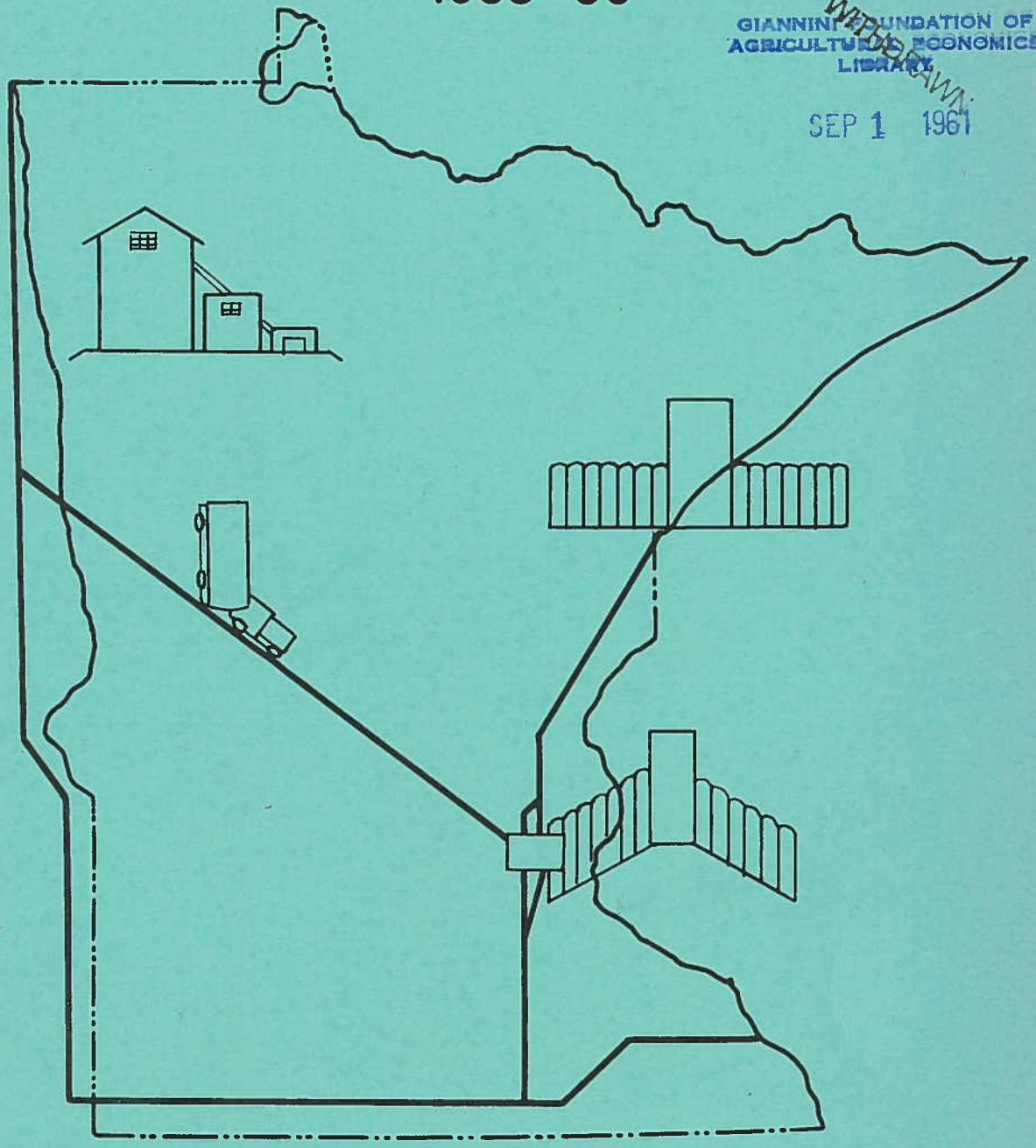
Grain - Transportation

TRUCK SHIPMENT OF GRAIN BY MINNESOTA COUNTRY ELEVATORS 1958-59



Report No. 517
Department of Agricultural Economics
Institute of Agriculture, University of Minnesota
St. Paul 1, Minnesota
July 1960

Reynold P. Dahl, John D. Hyslop, Dennis R. Keefe

TRUCK SHIPMENT OF GRAIN BY MINNESOTA COUNTRY ELEVATORS 1958-59

Reynold P. Dahl

John D. Hyslop

Dennis R. Keefe

Report No. 517

Department of Agricultural Economics

Institute of Agriculture

University of Minnesota

St. Paul 1, Minnesota

TRUCK SHIPMENT OF GRAIN BY MINNESOTA COUNTRY ELEVATORS

Reynold P. Dahl, John D. Hyslop, and Dennis R. Keefe

INTRODUCTION

Since the end of World War II many changes have occurred in grain transportation. One such change is the increased importance of motor trucks in transporting grain. Data on the magnitude and destination of truck shipments of grain have not been available. For this reason the Department of Agricultural Economics, in cooperation with other states in the North Central Region, has been studying the truck shipments of grain by country elevators during the past four years. This report contains an analysis of the truck movement of the 1958 crop.1/ It will also cover trends in truck shipment of grain in the state since 1954.

The shift to truck transportation may have an important impact on the grain trade. It affects established marketing channels and firms that were established with respect to railraod facilities and a given rail rate structure.

Scope of the Study and Source of Data

Data for this study were obtained from personal interviews with a representative sample of 76 county elevators in Minnesota. This is a 10 per cent sample as there are about 750 country elevators in the state. The sample was selected by crop reporting districts to obtain adequate coverage of the state and to facilitate the analysis of the data by areas. Within each area the elevators were stratified by type, namely, cooperative, line, and independent; and volume. Twenty-five per cent of the sample elevators were selected from those below the median volume which was 156,000 bushels. Seventy-five per cent of the sample elevators were selected from those above the median.

Information was obtained from elevators on their total purchases of corn, wheat, oats, soybeans, and barley during the period October 1, 1958 to September 30, 1959. Data on the amount of these grains that were retailed back to farmers, shipped by rail, and shipped by truck were also obtained. Information was also obtained on the amount of trucked grain that was sold at destination by the elevator and the amount sold to the trucker at the elevator. In the former case the trucker provides only the transportation service for the elevator. In the latter, he also takes title to the grain and is sometimes called a merchant trucker.

The sample data were then expanded to obtain state totals by crop reporting districts.

Truck-Rail Competition

It was not until after World War II that trucks began to offer the railroads significant competition in transporting grain. An important factor aiding the trucks in this competition was that rail rates on grain more than doubled between 1946 and 1958. Table 1 shows the interstate rail rates on grain from some

1/ For an analysis of the 1956 crop, see Reynold P. Dahl, Rollo L. Ehrich, and Richard J. Herder, Truck Shipment of Grain by Minnesota Country Elevators, Department of Agricultural Economics, University of Minnesota, Report No. 513, October 1958.

Table 1. Interstate Grain and Grain Product Rates to Minneapolis

From	WWII Level	ICC Proceeding, Date, and Rate after Increase X-148 7-1-46	X-162 1-1-47	X-166 5-6-48	X-168 9-1-49	X-175C 12-1-55	X-196A 3-7-56	X-206A 8-26-57	X-212 1/ 2-15-58	Coarse Grain 2/ A	B	Non-Transit 3/
						(cents per cwt.)						
Albert Lea	11.5	12	14	17.5	19	21.5	22.5	24.5	25	15.5	12	---
Benson	13.5	14	16	19	20.5	23	24	26	27	18	---	13
Crookston	18.5	19	22	26.5	28.5	32	33.5	36.5	37.5	34	---	28
Dodge Center	11.5	12	14	17.5	19	21.5	22.5	24.5	25	13	9.5	---
Fergus Falls	14.5	15	17.5	21	22.5	25	26.5	29	30	23.5	---	18.5
Marshall	14.5	15	17.5	21	22.5	25	26.5	29	30	21	17	---
Moorhead	17	17.5	20	24	26	29	30.5	33	34	29.5	---	25.5
New Ulm	11	11.5	13	15.5	16.5	18.5	19.5	21.5	22	14.5	11	---

1/ Standard Grain Rates which apply to whole grains and products taking grain rates effective since February 15, 1958, the date of the most recent interstate increase, X-212. These rates alternate with the special truck competitive rates shown in the next columns.

2/ Coarse Grain Rates (Column A) apply to corn, oats, sorghum grains and their products, also soybeans, as a result of a truck competitive adjustment effective August 26, 1958. The Column B rates which became effective September 25, 1959 are "inbound proportionals" applicable only when the grain or its product moves beyond Minneapolis by rail or common carrier barge, except in the case of Minneapolis & St. Louis stations such as Albert Lea and New Ulm as to which the "inbound proportional" feature was removed effective November 1, 1959. Generally speaking, the Column B coarse grain rates apply only from stations on and south of the Chicago, Milwaukee, St. Paul & Pacific line extending westward from Minneapolis through Granite Falls, Montevideo, Minnesota and Aberdeen, South Dakota.

