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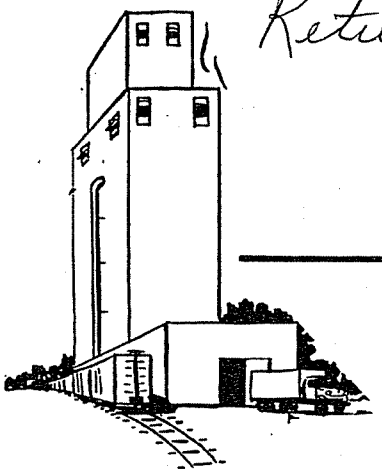

A STUDY OF

The Feasibility of Establishing A Terminal Cash Grain Market

IN NORTH DAKOTA

DONALD E. ANDERSON
AND
STEPHEN EGEDIUSEN

Department of Agricultural Economics
NORTH DAKOTA STATE UNIVERSITY
Fargo, North Dakota

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A STUDY OF THE FEASIBILITY OF ESTABLISHING A TERMINAL CASH GRAIN MARKET IN NORTH DAKOTA

by

Donald E. Anderson and
Stephen Egediusen[1]

PREFACE

This report has been prepared by the Staff of the Department of Agricultural Economics at North Dakota State University upon request of the North Dakota Legislative Research Committee. The study was supported in part by a research grant made available to the Agricultural Experiment Station at N.D.S.U. by the Legislative Research Committee. The intent of this report is to provide basic information on grain marketing practices employed in the state that may have a bearing on the deliberations of the L.R.C. in dealing with the assigned task of evaluating the feasibility of establishing a North Dakota grain market facility. This report is not intended to preempt the decision powers of the L.R.C., but rather serve as counsel and advise on this subject in a constructive and objective manner. While this report contains some suggested alternative courses of action that may be pursued by the committee, the final decision must remain with the elected committee members.

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[1]Assistant Professor and Graduate Assistant, Department of Agricultural Economics, North Dakota State University, Fargo, North Dakota.

INTRODUCTION

Terminal markets have developed to satisfy the economic needs of suppliers and users of grains. Terminal markets provide an outlet for products and establish the value of a commodity through the forces of supply and demand. In addition to these functions, the terminal market may provide facilities for receiving, unloading, warehousing, and reshipping grain.

The primary factor affecting location of terminal markets is transportation. The market is normally located geographically at a point where the flow of grains is sufficient to satisfy the needs of processors and merchandisers of grains in the most economical manner.

Traditionally, surplus grain produced in agricultural areas west of the Mississippi and Missouri rivers has flowed to areas east of the Mississippi for processing and consumption. This is due to the concentration of the population in the eastern areas of the United States which provides a market for these grain products. Current population trends and increased export outlets in the Far East have altered the traditional eastward movement of grain to some extent.

CASH TRADING AT TERMINAL MARKETS

The volume of grain flowing through terminal markets has been relatively constant in past years, but it has declined as a proportion of "off-farm sales."[2] The most important implication of this type of diver-

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[2]Off-farm sales do not include intrafarm sales and grain used on farms where produced.

sion is that the terminal market was historically and still is the basis for price quotations; but if the decline in proportion of sales should continue, it will decrease the reliability of price quotations from these markets as an indicator of the value of commodities.

Cash grain markets are located at St. Louis, Toledo, Portland, Duluth, Omaha, Peoria, Indianapolis, and other cities. It has been noted that some of the smaller terminals have experienced increased volumes of receipts, which may be part of the trend away from the larger terminal markets or may indicate a change in traditional commodity flows. The Toledo Board of Trade, for example, has experienced increases in the volume of receipts in past years, from 89,372,507 bushels in 1954 to 118,007,341 bushels in 1964, with an eleven-year average of 108,399,027 bushels. The Merchants Exchange of St. Louis has also experienced an upward trend in the volume of receipts, from 89,116,049 bushels in 1954 to 121,956,625 bushels in 1964, with an eleven-year average of 103,315,510 bushels.

The volume of grain received varies at other markets, in some cases being considerably lower. The Portland Grain Exchange, for example, had a 1964 volume of trading of 1,275,000 bushels of wheat and 134 cars of coarse grains.

As mentioned previously, there has been a diversion of grain away from terminal markets in recent years. However, the function of physical concentration of grain in terminal markets to supply consuming industries is probably less important than formerly. Grain processing and merchandising firms are purchasing a smaller proportion of their grain stocks at

terminal markets and are relying to a greater extent on purchases from country elevators through procurement methods which bypass the central market. Country elevators in North Dakota are selling more grain on the basis of a bid price by a terminal buyer instead of selling it through the cash market at the Minneapolis Grain Exchange. It was found in a recent study that about 65 to 70 per cent of North Dakota grain is sold by "bid sales."[3] This indicates that the country elevator is becoming the center of competition for the procurement of grains because of more grain being purchased directly by terminal elevators and processors. Much of this grain bypasses the Minneapolis Grain Exchange.

Bypassing the terminal market has advantages both for the country elevator and the purchaser. By selling grain on the basis of a bid price, the country elevator is protected from price declines which might occur while the grain is enroute to market. The purchaser is likewise protected from price increases. Hence, direct methods of purchasing protect both the buyer and seller from price fluctuations which might occur. By purchasing grain to-arrive, the buyer purchases grain on the basis of the current terminal market price with the grain being delivered at a later date. This procurement method allows the buyer to assure a supply of grain of the desired grade and quality at a definite price. By being able to schedule a supply of commodities in some future period, thus contributing to an even flow of grain stocks, the buyer may be able to reduce

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[3]Velde, Paul D., The Organization of Country Markets for Grain in North Dakota, unpublished M. S. Thesis, p. 77.

storage costs and the amount of storage facilities needed.

FLOWS OF GRAIN FROM NORTH DAKOTA

Historically, grain produced in North Dakota, with the exception of corn and soybeans, has moved primarily eastward with little movement south or west. Approximately 50 per cent of North Dakota grain other than corn or soybeans reaches its first market in Minnesota. This is probably due to the terminal market located there with its attendant processing and storage facilities. A study by Duncombe published in 1962 concerning Upper Midwest commodity flows for the year 1958 showed that 14.27 per cent of the wheat produced in North Dakota remained in the state, with 53.54 per cent being shipped to Minnesota.[4] These percentages are shown in Table 1. A significant amount, 18.83 per cent, flowed directly to the eastern region of the United States, which includes the states of Pennsylvania and New York. The wheat remaining in North Dakota plus that flowing to Minnesota and the one-half per cent that was consumed in northwest Wisconsin accounted for the sale of about two-thirds of the total North Dakota production.[5] Grains other than wheat, soybeans, and corn

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[4]Duncombe, B. J., Upper Midwest Commodity Flows, 1958, Upper Midwest Economic Study, Technical Paper No. 4, 1962, p. 16.

[5]Consumption here is defined as total use and includes not only delivery of finished goods to the final consumer, but also delivery of intermediate goods to manufacturers for further processing.

produced in North Dakota are utilized principally in North Dakota and Minnesota. These two states accounted for the consumption of approximately 90 per cent of North Dakota production of other grains, with almost equal shares being consumed by North Dakota and Minnesota, 46.32 and 44.55 per cent, respectively.

