grain marketing mean that no single quotation is as representative now as in the past.

Any quotation, whether for delivery in Chicago, central Iowa, or at the Gulf, partly reflects local conditions. And the most relevant price quotations for any particular grower or merchant may change over a few days. For example, a surge in export demand may mean that an Iowa farmer's soybeans are priced off a New Orleans quotation rather than an Illinois processor's bid. Thus, farmers, merchants, and processors need to follow many different price quotations to adequately evaluate their pricing alternatives.

Since futures markets play a central role in generating and disseminating information about grain prices, proper functioning of these markets is essential for the cash pricing mechanism to continue to work effectively. And, proper functioning of futures trading, particularly at contract delivery time, depends upon the ready availability of cash market information.

Farmers will be in a stronger position to market their grains effectively if they understand the principles of futures trading and cash forward contracting. Most farmers have neither the time nor the need to follow fluctuations in futures prices as closely as grain merchants do, and relatively few farmers will find it necessary to buy and sell futures contracts directly. But farmers need to be able to evaluate their production, storage, and forward-selling opportunities in view of futures market prices. Also, they need to recognize the limits of the information provided by futures quotations and to know how to fill in the gaps. Farmers, like grain merchants, need information about changes in locational and grade price differentials which are obtainable only by comparing different cash market quotations. And only the cash market provides quotations for periods which are not delivery periods on the futures.

The grain pricing system performs an essentail coordination function by determining throughout each day the prices of the different grains for many different grades, locations, and delivery periods. Large numbers of buyers and sellers are involved in the process and the resulting price signals contribute to efficient distribution throughout the country and in foreign outlets. In some local markets, however, the numbers of active buyers may not be large. The study showed that about three-fourths of the elevators and merchants selling corn and four-fifths of those selling wheat and soybeans sold more than half of their volume to their single largest buyer. Of course, the number of potential buyers usually exceeds the number of actual buyers. However, public market news reports seem to be a particularly important information source to firms with limited buyer contacts.

Even with direct Government intervention in the form of price supports, storage programs, and export subsidies, market price reporting is essential. Because of the complex economic forces involved, the only practical way to operate such programs is to allow the market to at least partly determine location, grade, and delivery period price differentials. Under such programs, cash price information is needed by program administrators as well as farmers and members of the grain trade.

Although the results obtained in the study help show where grain market reporting efforts should be directed, they do not provide a basis for determining how large a reporting program is needed. This matter calls for a direct assessment of the benefits and costs of alternative market reporting programs--an approach that was not followed here. Closely related is the need for further studies to determine if relative prices among locations and grades and over time accurately reflect cost differences. The purpose would be to determine whether and how the marketing system can be made more efficient through improved information programs and other programs to enhance competition.

APPENDIX: SURVEY QUESTIONNAIRE AND SAMPLING PROCEDURES

Note: The sampling list used for the survey was the SRS list of grain warehouses used for estimating grain stocks. It includes three strata: the three largest plants in each State; the remaining large plants regularly enumerated by SRS to obtain grain stocks data; and the smaller plants sampled by SRS to obtain grain stocks information. In this study, all establishments in stratum (1) and a sample of the establishments in strata (2) and (3) were mailed questionnaires. An attempt was made to interview all nonrespondents in strata (1) and (2) and a subsample of nonrespondents in stratum (3).

All sample results were expanded to regional and U.S. totals. Separate expansion factors were calculated for each stratum within each State. In stratum (3), two expansion factors were determined, one for the mail responses and one for the interview responses from the subsample of nonrespondents.

U.S. DEPARTMENT OF AGRICULTURE
STATISTICAL REPORTING SERVICE

Form Approved
O. M. B. Number 40-S75042
Approval Expires 7-31-76

GRAIN INDUSTRY SURVEY

Name of Firm: _____

Address: _____
(Route or Street) *(City)* *(State)* *(Zip)*

Phone Number: _____

Name and Title of Person Completing Questionnaire: _____

STATE	CITY	STRATA	ID NUMBER

REPORT FOR THIS LOCATION ONLY

(All information will be kept confidential.)