3/ Non-Transit Rates effective April 8, 1960 apply from Great Northern, Northern Pacific and Soo stations north of the Chicago, Milwaukee, St. Paul & Pacific main line through Grainite Falls, Montevideo and Aberdeen and extending westward about halfway into North Dakota. They apply only as to wheat and rye (flaxseed 112% of the wheat rate). When such rates are used, the grain may not be milled on the movement to market (although stopping for storage is allowed) nor may the grain or its product move beyond Minneapolis or Duluth by rail.

Source: Director of Traffic, Minneapolis Grain Exchange.

representative points in Minnesota to Minneapolis and the dates that new rates became effective. For example, the World War II interstate rail rate on grain from Albert Lea to Minneapolis was 11.5 cents per cwt. After eight increases, this rate stood at 25 cents per cwt. on February 15, 1958. Information on truck rates on grain is not generally available because they are exempt from regulation and hence are not reported. Truck rates have undoubtedly increased during this period, but to a lesser extent than rail rates.

Each time rail rates increased, truck transportation became more attractive to country shippers of grain. Consequently, the volume of grain shipped by railroad declined. In an attempt to regain their traffic, the ICC granted the railroads permission to reduce rates on soybeans, corn, oats, sorghum grains, and their products in a truck competitive adjustment in the fall of 1959.

A more recent adjustment was the non-transit rates on wheat, rye, and flaxseed to Minneapolis and Duluth which were made effective April 8, 1960 (Figure 1). When such rates are used, the grain may not be milled on the movement to market (although stopping for storage is allowed) nor may the grain or its product move beyond Minneapolis or Duluth.

Increased truck and barge competition may force further adjustments on the railroad rate structure in accordance with carrier costs. The time-honored transit privilege and the rate-break bases of grain rates designed for market equalization may be under increasing pressure. Some grain industries located on the basis of the old rate structure may face difficult adjustments as these changes occur.

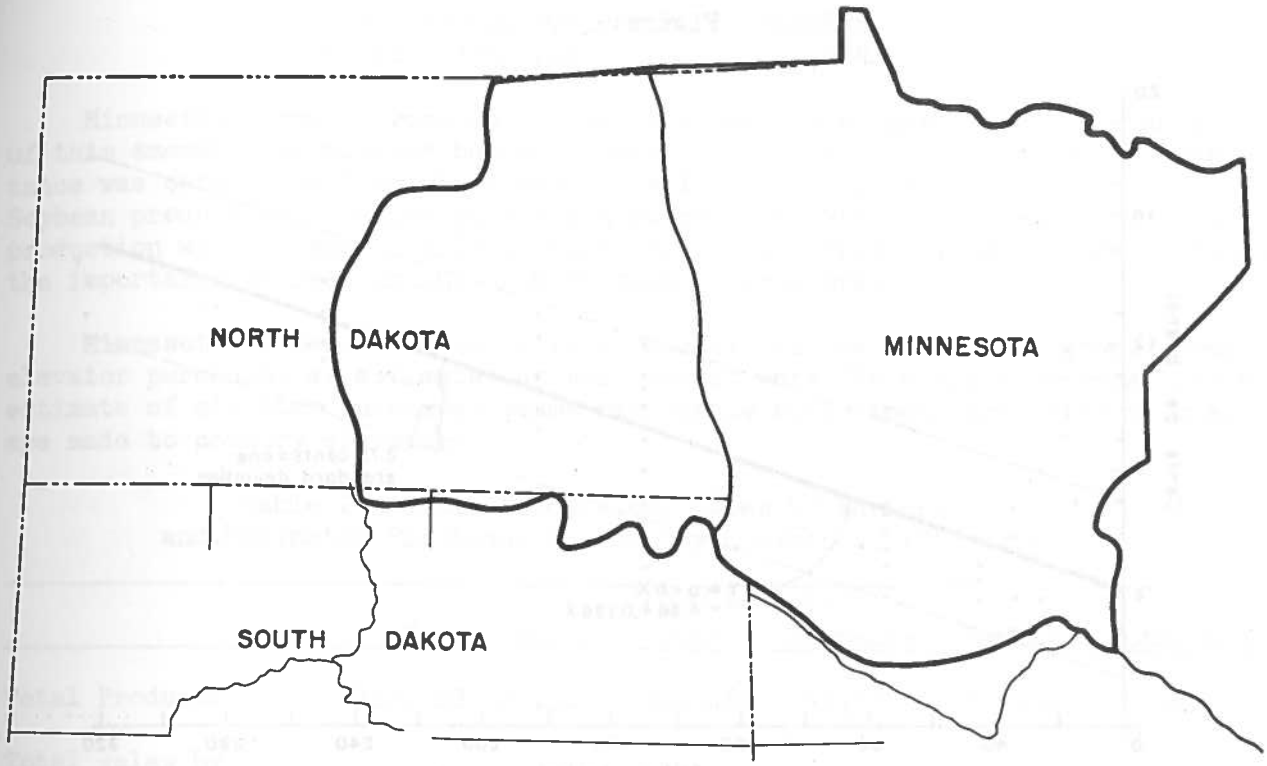


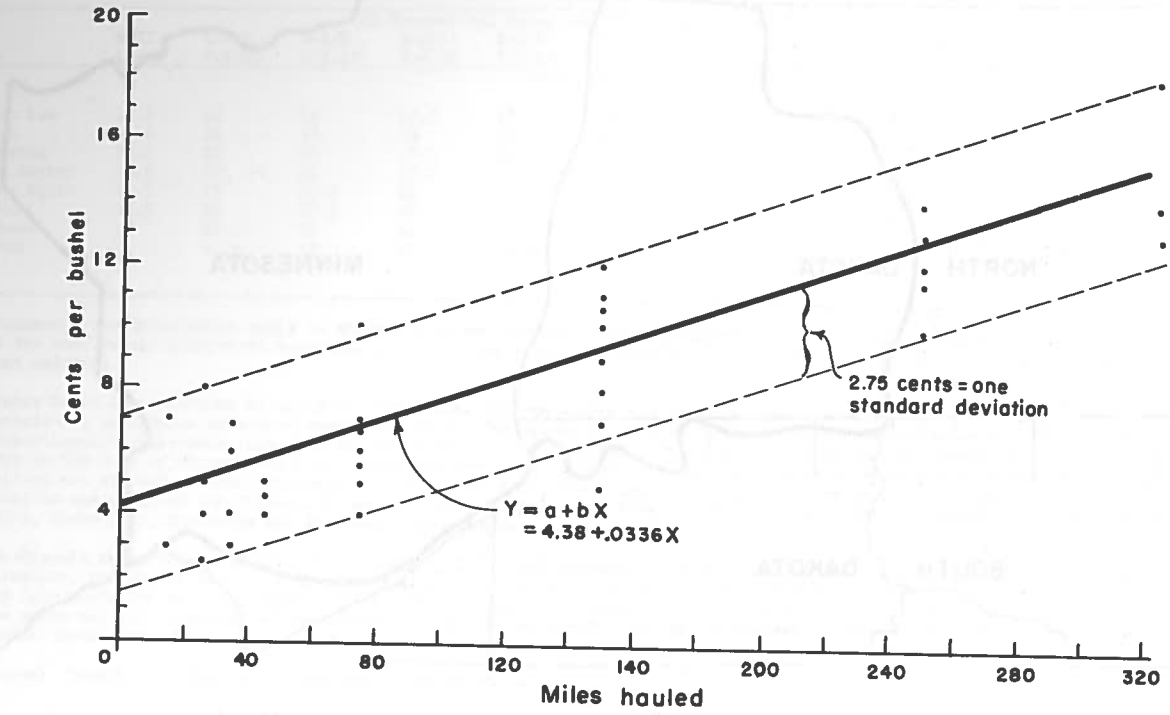
Fig. 1 Area in which Non-Transit rates were made effective on wheat, rye, and flaxseed as of April 8, 1960 (See table 1)

Although truckers have become very important in the last fifteen years as carriers of grain, there are cost considerations which may limit the amount of grain traffic they may acquire. There is reason to believe that the rate advantage which the trucking industry has is restricted in large part to shorter hauls. This stems from differences in the cost structure between it and the railroads. A high proportion of the costs incurred by truckers varies directly with distance, and therefore their rates increase substantially with the length of the haul. Railroads, on the other hand, have higher terminal but lower line costs, so their total costs do not increase as rapidly with distance. Thus, their per bushel charges, as far as they are based on cost, increase at a slower rate, giving them an advantage over longer hauls.

The relationship between trucking changes and length of haul is shown for two sets of commodities by the regression lines in figure two. These lines were fitted to the data by the method of least squares, and except for a few observations, they seem to describe the relationship reasonably well. Two-thirds of the observations fall within the areas outlined by the dotten lines.

Data on truck grain rates are not available from the carriers as they are exempt from regulations. Figure two was constructed from information supplied by country elevator operators in responding to the survey made on the movement of grain from country elevators for the 1957 crop year.