About 28 per cent of North Dakota's soybean production is consumed in Minnesota, 36 per cent remains in North Dakota, and the Lower Midwest states of Kansas, Nebraska, Iowa, and Missouri consume about 28 per cent of North Dakota's production. Soybeans is the only crop produced in North Dakota that has any appreciable southward movement.

From Duncombe's study it also was found that approximately 93.28 per cent of the wheat consumed in North Dakota was also produced in the state, with the remaining 6.72 per cent being of Montana origin. About 2.76 per cent of the corn consumed in North Dakota was imported from Minnesota, .16 per cent originated in northwest Wisconsin, and the remainder was supplied by North Dakota production. Almost all of the soybeans and other grains consumed in North Dakota were produced in the state, 99.49 and 99.98 per cent, respectively, with the remainder being procured from Minnesota. These relationships are shown in Table 2.

To successfully establish a terminal cash grain market in North Dakota, several requirements of an effective market must be met. The most important of these requirements are: (1) that there is a desire by grain processors, merchandisers, exporters, and others to use the market in the procurement of raw grains to meet their raw material requirements; (2) that

country elevators and subterminals feel that there is an economic need for the market and will provide adequate volume of trade to support the operations of an exchange; (3) complete and economic inspection of a high proportion of grain being marketed in the state at or near the points of origin, and (4) that a location be selected to which inspected grain samples can be rapidly and economically transported. These and other pertinent points will be discussed in this report with relevance being reflected on the feasibility of establishing a grain market in North Dakota.

GRAIN INSPECTION SERVICES

Grain can be stopped in transit for inspection and disposition at Minot, Grand Forks, and Jamestown. The graded samples of grain are available to prospective buyers at each inspection service, and some grain processing firms interested in certain grades of grain have small samples of grain mailed to them by the inspection service. If the prospective buyer offers a price satisfactory to the commission firm at the Minneapolis Grain Exchange to whom the grain has been consigned by the elevator, the car could then be rerouted to a destination named by the buyer or, if not sold, could be continued on its original course. The hold points thus provide flexibility by allowing grain to be diverted to points other than the original destination.

TABLE 1. DISTRIBUTION OF NORTH DAKOTA GRAIN PRODUCTION (1958) BY STATE

Destination	Wheat	Corn	Soybeans	Other Grains
	per cent of production			
Montana	-----	-----	-----	-----
North Dakota	14.27	92.18	36.29	46.32
South Dakota	-----	-----	-----	-----
Minnesota	53.54	7.04	28.10	44.55
Northwest Wisconsin	.05	-----	-----	-----
Upper Midwest	67.86	99.22	64.39	90.87
Lake States	3.33	.02	.16	2.21
Lower Midwest	1.50	-----	27.50	.16
East	18.83	.12	-----	3.08
South	.19	.33	.78	1.40
South Central	1.05	.19	2.10	1.01
Mountain	.28	-----	-----	-----
Pacific	-----	-----	-----	-----
Canada	-----	-----	-----	-----
Other Foreign	6.96	.13	5.07	1.26

Source: Upper Midwest Commodity Flows, 1958.

TABLE 2. ORIGIN OF GRAIN CONSUMED IN NORTH DAKOTA

State of Origin	Wheat	Corn	Soybeans	Other Grains
	per cent of consumption			
North Dakota	93.28	97.08	99.49	99.98
Minnesota	-----	2.76	.51	.02
Northwest Wisconsin	-----	.16	-----	-----
Montana	6.72	-----	-----	-----

Source: Upper Midwest Commodity Flows, 1958.

A charge to the shipper by the railway for each car stopped in transit may be levied. During the June-November period, "normal" freight rates are in effect; and no hold charges are incurred for cars stopped in transit. "Reduced" rates are in effect during the remaining months of the year in some areas of the state. When the reduced rates are in effect, the charge to the shipper by the railroad for each car stopped in transit is $8 for all grains except barley. Barley is in a different freight category from other grains and is exempt from the hold charge. The railroad allows the car to be stopped in transit for inspection for 24 hours. If the car is detained for a longer period, an additional charge called "demurrage" is levied upon the shipper.

Grain inspection services on a route sampling basis are in operation at Grand Forks, Fargo, Minot, and Jamestown. The services performed consist of obtaining, from a loaded car, a sample of grain which accurately represents the grain contained therein and testing the sample for dockage, moisture content, foreign material, mixture with other grains, and test weight. Protein testing facilities are available at all four of the above mentioned locations and are obtained when desired by the elevator operator. The sample is then analyzed and graded under the supervision of a grain inspector licensed by the United States Department of Agriculture.

Sampling of grain at the origin allows reloading of the car by the shipper if the sample does not grade as anticipated. Thus, uncertainty as to grade is eliminated. It also furnishes a basis for

comparison with the grade received if and when the grain is reinspected in Minnesota. Thus, if the shipper feels the Minnesota grade is lower than justified, he will have a basis to petition for reinspection. If a car is not inspected at the origin or a North Dakota hold point, it will be sold by sample on the trading floor of the Minneapolis Grain Exchange only after it has been inspected at a Minnesota hold point. A basic advantage of North Dakota inspection is the more timely sale of the grain at the terminal market. Grain samples typically reach the Minneapolis market within 24 to 48 hours of loading when sampled at North Dakota origins; while considerably longer periods of time may elapse before samples reach the terminal when cars are shipped and held at Minnesota hold points.

Currently, four inspection services are in operation in North Dakota at Grand Forks, Fargo, Jamestown, and Minot. The inspection service at Grand Forks provides service to those country elevators geographically located so that their loaded railway grain cars pass through Grand Forks enroute to market and can be stopped and inspected on-track at Grand Forks. The Grand Forks inspection service also has a sampler stationed at Mayville who samples grain at Mayville elevators and then forwards the sample to Grand Forks by mail. A limited route service by which grain is inspected at the local elevator or point of origin is provided at Manville, Marefield, and Pleasant Lake by the Grand Forks sampling service.

The charge for grading a sample obtained at the hold point is $3 per car; but if protein tests are desired for wheat and barley, an

additional charge of $1.50 per sample is made. The Grand Forks inspection service provides hold point sampling service to country elevators in all or portions of the following counties: Bottineau, Pierce, Benson, Rolette, Cavalier, Pembina, Walsh, Ramsey, Grand Forks, Nelson, Traill, Towner, and McHenry. The areas are shown as Area I in Figure 1.

The volume of samples collected in 1964 was 30,947 compared with 24,970 in 1963. The volumes of samples collected in 1962 and 1961 were 23,059 and 26,701, respectively (see Table 3).

The Fargo inspection service is operated at the State Seed Department and provides a route sampling service only, whereby grain is inspected at the local elevator or point of origin. The areas to which inspection services are provided include Cass, Richland, Steele, Nelson, Traill, Griggs, Sargent, Ransom, and Barnes counties. These counties are shown in Figure 1 as Area II. Charges are $3.50 per car plus mileage, with an additional $1.50 charge made for protein tests. A total of five samplers is employed. They are stationed at Fargo, Barney, and Fairmont in addition to those already mentioned. The mileage charges are prorated among those using the services on a particular day; so that if a large number of elevators on a route use the service on a particular day, the charge for mileage will be lower than if there were low participation. In the case of the route which is served by the sampler stationed at Pillsbury the average charge is $4 per car, while the average charge is about $5.50 per car for those elevators served by the sampler stationed at Gardner.