1. What is the rated grain storage capacity of this facility? ..... 000 bu. [100]

2. Check the term that best describes this facility: [101]

Country elevator	☐ 1	Flour mill	☐ 6
Subterminal elevator	☐ 2	Feed mill	☐ 7
Terminal elevator	☐ 3	Feedlot	☐ 8
Export elevator	☐ 4	Poultry production operation	☐ 9
Soybean processing plant...	☐ 5	Other _____ (Specify) ..	☐ 10

3. Please check type of business organization of the firm named above: [102]

Single owner or partnership ..... ☐ 1
Cooperative ..... ☐ 2
Corporation ..... ☐ 3

4. How often does this firm use commodity futures for hedging? [103]

Never ..... ☐ 1
Occasionally ..... ☐ 2
Routinely ..... ☐ 3

5. Is the decision establishing the price you **pay** for grain made at this location? [104]

☐ YES ☐ NO → Please give the address of the office where this decision is made.

_____

_____

(Go to question 6)

6. Is the decision establishing the price you **sell** grain for made at this location? [105]

☐ YES ☐ NO → Please give the address of the office where this decision is made.

_____

_____

(Go to question 7)

1974 PURCHASES OF GRAIN FROM FARMERS

	CORN 000 bu.	WHEAT 000 bu.	SOYBEANS 000 bu.	SORGHUM 000 cwt.
7. How much grain did this firm *(at the address above)* **buy** from farmers in 1974? *(If none, skip to question 9)*	106	148	190	232

8. Approximately what **percent** of your purchases from farmers reported in question 7 were made:

	Percent	Percent	Percent	Percent
More than 30 days before delivery	107	149	191	233
1 to 30 days before delivery	108	150	192	234
Upon delivery or change of title	109	151	193	235
After change of title (delayed pricing) ...	110	152	194	236
Total	100%	100%	100%	100%

1974 PURCHASES OF GRAIN FROM ELEVATORS AND GRAIN MERCHANTS

	CORN 000 bu.	WHEAT 000 bu.	SOYBEANS 000 bu.	SORGHUM 000 cwt.
9. How much grain did this firm *(at the address on the front page)* **buy** from elevators and other grain merchants in 1974? *(If none, skip to question 18 at top of next page)*	111	153	195	237
10. Approximately how many **separate transactions** were used to purchase the grain listed in question 9?	Number 112	Number 154	Number 196	Number 238
11. On the average how many **days per week** did you buy each grain?	Days Per Week	Days Per Week	Days Per Week	Days Per Week
During harvest	113	155	197	239
Remainder of year	114	156	198	240
12. From approximately **how many different elevators and merchants** did you buy grain in 1974?	Number 115	Number 157	Number 199	Number 241
13. In what States were these **sellers' or brokers' offices** located? List below the States and approximate percent purchased from sellers in each State.		Percent	Percent	Percent	Percent
(State) _____	334	116	158	200	242
(State) _____	335	117	159	201	243
(State) _____	336	118	160	202	244
(State) _____	337	119	161	203	245
(State) _____		120	162	204	246
(Other States)					
Total		100%	100%	100%	100%
14. Approximately what percent of these purchases from elevators and merchants were received by:		Percent	Percent	Percent	Percent
Truck		121	163	205	247
Rail		122	164	206	248
Barge or Ship		123	165	207	249
Total		100%	100%	100%	100%
15. Approximately what percent of these purchases were made:		Percent	Percent	Percent	Percent
On day of delivery		124	166	208	250
1 to 10 days before delivery		125	167	209	251
11 to 30 days before delivery		126	168	210	252
31 to 60 days before delivery		127	169	211	253
More than 60 days before delivery		128	170	212	254
Total		100%	100%	100%	100%

	During Harvest Percent	Remainder of Year Percent
16. Approximately what percent of **all** grain **purchases** are made:		
Before 9:30 a.m., central time	274	277
Between 9:30 a.m. and 1:15 p.m.	275	278
After 1:15 p.m., central time	276	279
Total	100%	100%

17. What percent of the time do you quote price in terms of basis *(relative to the futures)* in your agreements to **buy** grain? 0% – ☐ 1–50% – ☐ Over 50% – ☐ 280