Figure 2



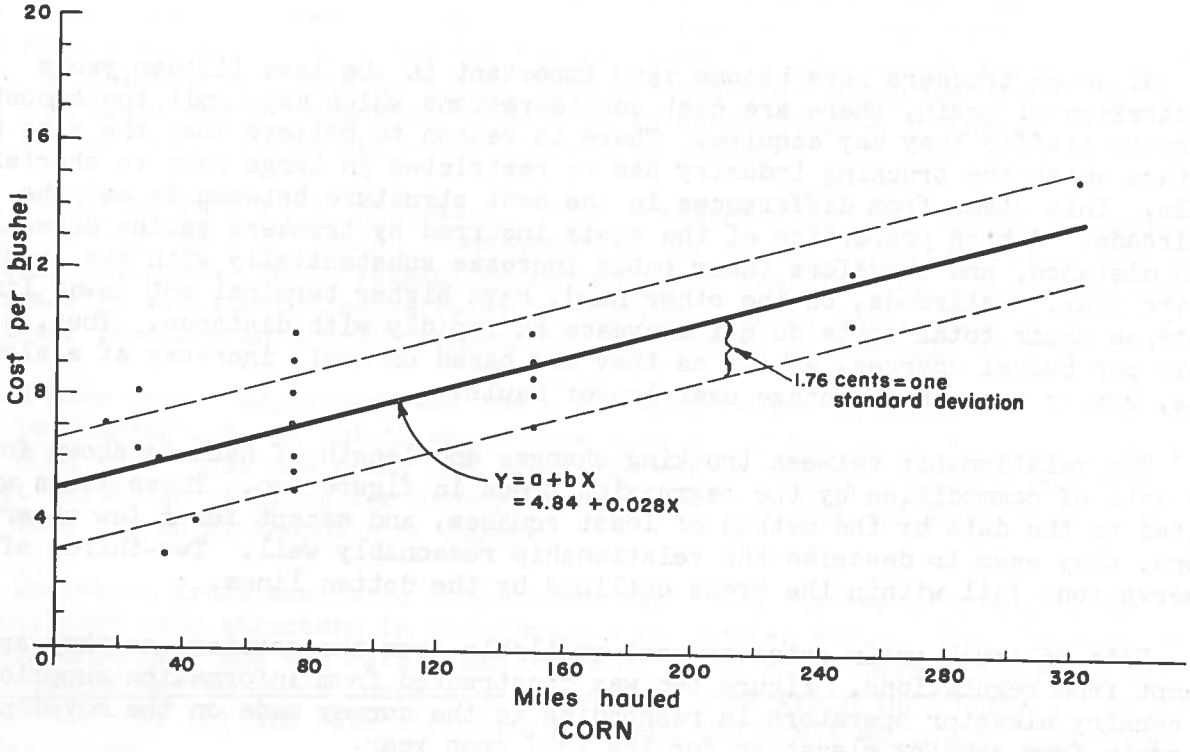


Fig. 2 Grain Trucking charges by mileage hauled with fitted regression line plus and minus one standard deviation about the line, 1957 crop year.

Source: NCM-19, Truck Transportation of Grain, Minnesota, 1957.

GRAIN PRODUCTION, SALES BY FARMERS, AND ESTIMATED PURCHASES BY ELEVATORS.

Minnesota farmers produced 634 million bushels of grain in 1958 (Table 2). Of this amount, 312 million bushels, nearly half, was corn. Second in importance was oats production which was 211 million bushels or 33 per cent of the total. Soybean production totalled 54 million bushels in 1958 while barley and wheat production were 31 and 25 million bushels, respectively. These figures indicate the importance of feed grains in Minnesota agriculture.

Minnesota farmers sold 249 million bushels of the 1958 grain crop. Country elevator purchases as estimated by this survey were 266 million bushels. This estimate of elevator purchases seems reasonable since most farm sales of grain are made to country elevators.

Table 2. Grain Production, Sales by Farmers, and Estimated Purchases by Country Elevators, 1958 Crop

	(000 bushels)					
	Corn	Wheat	Oats	Soybeans	Barley	Total Grain
Total Produced *	312,448	25,345	211,464	53,535	30,960	634,152
Total sales by farmers *	88,575	23,631	59,210	51,731	26,006	249,153
Percent sales of production	28.3	93.2	28.0	95.9	84.0	39.3
Total purchased by country elevators October 1, 1958 to September 30, 1959	124,476	20,860	53,698	51,620	15,488	266,142

* Preliminary U.S.D.A. estimates.

Source: U.S.D.A. Agricultural Marketing Service, Crop Reporting Board, Field and Seed Crops: Production, Farm Use, Sales, Value Cr. Pr. L (1959).

ELEVATOR GRAIN SALES AND SHIPMENTS

Minnesota country elevators have two principal outlets for grains, namely, local sales and sales through other markets.

Of the 266 million bushels of grain purchased by country elevators during the period under study, 16 per cent was retailed back to farmers. Most of remainder was shipped to markets by truck or rail. Fifty-three per cent of the elevator purchases were shipped by rail, while 30 per cent were shipped by truck. Figure 3 shows that the proportion of local sales and other market sales varies among individual grains. For example, nearly one-fourth of the total corn and oats purchased was retailed back to farmers.

Methods of grain trnsportation vary within the state as does the pattern of production of different grains. Table 1 in the Appendix shows elevator purchases, method of sale, and destination of trucked grain by crop reporting district.

In Crop Reporting District 1, in northwestern Minnesota, elevators purchased 47 million bushels of grain. Oats, wheat, and barley were the most important. Nearly three-quarters of the grain purchased, 34 million bushels, was shipped by rail, and 12 million bushels went by truck. The railroads carried 77 per cent of the wheat, 67 per cent of the oats, and 80 per cent of the barley. Oats accounted for more truck volume than other grains with 7 million bushels.

Crop Reporting District 4, in west central Minnesota, enters the northern border of the corn belt. Country elevators in this district purchased 48 million bushels of grain. Corn, soybeans, and oats were the most important grains. As might be expected, the portion which was sold back to farmers becomes more important. Seventeen per cent of purchases were retailed to farmers. Rail shipments were relatively less important than in District 1, comprising 43 per cent of purchases. Thirty per cent of purchases were shipped by truck. The nine million bushels of corn comprised 63 per cent of all truck shipments and 46 per cent of the corn bought by country elevators. Soybeans were the next most important crop to District 4 elevators. Of the 14 million bushels purchased, 7 million were shipped by rail and 3 million by truck.

Central Minnesota's Crop Reporting District 5 had elevator purchases of 32 million bushels. Over 80 per cent of the grain was corn and soybeans. Twenty per cent of the grain bought by country elevators was retailed to farms, 62 per cent was shipped by rail, and 18 per cent was trucked. Corn made up 76 per cent of the 6 million bushels retailed to farmers and 48 per cent of the rail shipments. Sixty-two per cent of the 6 million bushels shipped by truck was soybeans, but this was only 37 per cent of the 10 million bushels purchased. The rest went by rail.

The 12 counties in east central Minnesota comprising Crop Reporting District 6 were relatively unimportant to Minnesota totals. Only 431 thousand bushels of grain were purchased by elevators in this district. Over half of this was soybeans. Elevators sold 165 thousand bushels back to farmers--all oats and corn. Forty-one thousand bushels of soybeans and wheat were shipped by rail; and 224 thousand--all soybeans--were shipped by truck.

In the Southwestern Crop Reporting District 7 country elevators purchased 60 million bushels of grain. Corn was far and away the most important grain in this District, making up two-thirds of elevator purchases. Fifty per cent of grain purchases was shipped by rail and 28 per cent by truck. Twenty-two per cent was retailed to farmers. Corn, again, was the most important in each category. It comprised 75 per cent of the 13 million bushels retailed to farmers, 59 per cent of the 30 million bushels shipped by rail, and 75 per cent of the 17 million sent by trucks. Eighty-eight per cent of the 9 million bushels of soybeans purchased was shipped by rail.

Country elevator purchases of the five grains amounted to 60 million bushels in the southern Crop Reporting District 8. Corn continued to make up the largest portion with 39 million bushels, while soybeans, again, were second with 13 million. Rail shipments accounted for most of the grain bought by elevators. Fifty-one per cent was shipped in this manner. Retailing to farmers accounted for 14 per cent, and 37 per cent was sent by truck. Corn was the leading grain in each method of movement; oats was second in sales to farmers; and soybeans were second in rail and truck shipments.

In the Southeast, Crop Reporting District 9, corn, soybeans, and oats totaled over 95 per cent of all grain purchases of 19 million bushels. In this district truck shipment becomes more important, accounting for the movement of 53 per cent of grain purchased. Twenty-five per cent was shipped by rail, and 21 per cent was retailed to farmers. Corn made up 62 per cent of the 4 million bushels retailed to farmers and 44 per cent of truck shipments totaling 10 million bushels. Soybeans were second in truck shipments with 4 million bushels. The 2 million bushels of oats shipped by rail were 36 per cent of all grains moved in that manner.