The grain inspection service at Minot provides both a route and on-track sampling service. Route sampling is provided to elevators from Minot to Fessenden on the Soo Line Railway route and also from Newtown and Garrison east to Drake. Together with on-track sampling provided at Minot the areas served include Divide, Williams, Renville, Burke, McKenzie, Mountrail, Ward, McHenry, and Bottineau counties (Area III). The charges are $2 per car sampled on-track at Minot with a flat $4.50 charge for cars sampled on the point of origin under the route service. The 1964 volume of inspections was 18,663, while 19,979 samples were processed in 1963. The number of samples taken was 13,441 in 1961 and 17,217 in 1962 (Table 3).

TABLE 3. GRAIN SAMPLES GRADED BY NORTH DAKOTA GRADING LABORATORIES, 1961-64

Year	Grand Forks	Minot	Jamestown	Fargo
	bushels cars	bushels cars	bushels cars	bushels cars
1961	26,701	13,441	11,318	---*
1962	23,059	17,217	12,580	---*
1963	24,970	19,979	12,705	4,000
1964	30,947	18,663	12,663	5,000

* The Fargo inspection service began operation in 1963.

Source: Agricultural Marketing Service, Grain Supervision Office, Grand Forks, North Dakota.

Grain Inspection, Incorporated, at Jamestown provides inspection service to a large area of the state. A total of 24 counties is provided grain inspection service by the Jamestown firm (Area IV). Barnes, Dickey, McIntosh, Griggs, and Logan counties are served on a route

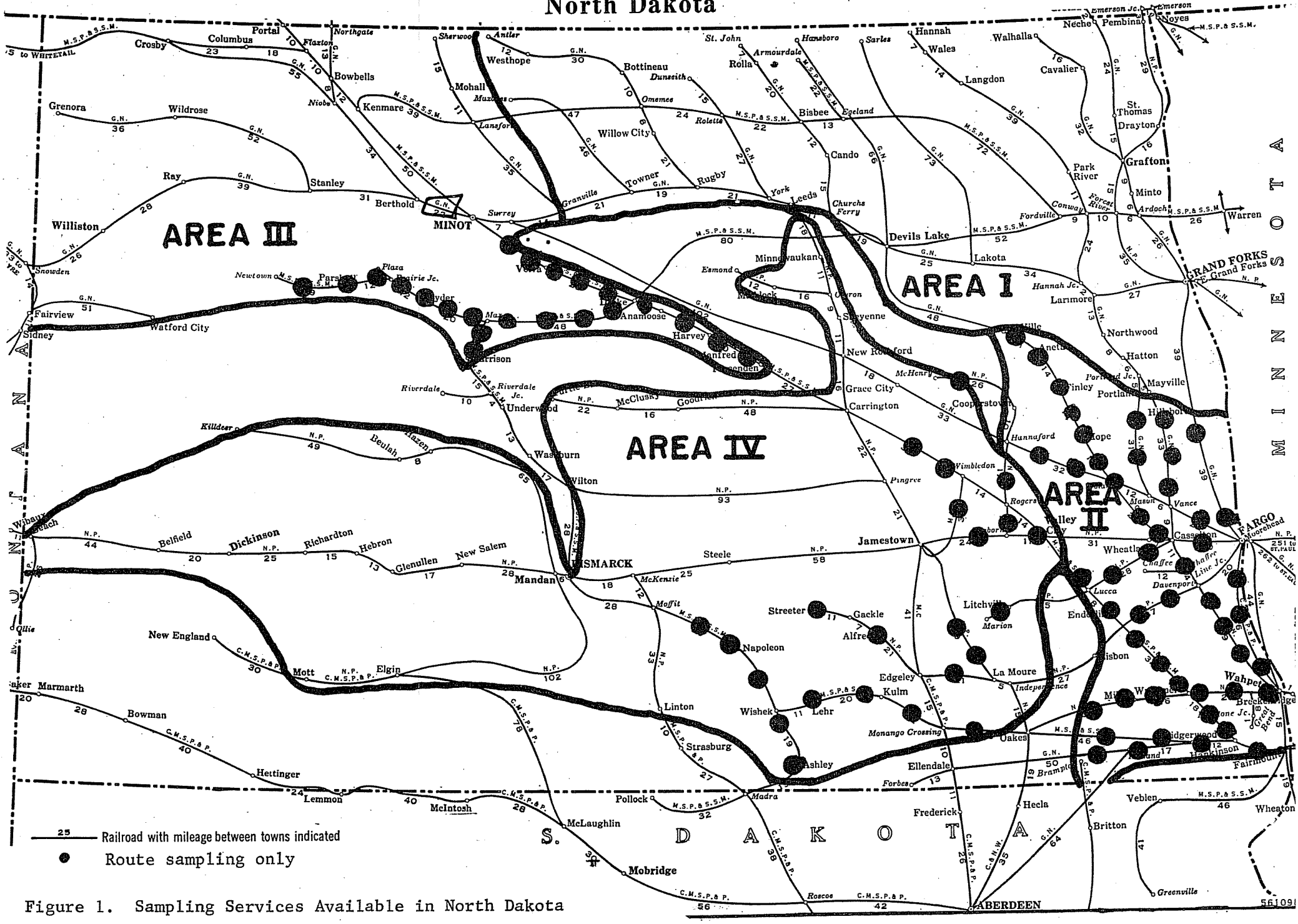

Figure 1. Sampling Services Available in North Dakota

sampling only basis. Certain areas in LaMoure, Stutsman, and Emmons counties are served on a route sampling basis, while other points within these counties can be inspected "on-track" in Jamestown. Inspection at the hold point in Jamestown is available to country elevators in Dunn, Golden Valley, Billings, Stark, Hettinger, Grant, Morton, Oliver, Mercer, McLean, Sheridan, Burleigh, Kidder, Wells, Eddy, and Foster counties. Some elevators within the above category utilize route sampling in order to be able to reload the car if it does not grade as anticipated. By using route sampling they do not incur any hold charge; thus, the total cost will be lower in some cases than for hold point sampling. Elevators at Edgeley, Moffit, Braddock, Kintyre, Napoleon, Burnstad, Wishek, Danzig, Ashley, Venturia, Lehr, Fredonia, Kulm, Mericourt, Fullerton, and Norway are provided sampling service by a sampler stationed at Wishek. For those cars sampled on the Wishek route a fee of $10 per car is charged whether or not a protein test is used. Elevators that have their grain inspected at the hold point pay $3 per car inspected plus $1.50 for protein tests. Areas on the route sampling service pay the same base charge as charged at the hold point plus 10 cents per mile. There has been a noticeable upward trend in the number of cars sampled by the Jamestown inspection service. Sample volume has increased from 11,318 in 1961 to 12,663 in 1964 (Table 3).