1974 SALES OF GRAIN

	CORN 000 bu.	WHEAT 000 bu.	SOYBEANS 000 bu.	SORGHUM 000 cwt.
18. How much grain did this firm *(at the address on the front page)* **sell** in 1974? Do not include grain sold in processed form or local farm sales. *(If none, skip to question 28.)*	129	171	213	255
19. Approximately how many **separate transactions** were used to sell the grain listed in question 18?	Number 130	Number 172	Number 214	Number 256
20. On the average how many **days per week** did you sell each grain?	Days Per Week	Days Per Week	Days Per Week	Days Per Week
During harvest	131	173	215	257
Remainder of year	132	174	216	258
21. To approximately **how many different buyers** did you sell grain in 1974?	Number 133	Number 175	Number 217	Number 259
22. Approximately what percent was sold to your **largest buyer**?	Percent 134	Percent 176	Percent 218	Percent 260
23. In what cities were the **buyers' offices** located? *Enter cities and approximate percent sold to buyers in each city.*	Percent	Percent	Percent	Percent
(City) _____	338 135	177	219	261
(City) _____	339 136	178	220	262
(City) _____	340 137	179	221	263
(City) _____	341 138	180	222	264
(City) _____	139	181	223	265
(Other Cities)				
Total	100%	100%	100%	100%
24. What percent of these sales were shipped by:	Percent	Percent	Percent	Percent
Truck	140	182	224	266
Rail	141	183	225	267
Barge or ship	142	184	226	268
Total	100%	100%	100%	100%
25. Approximately what percent of these sales were made:	Percent	Percent	Percent	Percent
On day of delivery	143	185	227	269
1 to 10 days before delivery	144	186	228	270
11 to 30 days before delivery	145	187	229	271
31 to 60 days before delivery	146	188	230	272
More than 60 days before delivery	147	189	231	273
Total	100%	100%	100%	100%

	During Harvest Percent	Remainder of Year Percent
26. Approximately what percent of **all** grain **sales** are made:		
Before 9:30 a.m., central time	281	284
Between 9:30 a.m. and 1:15 p.m.	282	285
After 1:15 p.m., central time	283	286
Total	100%	100%

27. What percent of the time do you quote price in terms of basis *(relative to the futures)* in your agreements to **sell** grain? 0% – ☐ 1–50% – ☐ Over 50% – ☐ 287

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INFORMATION SOURCES

28. Please rate each of the following sources of **market information** that you use regularly as to importance in making pricing decisions and/or assessing market trends. Circle, under each column heading, **1 = little or no importance, 2 = some importance, 3 = maximum importance.**

Source	Pricing Decisions				Assessing Market Trends			
a. Commercial wire news services:								
(1) GIN	1	2	3	288	1	2	3	310
(2) Reuters	1	2	3	289	1	2	3	311
(3) UPI	1	2	3	290	1	2	3	312
(4) AP	1	2	3	291	1	2	3	313
b. USDA Federal–State Market News:								
(1) Recorded telephone report	1	2	3	292	1	2	3	314
(2) Direct telephone contact with market news reporter	1	2	3	293	1	2	3	315
(3) Teletype system	1	2	3	294	1	2	3	316
(4) Published reports	1	2	3	295	1	2	3	317
c. Radio	1	2	3	296	1	2	3	318
d. Television	1	2	3	297	1	2	3	319
e. Newspapers	1	2	3	298	1	2	3	320
f. Bid cards	1	2	3	299	1	2	3	321
g. Telephone contact with:								
(1) Your head office	1	2	3	300	1	2	3	322
(2) Country elevators	1	2	3	301	1	2	3	323
(3) Terminal and subterminal elevators	1	2	3	302	1	2	3	324
(4) Other grain merchants and brokers	1	2	3	303	1	2	3	325
(5) Processors	1	2	3	304	1	2	3	326
(6) Foreign buyers	1	2	3	305	1	2	3	327
(7) Other *(Specify _____)*	1	2	3	306	1	2	3	328
h. Telex or telegram contact with buyers or sellers	1	2	3	307	1	2	3	329
i. Face-to-face contact with buyers or sellers	1	2	3	308	1	2	3	330
j. Other *(Specify _____)*	1	2	3	309	1	2	3	331

29. What do you think have been the most important changes over the last 20 years in the methods of pricing grain and what types of cash grain price information have become important as a result of these changes?

Exp.