Figure 3

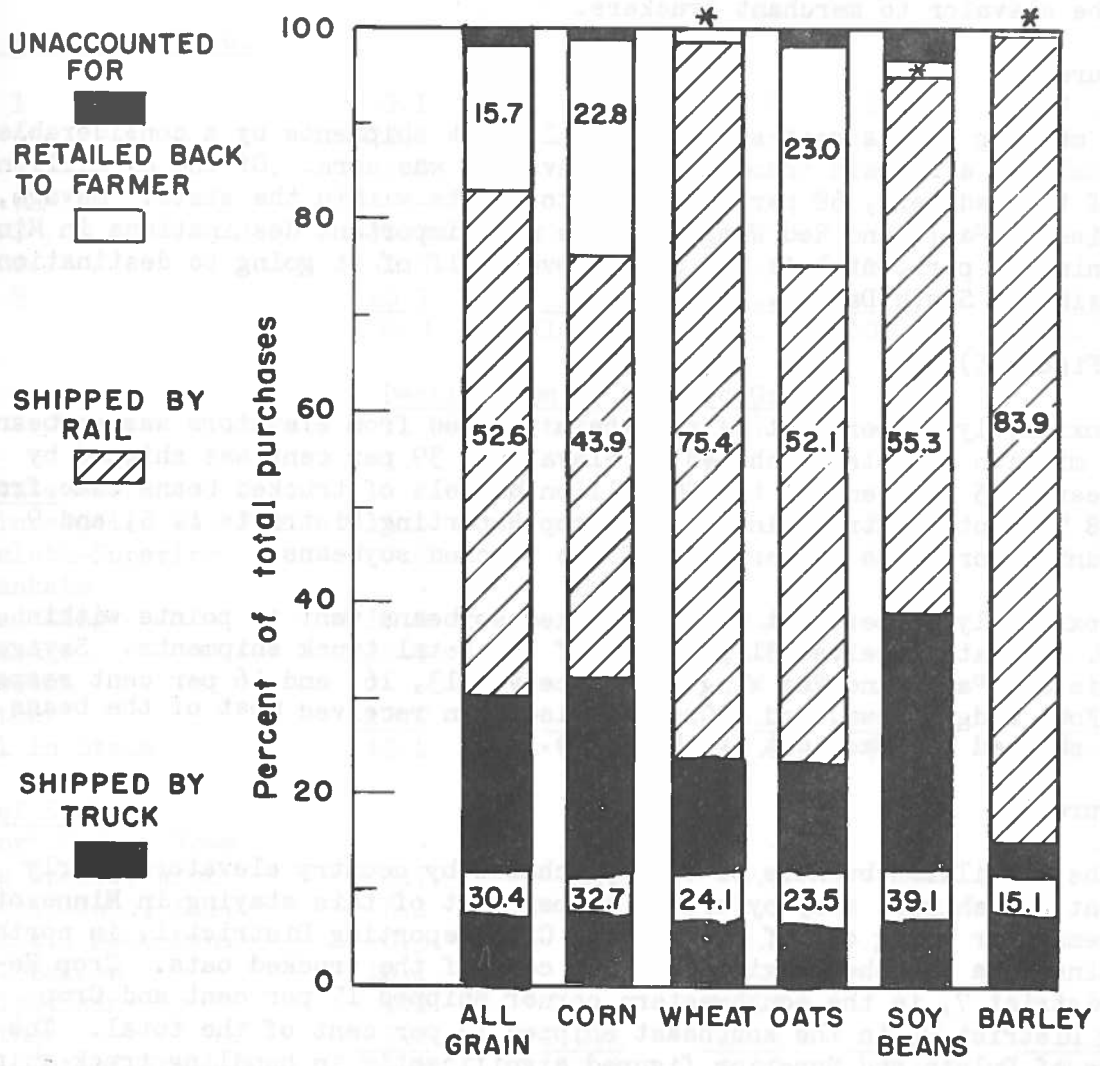


Fig. 3 Method of sale of grain from Minnesota country elevators 1958 Crop

* less than 3 %

TRUCK SHIPMENTS OF GRAIN

As shown in Table 3, 81 million bushels, 30 per cent of the total grain purchased by country elevators during the period October 1, 1958 to September 30, 1959, were shipped to primary destinations by truck. Two-thirds of the truck shipments originated in Crop Reporting Districts 4, 7, and 8. Three-fourths of the trucked grain went to points within the state. Savage received 22 per cent of truck shipments, Minneapolis and St. Paul received 17 per cent, while Duluth-Superior and Red Wing each received 10 per cent.

Over 70 per cent of the trucked grain, 59 million bushels, was sold by the elevator at destination. The rest of the trucked grain, 22 million bushels, was sold at the elevator to merchant truckers.

Corn (Figure 4)

Corn made up the largest share of total truck shipments by a considerable margin. Half of all grain trucked from elevators was corn. Of the 41 million bushels of trucked corn, 68 per cent went to points within the state. Savage, Minneapolis-St. Paul, and Red Wing were the most important destinations in Minnesota. The remaining 32 per cent left the state, over half of it going to destinations in Wisconsin and South Dakota.

Soybeans(Figure 5)

Approximately 25 per cent of all grain trucked from elevators was soybeans. Of the 52 million bushels purchased by elevators, 39 per cent was shipped by truck. Nearly 35 per cent of the 20 million bushels of trucked beans came from District 8 in south central Minnesota. Crop Reporting Districts 4, 5, and 9 each accounted for 16 to 19 per cent of the trucked soybeans.

Approximately 84 per cent of the trucked soybeans went to points within the state. Mankato received 31 per cent of the total truck shipments. Savage, Minneapolis-St. Paul, and Red Wing each received 13, 16, and 16 per cent respectively. Fort Dodge, Iowa, and LaCrosse, Wisconsin received most of the beans that were shipped by truck out of the state.

Oats (Figure 6)

Of the 54 million bushels of oats purchased by country elevators nearly 24 per cent was shipped away by truck, 69 per cent of this staying in Minnesota and the remainder going out of the state. Crop Reporting District 1, in northwestern Minnesota was the origin of 53 per cent of the trucked oats. Crop Reporting District 7, in the southwestern corner shipped 17 per cent and Crop Reporting District 9, in the southeast shipped 12 per cent of the total. The Twin Ports of Duluth and Superior figured significantly in handling truck shipments of oats, receiving 41 per cent of the total truck shipments. Savage received 13 per cent and Minneapolis-St. Paul, 9 per cent. Crop Reporting District 1 sent 76 per cent of its truck shipments of oats to Duluth-Superior. Out of state shipments were widely scattered, with Iowa and Wisconsin being most important.

Table 3. Total Grain Moved by Trucks from Country Elevators, Source and Destination, Minnesota, 1958 Crop

	Total Grain Moved by Truck					
	Corn	Soybeans	Oats	Wheat	Barley	Total
(thousand bushels)	40,685	20,208	12,628	5,027	2,335	80,884
	Source of Trucked Grain (% of total trucked)					
Crop Reporting Dist.						
1	0.1	2.8	52.9	49.4	87.4	14.6
4	22,2	16.2	9.6	13.3	9.7	17.8
5	4.0	17.6	0.7	8.4	0.5	7.1
6	-	1.1	-	-	-	0.3
7	30.7	8.2	16.5	8.1	2.3	20.6
8	32.3	34.6	7.9	19.1	-	27.3
9	10.7	19.5	12.4	1.7	0.1	12.3
	100.0	100.0	100.0	100.0	100.0	100.0
	Destination of Trucked Grain (% of total trucked)					
In State						
Minneapolis-St. Paul	15.1	15.6	8.8	29.1	88.0	17.2
Duluth-Superior	0.2	0.6	40.9	47.0	0.8	9.6
Mankato	-	30.9	-	4.5	-	8.0
Red Wing	10.8	16.4	0.6	-	-	9.6
Savage	32.3	13.2	13.5	7.8	1.3	22.2
Dawson	-	4.1	-	-	-	1.0
Other	10.0	3.6	5.2	9.2	9.7	7.6
Total in State	68.4	84.4	69.0	97.6	99.8	75.2
Out of State						
Fort Dodge, Iowa	-	8.2	-	-	-	2.0
La Crosse, Wisc.	3.7	3.0	6.0	-	-	3.5
Iowa, Neb., Ill.	6.1	2.2	7.2	-	-	4.8
Okla., Mo., Kan.	0.3	-	2.6	-	-	0.5
S. Dakota	10.1	-	0.5	-	-	5.2
Wisconsin	4.2	-	2.2	-	-	2.5
Other	7.2	2.2	12.5	2.4	0.2	6.3
Total Out of State	31.6	15.6	31.0	2.4	0.2	24.8
	100.0	100.0	100.0	100.0	100.0	100.0