Grain inspection service is available to all areas within the state except certain points in the southern portion. In these areas not covered by a sampling service, railway routes lead out of North

Dakota into South Dakota. In conclusion, it may be said that sampling service is available to a very large part of the grain produced in North Dakota.

MARKET SUPPLY POTENTIAL

A mail survey of country elevators was taken in order to: (1) evaluate their potential participation in a cash grain market, (2) obtain their opinions regarding possible locations and the potential problems which would be involved in the operation of such a market, (3) determine the extent to which grain sampling services are currently used by country elevators, and (4) obtain data regarding the current methods by which North Dakota grain is sold and transported. A total of 177 usable questionnaires was obtained from individual firms. In addition, information was obtained from three line elevator firms operating grain buying stations located in North Dakota.

Out of a total of 143 elevators responding to a question on grain sampling 110, or 77 per cent, utilized grain sampling at their elevators or a North Dakota hold point. The commodity sampled most frequently was wheat; 102, or 71 per cent, of the elevators reported inspection of wheat. Barley was second in importance, with 63 per cent, or 90 elevators, reporting that sampling at the origin or a North Dakota hold point was employed. The corresponding percentages for oats, flax, and rye were 38, 37, and 27 per cent, respectively. The average charge for sampling, grading, and inspection services including mileage or hold charges was $10.23 for wheat and barley. The average charge reported for other grains was $6.65.

It was previously stated that 110 out of a total of 143 responses indicated that they used grain inspection services to some extent. Of the 33 elevators not utilizing this service 11 indicated that it was not available. Eight firms did not use grain inspection because many times grain will be reinspected in Minnesota. They indicated that they could see no advantage to North Dakota grain inspection for this reason. Four firms did not use sampling because of demurrage charges, and an equal number of firms were nonusers because they felt the costs were prohibitive. Three firms felt there was no advantage to route or hold point sampling, with three other firms not using sampling because the service was too slow. Three firms had discontinued the use of sampling because grades varied considerably from those obtained in Minnesota, and in many cases the grades obtained were believed to be inaccurate.

If the grain is sampled at the origin, the car may be detained at the elevator while the shipper awaits a report on the grade and quality of the grain. Thus, the delay in shipping the car to market while waiting for a report from the inspection service could result in demurrage charges as was indicated by several elevator operators. However, the shipper has 48 hours of "free time" in which to dispatch the car to market. The "free time" commences at 7:00 a.m. on the day following notification by the railway that the car bas been placed on the elevator siding. For example, if the elevator was notified at 9:00 a.m. that a car had been placed at the elevator siding, the "free time" period would start at 7:00 a.m. the next day; and the

elevator would be able to hold the car for 48 additional hours before demurrage would be incurred.

An average demurrage agreement is available to country elevators. Under this arrangement credits are allowed for cars which are dispatched before the "free time" period has expired. These credits can be applied against debits incurred on cars which had the "free time" expire before shipment from the elevator siding. If the credits accumulated are greater than or equal to the debits incurred, no demurrage charges are levied; hence, the term average demurrage appears. This arrangement enables the elevator to reduce the amount of demurrage charges levied. However, this practice has not been used very extensively by country elevators. Railway officials indicated that in most cases the "free time" period allowed sufficient time to load the car and dispatch it from the elevator siding without becoming subject to demurrage.

It was previously indicated that one of the requirements for the successful operation of a cash grain market in North Dakota was complete and economic inspection of a high proportion of grain being marketed in the state at or near the point of origin. Also pointed out was the fact that rail cars of grain can be inspected either at the country elevator or at a hold point or both depending on the location of the elevator.

Movement of Grain by Truck

Most of the grain that is shipped from North Dakota is shipped by rail. The country elevator survey showed that approximately 79

per cent of the 1964-65 crop of 74,166,686 bushels of all grains represented in the sample was shipped by rail. The remaining 15,515,537 bushels shipped by truck accounted for 21 per cent of total shipments (Table 4).

The percentage of total shipments transported by rail varies considerably among commodities. The volume of wheat moved by rail represents about 83 per cent of total shipments. While wheat has the largest proportion of rail shipments, barley follows with approximately 82.9 per cent shipped by rail. The percentages of total shipments transported by rail for flax, oats, and rye are 66.0, 62.5, and 58.3, respectively.

TABLE 4. VOLUME OF TRUCK AND RAIL SHIPMENTS OF GRAIN BY NORTH DAKOTA ELEVATORS BY GRAIN, 1964-65

Commodity	Rail Shipments	Per cent of Total	Truck Shipments	Per cent of Total	Total Shipments
	bushels		bushels		bushels
Barley	21,473,245	82.9	4,430,578	17.1	25,903,823
Oats	5,130,130	62.5	3,076,398	37.5	8,206,528
Flax	3,144,576	66.1	1,615,880	33.9	4,760,456
Wheat	27,951,753	83.0	5,712,990	17.0	33,664,743
Rye	951,445	58.3	679,691	41.7	1,631,136
Total	58,651,149	79.1	15,515,537	20.9	74,166,686

Source: Country elevator survey, 1966.

Of the total 74,166,686 bushels of grain shipped cooperative elevators accounted for 48,573,761 bushels. Local private elevators[6]

[6]Local private elevators refers to firms operated by individuals, partnerships, or corporations which are not operated as part of a chain of line elevators and are not organized as cooperatives.

and line elevators accounted for 21,001,925 and 4,591,000 bushels, respectively. Line elevators utilized truck transportation for 35 per cent of total shipments, which is considerably larger than the proportion of grain transported via truck by private and cooperative firms (Table 5). Cooperative firms shipped 20.7 per cent of total shipments by truck, with local private firms employing truck transportation for 18.4 per cent of shipments. Line elevators utilized truck transportation for a larger proportion of all commodities shipped with the exception of flax. Private elevators utilized truck transportation to a greater extent for barley, rye, and oats as compared to cooperatives; however, cooperatives utilized truck transportation for a greater proportion of wheat and flax shipments as compared to private elevators.

While rail transportation predominates in the shipment of North Dakota grain, truck transportation has increased considerably as a proportion of total shipments. Nelson indicated that the percentage of North Dakota grain shipped by motor carrier increased from 4.8 per cent in 1956-57 to 21 per cent in 1963-64.[7] During the same period the percentage increases by commodity were as follows: wheat, from 3 to 17.3 per cent, 1956-57 through 1963-64; oats, 13 to 34.2 per cent; flax, 5 to 42 per cent; barley, 1 to 14.6 per cent; and rye, 2 to 43.4 per cent.[8]

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[7]Nelson, David C., Trends in Shipping Grain by Motor Carrier from North Dakota Origins, 1956-57 Through 1963-64. Bulletin No. 462, Department of Agricultural Economics, North Dakota Agricultural Experiment Station, Fargo, North Dakota, December, 1965, p. 4.

[8]Ibid., p. 13.

TABLE 5. VOLUME OF TRUCK AND RAIL SHIPMENTS OF GRAIN BY COOPERATIVE, LINE, AND PRIVATE ELEVATORS, 1964-65

Commodity	Cooperative			Line			Private			Total All Shipments
	Rail Shipments	Truck Shipments	Total Cooperative Shipments	Rail Shipments	Truck Shipments	Total Line Shipments	Rail Shipments	Truck Shipments	Total Private Shipments	
	bushels									
Barley	12,351,396	2,329,882	14,681,278	1,672,000	545,000	2,217,000	7,449,849	1,555,696	9,005,545	25,903,823
Oats	3,364,274	1,752,553	5,116,827	280,000	479,000	759,000	1,485,856	844,845	2,330,701	8,206,528
Flax	1,485,288	1,201,573	2,686,861	94,000	71,000	165,000	1,565,288	343,307	1,908,595	4,760,456
Wheat	20,690,539	4,373,094	25,063,633	924,000	451,000	1,375,000	6,337,214	888,896	7,226,110	33,664,743
Rye	639,158	386,004	1,025,162	13,000	62,000	75,000	299,287	231,687	530,974	1,631,136
Total	38,530,655	10,043,106	48,573,761	2,983,000	1,608,000	4,591,000	17,137,494	3,864,431	21,001,925	74,166,686

Source: Country elevator survey, 1966.

TABLE 6. PERCENTAGES OF EACH GRAIN AND ALL GRAINS SHIPPED BY TRUCK AND RAIL BY TYPE OF FIRM, 1964-65

Type of Firm	Commodity											
	Barley		Oats		Flax		Wheat		Rye		All Grains	
	Per cent Rail	Per cent Truck	Per cent Rail	Per cent Truck	Per cent Rail	Per cent Truck	Per cent Rail	Per cent Truck	Per cent Rail	Per cent Truck	Per cent Rail	Per cent Truck
Line	75.4	24.6	36.9	63.1	57.0	43.0	67.2	32.8	17.3	82.7	65.0	35.0
Cooperative	84.1	15.9	65.7	34.3	55.3	44.7	82.6	17.4	62.3	37.7	79.3	20.7
Private	82.7	17.3	63.8	36.2	82.0	18.0	87.7	12.3	56.4	43.6	81.6	18.4

Source: Country elevator survey, 1966.

The percentage of North Dakota grain trucked to market is expected to increase in future years. Nelson estimated that 32.5 per cent of total North Dakota grain shipments will be transported by truck in 1985-86 if current conditions prevail in the future.[9]

The sampling of grain moved by trucks by North Dakota sample laboratories is very rare, primarily because trucks are not sealed after sampling. Hence, they could be unloaded and reloaded with a different grade of grain after it has been sampled. Because the amount of grain transported by truck represents a reduction from the potential volume of grain inspected, the amount of North Dakota grain transported by truck and trends in truck transportation must be considered.

Present Methods of Sale

The current methods employed by North Dakota country elevators in selling grain must be analyzed in order to obtain an indication of the potential volume of trading that would occur in a North Dakota terminal market. Because "bid sales," such as "on-track," "spot cash," "cash at the elevator," and "to-arrive" are sold on the basis of a bid from a terminal buyer rather than sold over the cash trading floor at a grain market, they represent an important factor to consider when attempting to make some judgment concerning the potential volume of grain sold through a proposed market facility. As indicated previously, "bid sales" provide advantages to both buyers

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[9] Ibid., p. 14.

and sellers of grain as compared to cash purchases and sales through the Minneapolis Grain Exchange.

Several methods of selling grain are available to the country elevator. Grain may be sold on consignment, whereby a commission firm acts as an agent for the elevator in selling the grain on the cash floor of the terminal market. A considerable amount of grain is sold through various forms of prearranged sales, either directly between the country elevator and a terminal buyer or arranged through a commission firm. A to-arrive sale refers to an arrangement in which the country elevator agrees to deliver a specified grade and quality of grain within a certain future period. The elevator will receive the current terminal market price even though the grain has not yet been delivered to the buyer. Hence, the seller is protected from price declines which might occur. In the to-arrive type of sale the seller must pay transportation expenses and other charges which must be deducted from the terminal market price in order to arrive at a net price. Grain may be sold "spot cash," which is also referred to as an "on-track" sale. This type of sale is similar to the to-arrive method with one exception. The bid price quoted to the elevator in an on-track sale is a net price; hence, transportation and other expenses are the responsibility of the buyer. Grain is also sold cash at the elevator. This method of sale refers to grain sold directly to truckers at the elevator.

In to-arrive and on-track sales the price is agreed upon before the grain leaves the country elevator. Hence, these types of sales

represent a perfect hedge for the seller against price declines, while consignment sales sold on the cash floor of the terminal market are subject to price changes until the grain reaches the market and is sold.

The country elevator survey indicated that about 39.6 per cent of North Dakota grain is sold on consignment, the various forms of "bid sales" accounting for the remaining volume of sales (see Table 7). Of a total volume of 98,003,553 bushels represented in the sample, 38,788,975 bushels were sold on consignment. To-arrive and spot cash sales accounted for 55,779,360 bushels, or 56.9 per cent of total sales. Cash at the elevator sales accounted for 3.5 per cent of total volume sold.

Consignment sales were utilized to the greatest extent for barley, accounting for 54.5 per cent of total barley sales in the sample. Numerous respondents indicated that it was difficult to obtain a satisfactory price for barley through the other methods of sale. Forty per cent of the barley was sold either to-arrive or spot cash, with the remaining 5.4 per cent sold cash at the elevator.

Wheat followed barley in the relative importance of consignment sales as a proportion of total sales. Of a total of 47,320,243 bushels in the sample 17,041,673 bushels, or 36 per cent, were sold on consignment. To-arrive and spot cash sales accounted for 63 per cent of total wheat sales. Less than one per cent of the wheat was sold for cash at the elevator.

Oats, flax, and rye were sold on the basis of various forms of

TABLE 7. VOLUME OF GRAIN SOLD BY VARIOUS METHODS OF SALE, NORTH DAKOTA, JULY 1, 1964, TO JUNE 30, 1965

Commodity	Total Volume	Volume on Consign-ment	Per cent of Total	Volume To-arrive and Spot Cash	Per cent of Total	Volume Cash at the Elevator	Per cent of Total
	bushels	bushels		bushels		bushels	
Barley	31,817,060	17,336,945	54.5	12,755,526	40.0	1,724,589	5.4
Oats	12,257,369	2,869,662	23.4	8,182,316	66.8	1,205,391	9.8
Flax	4,432,476	1,051,495	23.7	3,194,224	71.9	186,757	4.2
Wheat	47,320,243	17,041,673	36.0	29,978,543	63.2	300,027	.6
Rye	2,176,404	489,200	22.5	1,668,751	76.5	18,453	.8
Total All Grains	98,003,552	38,788,975	39.6	55,779,360	56.9	3,435,217	3.5

Source: Country elevator survey, 1966

"bid sales" to a greater extent than wheat and barley. Less than 25 per cent of these grains were sold on consignment. Spot cash and to-arrive sales were used to the greatest extent for rye, accounting for 76.5 per cent of total sales of 2,176,404 bushels. Consignment sales accounted for 22.5 per cent of total rye sales, with .8 per cent sold for cash at the elevator. Consignment sales accounted for 23.4 per cent of the oats sold and 23.7 per cent of flax sales. In the case of oats 66.8 per cent was sold spot cash and to-arrive, with 9.8 per cent sold cash at the elevator. To-arrive and spot cash sales accounted for 71.9 per cent of flax sales, with 4.2 per cent sold cash at the elevator.