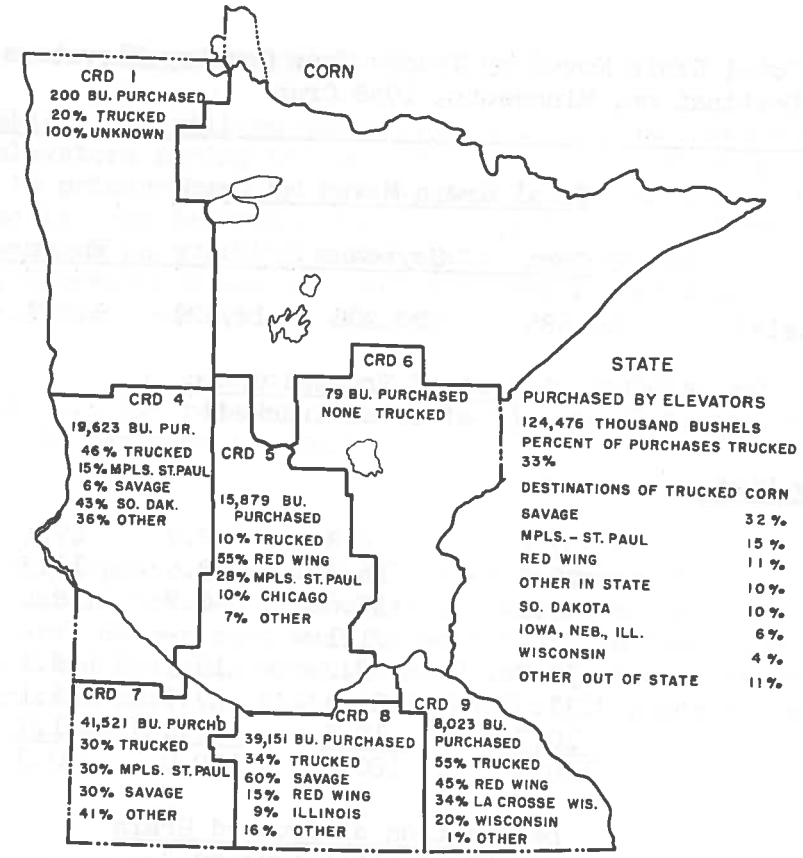


Fig. 4. Total corn purchased by country elevators, percent of purchases trucked, and destinations of trucked corn by CROP REPORTING DISTRICTS in MINNESOTA, 1958 Crop.

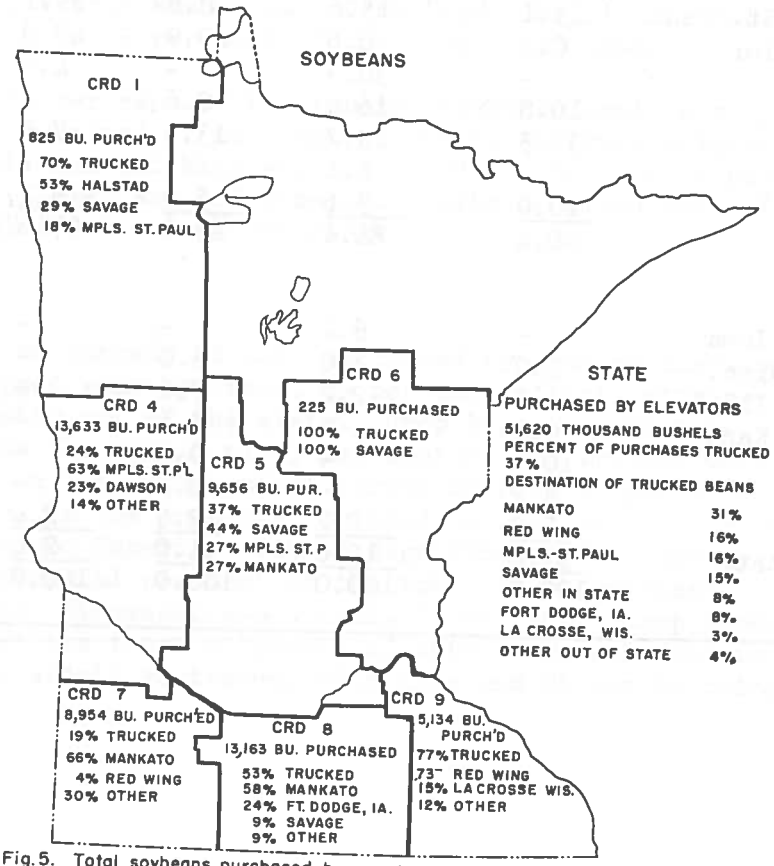


Fig. 5. Total soybeans purchased by country elevators, percent of purchases trucked and destinations of trucked soybeans by CROP REPORTING DISTRICTS in MINNESOTA. 1958 crop.

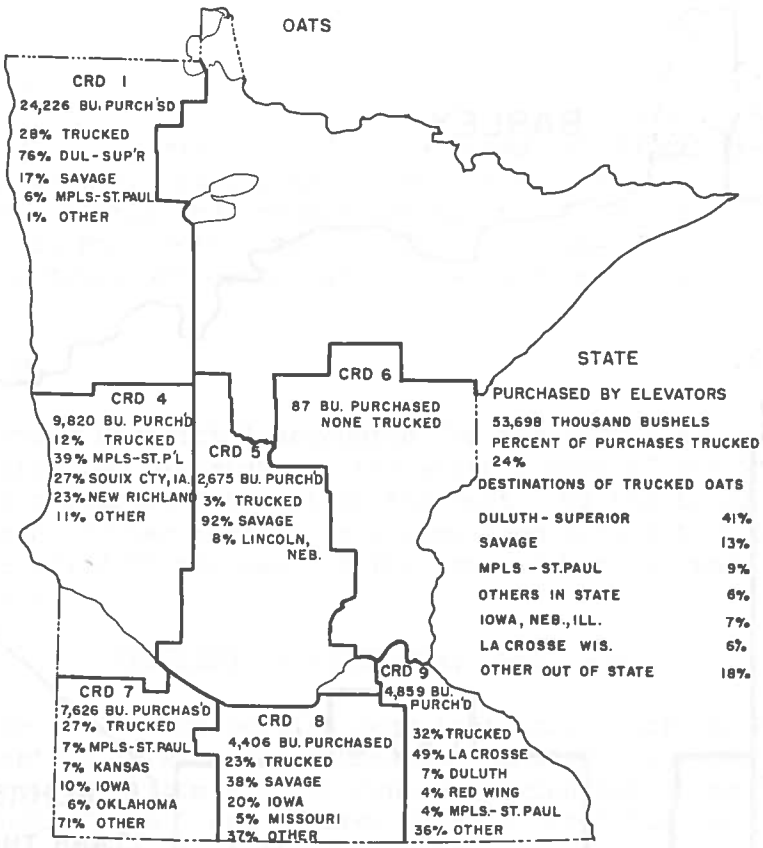


Fig. 6. Total oats purchased by country elevators, percent of purchases trucked, and destinations of trucked oats by CROP REPORTING DISTRICTS in MINNESOTA, 1958 crop.

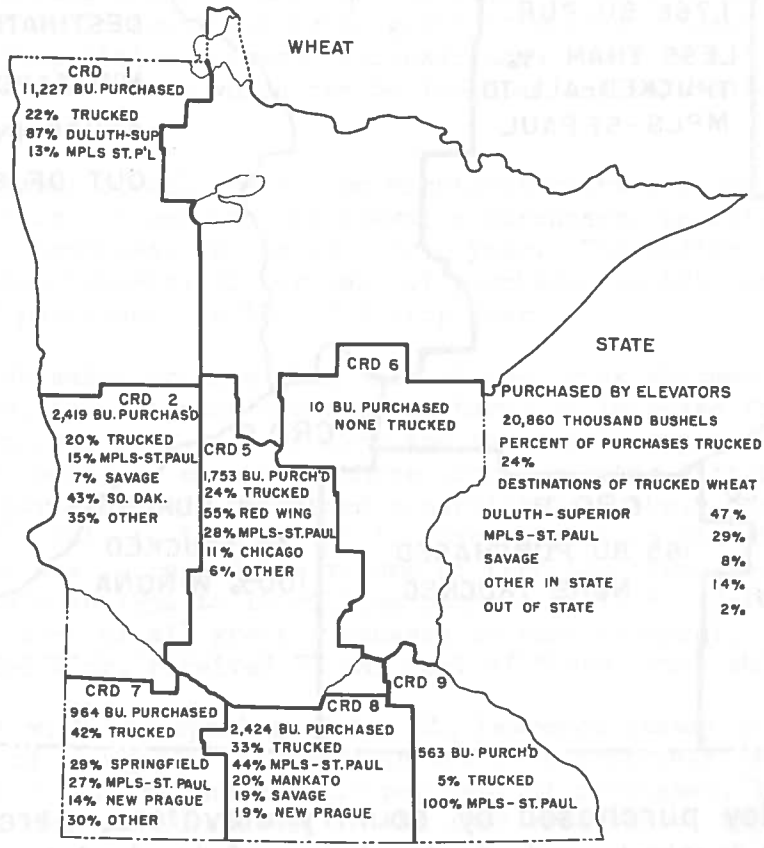


Fig. 7. Total wheat purchased by country elevators, percent of purchases trucked, and destinations of trucked wheat by CROP REPORTING DISTRICTS in MINNESOTA, 1958 Crop.