The largest volume of grain sold on consignment was supplied by cooperative elevators as shown in Table 8. Of a total of 38,788,975 bushels of consignment sales cooperative elevators accounted for 26,232,897 bushels. Line elevators utilized the spot cash and to-arrive methods to a greater extent than other types of elevators, selling 92.4 per cent of total sales volume by these methods (Table 9). Line elevators relied on the consignment method for only 5.2 per cent of total sales. Cooperative elevators sold 60.5 per cent on consignment and 35.3 per cent to-arrive and spot cash, with the corresponding percentages for local private elevators being 59.2 and 36.7, respectively. Both private and cooperative firms sold approximately 4.2 per cent of their grain for cash at the elevator, while line elevators sold 2.3 per cent for cash at the elevator.

TABLE 8. VOLUME OF GRAIN SOLD BY VARIOUS METHODS OF SALE BY TYPE OF ELEVATOR OWNERSHIP, NORTH DAKOTA, 1964-65

Type of Ownership	Commodity	Consignment	To-arrive and Spot Cash	Cash at Elevator	Total
			bushels		
Line	Barley	1,389,000	7,878,194	615,230	9,882,424
Cooperative		9,586,203	3,042,762	776,047	13,405,012
Private		6,361,742	1,834,570	333,312	8,529,624
Line	Oats	100,000	5,031,469	208,474	5,339,943
Cooperative		1,964,820	2,157,389	855,224	4,977,433
Private		804,842	993,458	141,693	1,939,993
Line	Flax	10,000	1,144,800	12,225	1,167,025
Cooperative		804,463	1,399,702	22,604	2,226,769
Private		237,032	649,722	151,928	1,038,682
Line	Wheat	403,000	19,030,269	16,669	19,449,938
Cooperative		13,504,386	8,162,431	154,094	21,820,911
Private		3,134,287	2,785,843	129,263	6,049,393
Line	Rye	4,000	806,247	5,556	815,803
Cooperative		373,025	534,030	12,897	919,952
Private		112,175	328,474	--	440,649
Line	Total	1,906,000	33,890,979	858,154	36,655,133
Cooperative	All Grains	26,232,897	15,296,314	1,820,866	43,350,077
Private		10,650,078	6,592,067	756,196	17,998,341
	Total	38,788,975	55,779,360	3,435,216	98,003,552

Source: Country elevator survey, 1966.

TABLE 9. PER CENT OF EACH GRAIN SOLD BY VARIOUS METHODS OF SALE BY TYPE OF ELEVATOR OWNERSHIP, NORTH DAKOTA, 1964-65

Type of Ownership	Commodity	Consignment	To-arrive and Spot Cash	Cash at Elevator
Line	Barley	14.0	79.7	6.2
Cooperative		71.5	22.7	5.8
Private		74.6	21.5	3.9
Line	Oats	1.9	94.2	3.9
Cooperative		39.5	43.3	17.2
Private		41.5	51.2	7.3
Line	Flax	.9	98.1	1.0
Cooperative		36.2	63.0	1.0
Private		22.8	62.6	14.6
Line	Wheat	2.1	97.9	.8
Cooperative		62.0	37.5	.7
Private		51.8	46.0	2.1
Line	Rye	.5	88.9	.7
Cooperative		40.6	58.2	1.4
Private		25.5	74.6	-
Line	Total	5.2	92.4	2.3
Cooperative	All Grains	60.5	35.3	4.2
Private		59.2	36.7	4.2

Source: Country elevator survey, 1966.

Estimate of Potential Supply

In a previous section it was stated that grain inspection services are available to a very large part of the grain produced in North Dakota. In those areas where grain inspection is available the average production of all grains was 284,771,791 bushels during the period 1959-64 as shown in Table 10. This represents 97.4 per cent of total state production of 292,446,500 bushels during the same period. The per cent of total state production accounted for by the inspection area was 97.3 for oats, 98.8 for barley, and 96.2 for wheat. Rye produced in the area accounted for 97.6 per cent of total North Dakota production, and flax accounted for 99.6 per cent.

The percentages of total state production included in inspection areas can be multiplied by the total quantities of each grain marketed to give an estimate of the marketings furnished by the areas served by grain inspection. It is assumed that the proportion of each grain used on the farms where produced is similar for both the inspection and noninspection areas.

On this basis 97.3 per cent of the six-year average oats marketings, or 22,203,211 bushels, would be marketed from inspection areas. Inspected regions would account for 60,207,987 bushels of barley marketings, 111,940,323 bushels of wheat, and 7,316,563 bushels of rye during the period 1959-64. Areas having access to grain inspection supplied 13,056,066 bushels of flax during the same period. These estimates were obtained by calculating total production figures for areas having access to route or hold point sampling and relating them

TABLE 10. NORTH DAKOTA GRAIN PRODUCTION AND MARKETINGS, BY COMMODITY, 1959-64

Year	Total Production	Marketings	Production in Areas With Route or Hold Point Sampling	Per cent of Total Production
	- - - - - - - - - - bushels - - - - - - - - - -			
	Oats			
1959	39,960,000	13,187,000		
1960	66,129,000	22,484,000		
1961	31,434,000	11,002,000		
1962	99,450,000	33,813,000		
1963	69,450,000	24,308,000		
1964	86,817,000	32,122,000		
6-Year Total	393,240,000	136,916,000	382,564,000	97.3
6-Year Average	65,540,000	22,819,333	63,760,667	
	Barley			
1959	74,880,000	54,662,000		
1960	84,672,000	59,270,000		
1961	45,334,000	34,000,000		
1962	103,932,000	72,752,000		
1963	104,384,000	76,200,000		
1964	90,950,000	69,122,000		
6-Year Total	504,152,000	366,006,000	497,852,700	98.8
6-Year Average	84,025,333	61,001,000	82,975,450	
	Wheat			
1959	97,492,000	92,363,000		
1960	127,500,000	122,963,000		
1961	69,432,000	64,907,000		
1962	156,432,000	152,082,000		
1963	125,608,000	120,746,000		
1964	150,842,000	145,838,000		
6-Year Total	727,297,000	698,899,000	699,637,650	96.2
6-Year Average	121,216,167	116,483,167	116,606,275	

(continued)

TABLE 10. NORTH DAKOTA GRAIN PRODUCTION AND MARKETINGS, BY COMMODITY, 1959-64 (continued)