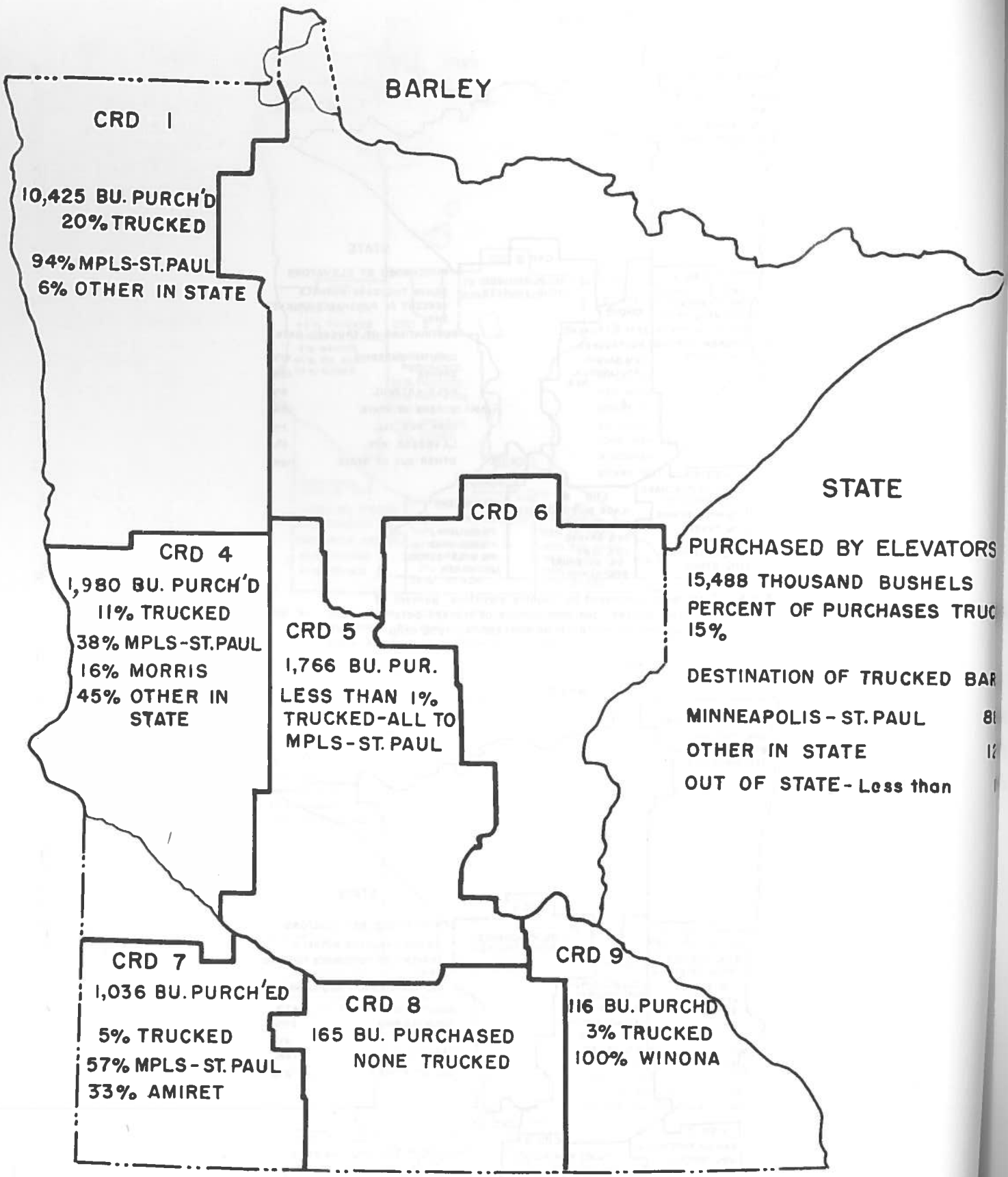


Fig. 8. Total barley purchased by country elevators, percent of purchases trucked, and destinations of trucked barley by CROP REPORTING DISTRICTS in MINNESOTA, 1958 Crop.

Wheat (Figure 7)

Crop Reporting Districts 1 and 4 accounted for 15 million of the total 21 million bushels of wheat purchased by country elevators in 1958. Truckers handled 24 per cent of this and transported all but 2 per cent of the truck shipments to points in Minnesota. As with oats, Duluth-Superior received a large portion of these truck shipments, 47 per cent; Minneapolis-St. Paul received 29 per cent.

Barley (Figure 8)

Crop Reporting District 1 accounted for two-thirds of the total barley purchases. The other two Districts in the western part of the state, 4 and 7, along with District 5 accounted for most of the rest. Of the total purchases, 15 per cent were trucked; 97 per cent of this came from Districts 1 and 4. Minneapolis and St. Paul received 88 per cent of the trucked barley, and less than 1 per cent went out of state.

TRUCKING IN MINNESOTA, 1954-1958

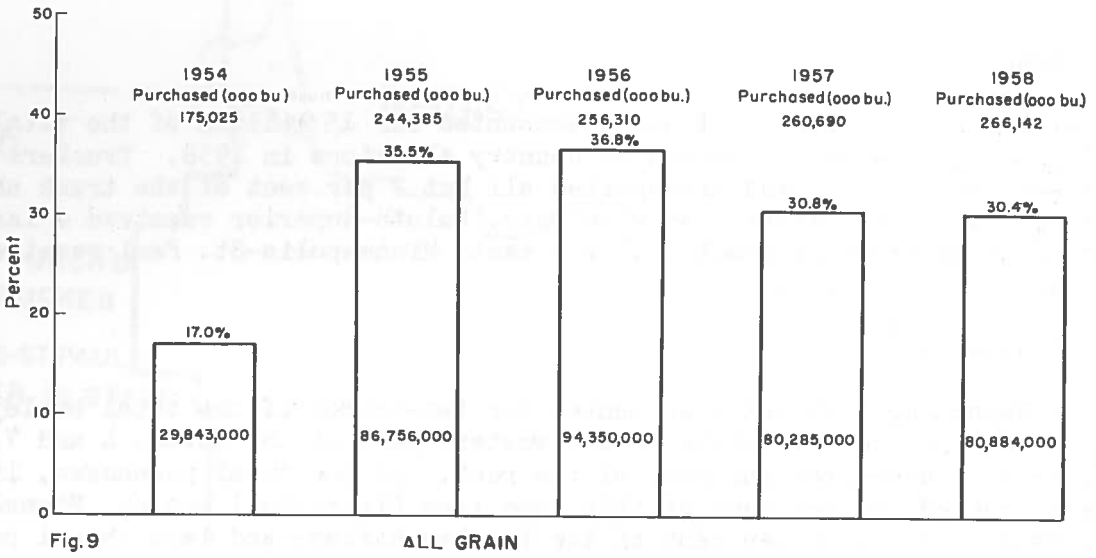
This is the fourth consecutive year that this study has been made. Estimates of truck shipments of grain from Minnesota country elevators are also available for the 1954 crop year from a north central region marketing study made on grain storage. Appendix Table 2 and Figures 9 and 10 indicate how the data for this five-year period compare by individual grains.

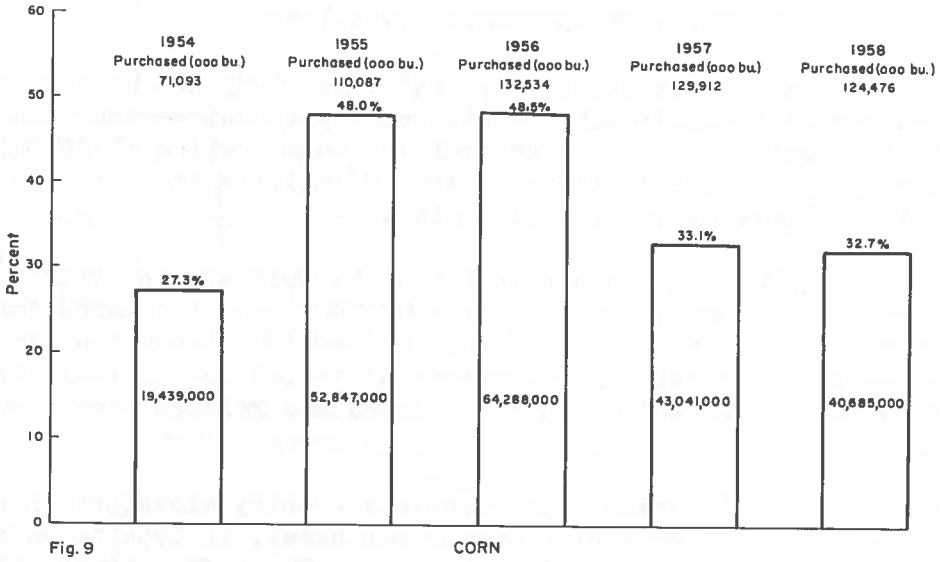
The study has made it quite apparent that because of the dynamic competition between the trucking industry and the railroad, no line of demarcation can be drawn yet which would apportion total grain shipments between the two in any regular ratio. Competition between railroads and trucks is difficult to analyze, yet there are a few things which can be isolated and related when the data are compared.

Truck movement of all grain from Minnesota country elevators increased from 30 million bushels, 17 per cent of elevator purchases, in 1954 to 94 million bushels, 37 per cent of purchases, in the 1956 crop year. Thereafter truck shipments dropped to 80 million bushels, 31 per cent of purchases in 1957 and to 81 million bushels, 30 per cent of purchases, in the 1958 crop year.