Year	Total Production	Marketings	Production in Areas With Route or Hold Point Sampling	Per cent of Total Production
	- - - - - - - - - - bushels - - - - - - - - - -			
	Rye			
1959	2,727,000	2,483,000		
1960	6,666,000	6,328,000		
1961	3,604,000	3,277,000		
1962	15,092,000	14,691,000		
1963	8,578,000	8,188,000		
1964	10,479,000	10,058,000		
6-Year Total	47,146,000	45,025,000	46,035,600	97.6
6-Year Average	7,857,666	7,504,167	7,672,600	
	Flax			
1959	10,129,000	9,344,000		
1960	15,054,000	14,389,000		
1961	8,262,000	7,638,000		
1962	19,524,000	18,766,000		
1963	16,435,000	15,737,000		
1964	13,440,000	12,777,000		
6-Year Total	82,844,000	78,651,000	82,540,800	99.6
6-Year Average	13,807,333	13,108,500	13,756,800	
Total, All Grains	1,754,679,000	1,325,497,000	1,708,630,750	97.4
6-Year Average, All Grains	292,446,500	220,916,167	284,771,791	

Source: North Dakota Agricultural Statistics, 1960, 1961, 1962, 1963, 1964.

to total production figures. They cannot be represented as being 100 per cent accurate because in some cases the entire county was not served by route of hold point inspection. Hence, the statistics given will likely be greater than actual production for the areas having access to sampling. The estimates indicate the maximum supply that would be available for sale through a cash grain market based on a six-year average of production and marketings. Other factors, however, such as truck transportation, along with the amount of to-arrive and other types of bid sales, would likely result in considerable reductions in potential supply.

Elevator Operator Attitudes

Elevator operators generally expressed a favorable attitude toward the establishment of a terminal grain market in North Dakota. Of the 156 elevator managers who responded to a question pertaining to their use of a North Dakota market, 82 per cent indicated that they would use a North Dakota terminal market facility. The most frequent reason given by operators who indicated they would not use a North Dakota market was the fear that it would detract from established markets. Lack of buyers, absence of a good location, and rail connections were also indicated. Several respondents cited such factors as lack of processing, limited outlet for grains because of the probable absence of a broad group of buyers, and the difficulty of financing the operations of a North Dakota market.

MARKET LOCATION

A section was included in the questionnaire in which elevator operators were asked to give their opinions as to what would be the best location for a North Dakota terminal market.

Respondents most frequently listed Fargo as the optimum location. Out of 130 responses to the market location section 43 cited Fargo as the optimum location, with 33 listing Grand Forks, 11 listing Jamestown, and 19 listing Minot. Enderlin, Williston, Valley City, Ashley, Devils Lake, and Wahpeton or Hankinson were also mentioned.

Because provisions must be made for storage and warehousing of grains, storage capacity must be considered when evaluating alternative market locations. Licensed storage capacity at Grand Forks totals 6,662,000 bushels. Additional storage of 655,000 bushels is provided by firms in East Grand Forks, Minnesota. The total storage capacity of 7,317,000 bushels in the Grand Forks and East Grand Forks locations is considerably greater than the amounts available at Fargo, Jamestown, or Grand Forks. A total of 5,079,000 bushels licensed storage capacity is available at Jamestown, with 3,091,000 bushels capacity in existence at Minot. Total licensed storage capacity in the Fargo, West Fargo, and Moorhead area is 4,684,000 bushels.

Potential Problems

Elevator operators were asked to indicate what potential problems would be involved in the operation of a North Dakota cash grain

market. The possible lack of buyers, lack of volume, and transportation difficulties were the major potential problems listed. Thirty-three per cent cited lack of buyers, 16 per cent mentioned lack of volume, and 13 per cent cited transportation problems.

Closely related to transportation difficulties was the frequently cited problem of obtaining a market location where grain could be received from all four directions. The market location would have to receive railway cars from all railroads operating in the state, or arrangements would have to be made for switching cars from one line to another.

Other problems mentioned were obtaining the recognition of commission firms, lack of storage and processing facilities, high cost of operation of a terminal market, and lack of a futures market. Several firms indicated that it might be difficult to provide return loads for trucks and boxcars bringing grain to the market and also cited the possible difficulty of getting grain sold in time to avoid demurrage. The lack of export facilities unless the grain was shipped to Duluth or the Twin Cities was also mentioned in several instances.

The majority of the respondents, 82 per cent, indicated that the potential supply of grain moving through the market would be adequate to justify its existence. Those who answered in the negative gave reasons, such as lack of buyers, lack of grain processing in North Dakota, lack of storage facilities, and transportation difficulties. The difficulty of obtaining a location connecting all parts of the state by rail was also mentioned. Also cited was the

increased use of direct buying and the need for terminal firms to employ a duplicate set of buyers if they were to use a North Dakota market.

DEMAND FOR SERVICES

A mail survey was taken of commission firms and processors and merchandisers in order to evaluate their attitudes regarding a cash grain market in North Dakota. Twenty-three returns were received from processors and merchandisers, with four commission firms responding.

Commission Firms

Commission firms play an important role in the marketing of grain. The commission firm is the agent or representative of the country elevator in the terminal market. Besides selling consigned grain for the elevator at the terminal market, the commission firm also relays price bids to the country elevator for grain shipments to be delivered on a to-arrive basis. In many cases the commission firm may be the elevator's best source of price information. Commission firms frequently provide operating funds to country elevators at prevailing interest rates. The commission firm will advise the elevator of the most economical method of shipment; and, when truck transportation is used, trucks will be procured for the country elevator by the commission firm. Futures trading by the country elevator is normally handled by the commission firm. Commission firms

also will provide advice regarding management problems encountered by the elevator. Because of the many services performed by the commission firm a change in current marketing institutions will require acceptance by commission firms if the innovation is to be successful.

The commission firms in the sample were generally not favorably inclined toward establishing a North Dakota grain market.

One firm indicated it would participate in such a market only on occasions when grain would command a higher price there. Other firms indicated they would not or were undecided as to using the market in selling grain consigned to them. Terminal storage facilities in Minneapolis, the presence of a futures market, and the large banks which provide financing were cited as the advantages which would be provided by continuing to operate through the Minneapolis market. Commission firms surveyed indicated that present market locations provide better access to buyers than a North Dakota facility would.

All firms indicated they did not estimate the potential participation in such a market to be adequate to justify its existence. Lack of buyers and the necessity of establishing additional offices for buying and selling were given as reasons for lack of participation. Because of these factors the Minneapolis market was not expected to decline in importance even with the establishment of another market outlet. One reply cited the reduced need for a formal market place due to present communications and the trend away from terminal markets.

Demand by Processors and Merchandisers

One section of the questionnaire sent to processors and merchandisers asked for a judgment regarding whether or not a North Dakota market would enable processors and merchandisers to secure grain stocks at a lower cost in terms of expenditures of time and effort than at present. All replies by processors and merchandisers to this question were negative.

The potential problems mentioned by processors and merchandisers included the freight rate structure, movement of grain by barge and truck, and the difficulty of obtaining a sufficiently broad representation of buyers and sellers who would participate in the market. One respondent stated that a market develops by a process of evolution and development over a period of years, with any change in marketing patterns originating within the grain trade itself.

The reaction of processors and merchandisers to the possible establishment of a market facility in North Dakota was generally unfavorable. Thirteen firms indicated they would not use such a market facility to procure grain needed for their operations, while two firms indicated little if any purchases would be made through such a market. Two firms indicated they would use such a market only if the grade and quality of grain needed were not available in the Minneapolis market. Five firms indicated they would use a North Dakota market facility. However, one firm indicating use of the market would do so only if the added cost of conducting business in an additional market were offset by lower grain prices than those prevailing in the Minneapolis and Duluth markets.