Corn, which makes up more than half of the truck shipments in each of the five crop years, follows much the same pattern--an increase from a fairly small truck volume in 1954 to a peak in 1956 and then declining in the 1957 and 1958 crop years. As would be expected, those crop reporting districts in which corn is the most important grain purchased generally have their peaks during that same 1955-56 period. This is true except for Crop Reporting District 9 in southeast Minnesota which has increased its volume of trucking throughout this period from 3 million bushels in 1954 to 10 million bushels in 1958. In the latter year trucks handled 53 per cent of all grain purchased in that district. Two river ports, LaCrosse and Red Wing, received 77 per cent of these truck shipments.

Coincident with the opening of the St. Lawrence Seaway in the summer of 1959, trucking of all grain increased in the 1958 crop year from Crop Reporting District 1 from 5 million bushels, 15 per cent of purchases, in 1957 to 12 million bushels, 25 per cent of purchases, in the 1958 crop year. Generally, truck shipments





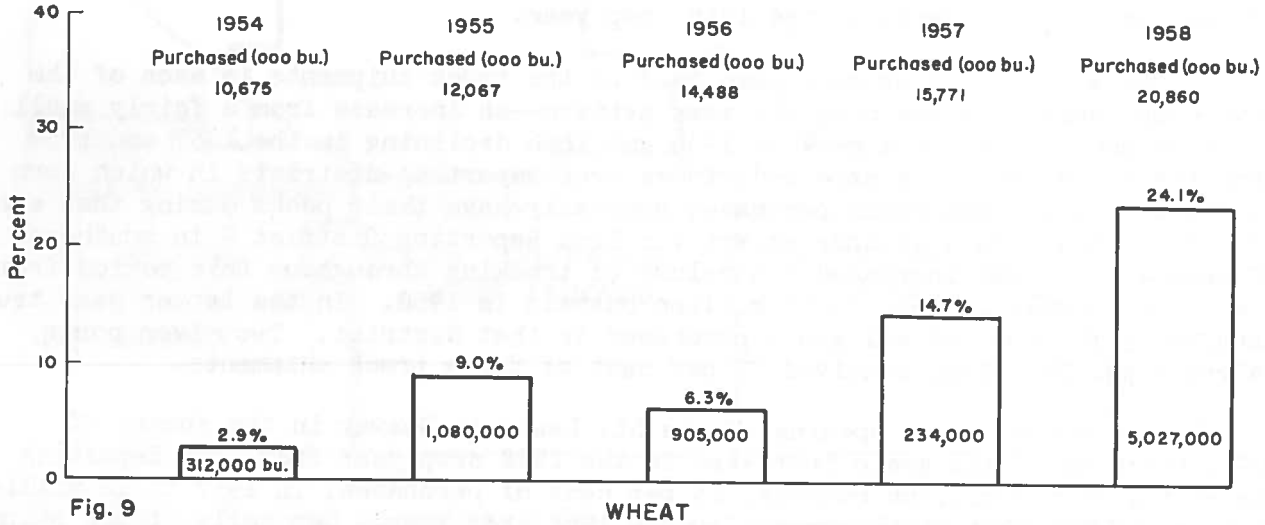


Fig. 9 Annual amounts trucked, 1954 -- 1958, as percents of total purchases by country elevators, state totals.

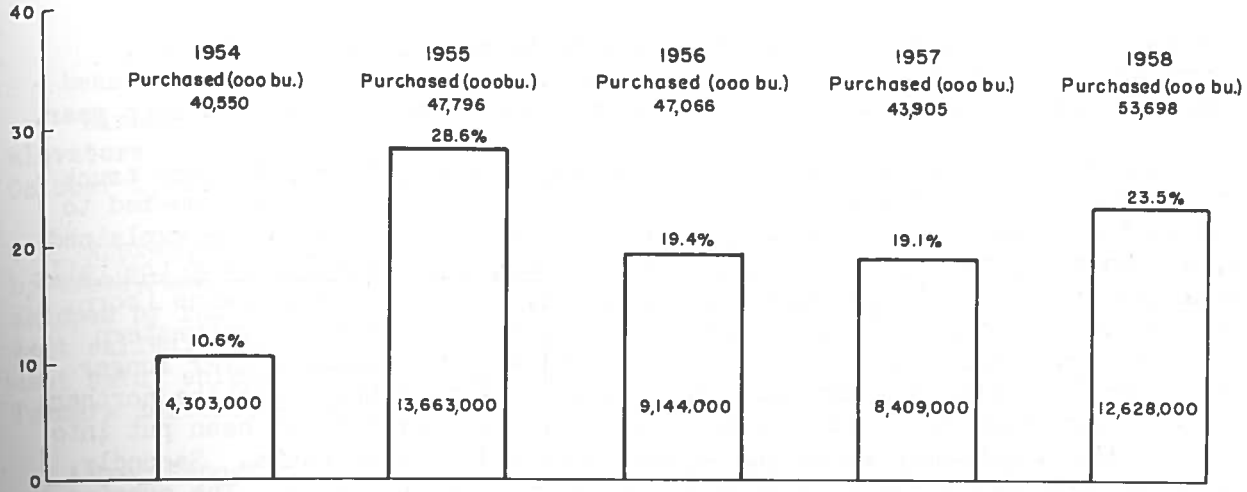


Fig. 10 OATS

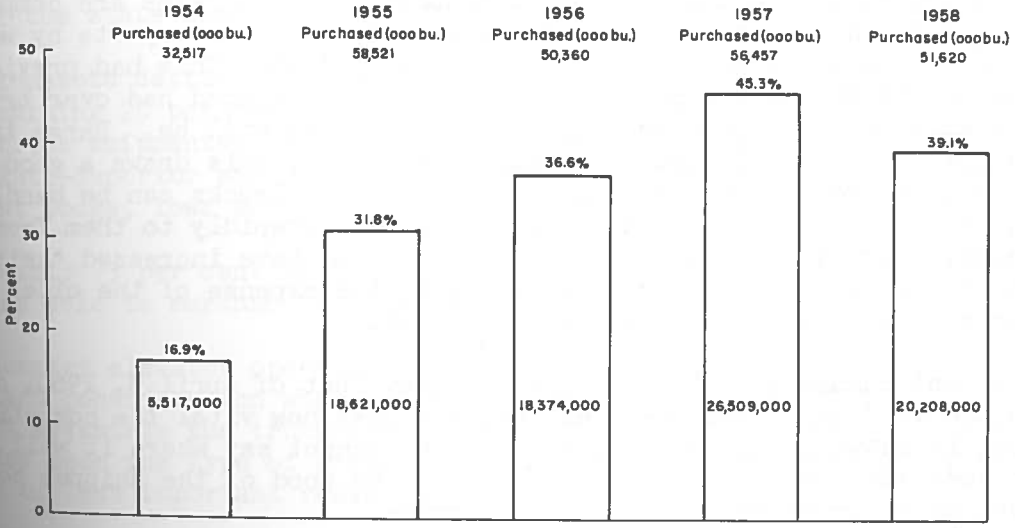


Fig. 10 SOYBEANS

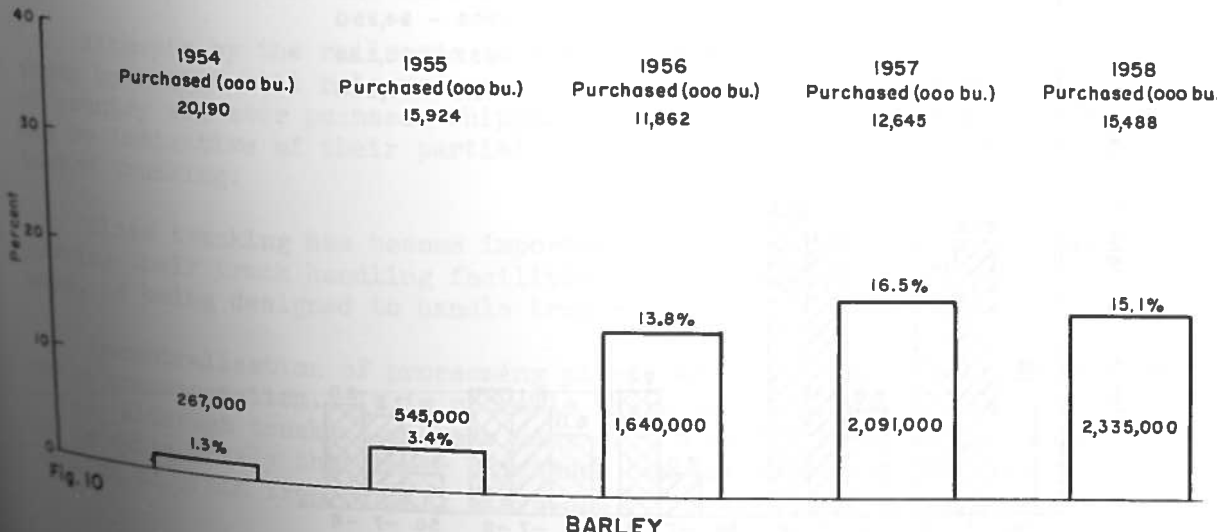


Fig. 10 BARLEY

Fig. 10 Annual amounts trucked, 1954 -- 1958, as percents of total purchases by country elevators, state totals.

of the three most important grains in that district, wheat, oats and barley, showed similar absolute increases. Truck shipments to Duluth-Superior increased from 3 per cent of all grain trucked in 1957 to 10 per cent in the 1958 crop year.