The most frequent reasons given for nonparticipation in a North Dakota market were that a broader range of supplies would be available through existing market channels, along with a general opposition to any diversion of grain from present marketing channels.

As mentioned previously, increasing amounts of grain are being sold through methods of sale other than consignment to the cash market in the Minneapolis Grain Exchange. In order to determine the factors underlying this trend, sample firms were asked to indicate the advantages these forms of purchase provide. Elimination of risk due to price changes was the most frequent reason given. By specifying a price in advance of delivery, the buyer is protected from any market price increase. Furthermore, the buyer can obtain a definite supply of the grade and quantity needed when the cash market is not supplying enough to meet market needs.

By arranging purchases which are to be delivered in a future period, excessive storage costs will be eliminated and less storage facilities will be needed. Also, country elevators prefer to dispose of grain in this manner because it protects them from losses due to price fluctuations.

Sixteen firms stated that the proportion of to-arrive and other forms of purchase used by the firms which bypass the Minneapolis Grain Exchange would remain unchanged if a terminal market facility were established in North Dakota. Two firms indicated they expected the proportion of these types of purchases to increase.

To obtain further indication of possible support for a North

Dakota terminal market facility, merchandising and processing firms were asked to indicate whether or not such a market would enable them to procure grain stocks more economically and/or conveniently than at present. Fifteen firms answered negatively, while two firms believed some cost savings and/or increased convenience in purchasing grain stocks would result. Those answering in the negative pointed out that present market locations are adequate to satisfy their needs; and, if an additional market were established, the cost of maintaining additional offices would be prohibitive in relation to any possible benefits. They also indicated the presence of ample buyers and sellers in the Minneapolis market and, hence, could see no advantage in creating an additional grain market.

Four firms listed Fargo as the optimum location, with two firms favoring Grand Forks. One of the respondents listing Fargo suggested that additional hold points be created on railroad lines other than Great Northern and Northern Pacific, listing Hankinson as one possible diversion point. One reply termed Fargo, Grand Forks, Jamestown, and Minot all equally satisfactory. A lack of terminal storage space, milling, and manufacturing industries, along with no single location connecting all railway lines, accompanied by a lack of water transportation ruled out any location according to three replies.

A section was included in the questionnaire to determine what proportion of the total grain purchased was obtained through the various procurement methods. Based on a total purchase volume of 327,585,000 bushels, 42.5 per cent was purchased through the cash market at the

Minneapolis Grain Exchange. To-arrive sales accounted for 45.9 per cent, with spot cash and direct purchases from the country elevator accounting for 7.0 and 4.6 per cent, respectively.

Firms were also asked to indicate their potential volume of participation in the market by checking one of the following three classifications: (1) large volume of purchases, (2) moderate, and (3) little or none. Fourteen firms indicated that their potential participation in the market would be little or none. One firm indicated its potential participation would be moderate to little. Another firm estimated its participation to be moderate or the same amount as its present purchases if the North Dakota market facility replaced the Minneapolis market. However, the volume of purchases was estimated to be little or none if the market competed with Minneapolis. One respondent indicated his potential use would depend on the availability of supplies. Another reply indicated that purchases would depend on the extent that grain is competitively available.

SUMMARY AND RECOMMENDATIONS

Terminal markets have developed at points where the transportation system provides sufficient flows of grain to satisfy the needs of grain processing and merchandising firms. Terminal markets establish the value of commodities through the forces of supply and demand. The essential requirement needed for a terminal market to survive is a sufficient volume of transactions to accurately value commodities. The terminal market must provide a broad outlet for commodities.

Any volume offered for sale must be disposed of. Sufficient volumes of specific grades and types of grains must be provided to satisfy the needs of buyers. Terminal markets have both an internal and external aspect. The internal aspect refers to pricing of grain at the terminal market. However, modern communication facilities allow the terminal market to influence price over a large geographic area. Prices based on terminal market prices minus transportation costs will be reflected to outlying areas through buyers who prefer to bypass the terminal market. This is the external aspect to firms which do not purchase commodities through the terminal market.

In recent years the terminal market has declined in importance as measured by terminal market receipts as a per cent of off-farm sales. Increased amounts of grain are purchased through methods of procurement which bypass the cash trading floor of the terminal market. These methods of procurement assure even flows of grain of the kind and quality needed. They enable a firm to assure supply of a grain having the grade, quality, and other market factors desired, even when the amount of these grain stocks available on the cash market is insufficient to satisfy needs of terminal buyers. It is unlikely that these advantages will cease to exist in the future; hence, it is unrealistic to expect a decline in the proportion of grains procured by these methods.

In recent years the trend has been toward increased proportions of North Dakota grain transported to market via motortruck. It is likely that this trend will continue in the future. As explained

previously, truck transportation of grain represents a reduction in the amount of grain sampled at or near the point of origin. However, grain inspection services are available to a large part of the North Dakota grain producing area.

Generally, elevator operators expressed a favorable attitude toward the establishment of a cash grain market in North Dakota. Commission firms and processors and merchandisers, however, generally viewed the establishment of a market facility as unwise and unworkable.

Bid sales (and purchases) will not likely decline as a percentage of total grain sales because of the numerous advantages they provide buyers and sellers. Hence, the proportion of grain sold by these methods would not be consigned for sale over the cash floor of a potential grain market. The amount of grain transported by truck represents a further reduction of grain available at such a market. Therefore, these trends should be carefully considered in making a judgment concerning the desirability of establishing a terminal grain market in North Dakota.

A general comment made by one operator in the country elevator survey was "Why establish a terminal market when the same service is available to me at the Grand Forks hold point?" Put in perspective, this argument deserves further consideration. Grain held at Jamestown, Grand Forks, Minot, and grain inspected at Fargo is available to prospective buyers. However, purchases by local buyers on the basis of graded samples available at the hold point have accounted

for only a small proportion of the total volume of grain inspected.

It may be feasible to attempt some refinement of existing services at present inspection points before attempting any bold change in present marketing outlets. Perhaps a daily report of the volume of grain of specific grades of grain on track at the hold point could be furnished through radio, newspaper, or some other form of communication in order to provide prospective buyers with information on the grain available. Such a service could be conducted on a fee basis. Also, present quantities of grain available could be posted at the inspection service possibly including the name of the commission firm to which each car has been consigned.

In summary, the results of this study would indicate that there is not a strong demand exhibited by the grain industry that would support the operation of a central cash grain market in the state. It would appear that adequate accessibility could be gained to grain moving out of the state through the existing hold point and inspection services. Changes in patterns of grain flow and changes in other market factors could have a significant impact on the economic aspects of grain storage, processing, and merchandising in the state. If, in the future, changing grain flow patterns place North Dakota locations in a more favorable position, the trade could likely benefit from a market facility located in the state. Increasing westward movement of North Dakota grains through westbound freight rate reductions, continued westward shifts in population distribution, and increased exports through westward ports are factors which, if

realized, will change current grain flow patterns. The resulting increase in westward movement of grain under such conditions would probably make the environment more favorable to the successful operation of a North Dakota market facility than under present conditions.