Crop Reporting Districts 1 and 9 were the only ones to increase their truck shipments in the 1958 crop year. As was mentioned earlier, all others seemed to have reached their peaks at an earlier period. In general, this can be explained in part, at least, by two things. First, the increased competition from the railroad resulting from the rate decrease on August 26, 1958 on coarse grains (corn, oats and soybeans) proved to be most important to truckers in the southwestern part of the state. This seemed to affect truckers who were hauling over longer distances (from 150 miles up) and encouraged them to move either into the northern area, where no railroad rate reductions on wheat and barley had yet been put into effect, or to the southeast, where there were more and shorter hauls. Secondly, the constantly increasing use of waterways has encouraged trucking. The opening of the Duluth Seaway and the installation of truck handling facilities there in the summer of 1959 must be considered. Because outbound proportionals and transit balances are available only on continued rail shipments, truck rates are competitive with the local inbound rail rates if grain is to leave lake ports by water. The rail advantage of transit and proportionals is thus lost. This had previously been considered one of the most important advantages the railroad had over trucking. Further studies will indicate just how important the Seaway will be. Barge traffic on the Mississippi River has also been increasing steadily; this draws a good deal of trucked grain from the southeastern part of the state. Trucks can be handled conveniently at these ports and can haul very cheaply and rapidly to them from shorter distances. Figure 11 shows how these water ports have increased their truck receipts in the last three years, seemingly at the expense of the older more established market system at Minneapolis and St. Paul.

The most recent change in railroad rate charges, that of April 8, 1960, does not show up in the 1958 crop year but does indicate just how vital the competitive maneuvering is between the two industries. One cannot say where it will end except that it does seem certain that it will be to the good of the shipper both in the introduction of lower rates and better service.

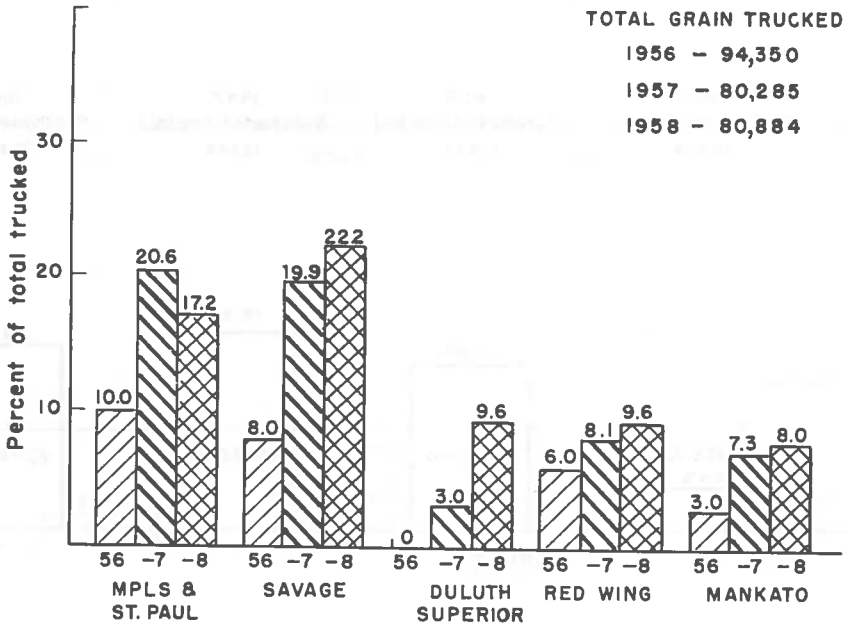


Fig. 11 Annual amounts of all grains trucked to major Minnesota destinations from Minnesota country elevators, 1956-58 Crops.

SUMMARY AND CONCLUSIONS

Minnesota farmers produced 634 million bushels of grain in 1958. Country elevators in the state purchased an estimated 266 million bushels of grain from October 1, 1958 through September 30, 1959.

Approximately 53 per cent of these purchases was shipped by rail, 30 per cent by truck, and 16 per cent was sold back to farmers. The most important grains shipped by rail were wheat, 75 per cent of which was railed, and barley, 84 per cent railed. The most important grains handled by trucks were corn, with 33 per cent being shipped by truck, and soybeans 39 per cent trucked. Sales back to farmers consisted almost entirely of corn and oats.

Crop Reporting District 8 was the origin of 27 per cent of all grains handled by trucks; approximately 21 per cent came from Crop Reporting District 7; 18 per cent from 4; 15 per cent from 1; and 12 per cent from 9. In absolute amounts these figures indicate the relative importance of trucking in the south and western part of the state where corn and soybeans are produced in greatest amounts.

Minnesota destinations received 75 per cent of the grains shipped by trucks; the remaining 25 per cent left the state. Savage received the largest share of total truck shipments, 22 per cent; Minneapolis and St. Paul received 17 per cent; and Duluth-Superior and Red Wing received 10 per cent each. La Crosse, Wisconsin and Fort Dodge, Iowa were the most important out of state truck destinations.

Nearly 73 per cent of the trucked grain was sold at its destination; 27 per cent was sold to merchant truckers.

Country elevator operators singled out comparative rates as being the most important consideration when choosing between methods of shipment. This was the biggest advantage the truckes had--at least on shorter hauls. This choice also depended upon the type of grain, and how far it was being shipped, as well as a number of less important reasons.

Although conclusive implications are difficult to derive from a survey of this nature, a few of the more evident changes may be noted.

Attempts by the railroads to regain traffic lost to trucks since 1946 are shown by recent rail rate reductions. The very slight decrease in the percentage of country elevator puchases shipped by truck in the 1958 crop year from 1957 may be indicative of their partial success or at least a slowdown in the trend toward trucking.

Since trucking has become important, however, existing terminals are improving their truck handling facilities. New construction, particularly on waterways, is being designed to handle trucks.

Decentralization of processing plants was made possible by development of motor transportation. It is probable there is a circular relationship involved here. Although trucks have made many of the recent processing facilities possible, it is quite likely that their existence has increased the use of trucks in the hauling of grain from country elevators.

APPENDIX

Table 1. Grain Purchases, Method of Sale, and Destination of Trucked Portion. Minnesota, 1958 Crop Year, by Crop Reporting District.
State Summary

1) Grain Purchased	2) Retailed Back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	124,476	28,402	22.8	54,628	43.9	40,685	32.7	22,082	27.2	58,954	72.8
Wheat	20,860	58	0.3	15,738	75.4	5,027	24.1				
Oats	53,698	12,371	23.0	27,979	52.1	12,628	23.5				
Soybeans	51,620	559	1.1	28,524	55.3	20,208	39.1				
Barley	15,488	366	2.4	12,995	83.9	2,336	15.1				
Total	266,143	41,756	15.7	139,864	52.6	80,884	30.4				

4c) Destination of Trucked Grain

Destination in State	Corn 000 bu.	% 3/	Wheat 000 bu.	% 3/	Oats 000 bu.	% 3/	Soybeans 000 bu.	% 3/	Barley 000 bu.	% 3/	Total Grain 000 bu.	% 3/
Minneapolis-St. Paul	6,134	15.1	1,462	29.1	1,107	8.8	3,164	15.6	2,054	88.0	13,921	17.2
Duluth-Superior	75	0.2	2,364	47.0	5,163	40.9	120	0.6	18	0.8	7,740	9.6
Mankato			224	4.5			6,241	30.9			6,465	8.0
Red Wing	4,394	10.8			81	0.6	3,307	16.4			7,782	9.6
Savage	13,136	32.3	394	7.8	1,701	13.5	2,665	13.2	31	1.3	17,927	22.2
Dawson							827	4.1			827	1.0
Other	4,084	10.0	460	9.2	656	5.2	730	3.6	227	9.7	6,157	7.6
Total In State	27,823	68.4%	4,904	97.6%	8,708	69.0%	17,054	84.4%	2,330	99.8%	60,819	75.2%

Table 1. State Summary (Cont.)
4c)

Out of State:	Corn 000 bu.	% 3/	Wheat 000 bu.	% 3/	Oats 000 bu.	% 3/	Soybeans 000 bu.	% 3/	Barley 000 bu.	% 3/	Total Grain 000 bu.	% 3/
Fort Dodge, Iowa							1,658	8.2			1,658	2.0
La Crosse, Wisc.	1,503	3.7			759	6.0	607	3.0			2,869	3.5
Iowa, Neb., Ill.	2,495	6.1			906	7.2	448	2.2			3,849	4.8
Okla., Mo., Kan.	107	0.3			323	2.6					430	0.5
So. Dakota	4,120	10.1			65	0.5					4,185	5.2
Wisconsin	1,713	4.2			280	2.2					1,993	2.5
Other	2,925	7.2	123	2.4	1,587	12.5	441	2.2	5	0.2	5,081	6.3
Total Out of State	12,863	31.6%	123	2.4%	3,920	31.0%	3,154	15.6%	5	0.2%	20,065	24.8%

1/ As % of total grain purchased.

2/ Estimates as % of sum of grain sold at elevator and at destination.

3/ As % of total trucked grain.

4/ Less than 0.1%.

Table 1 (Cont.)

Table 1 (Cont.)
District 1 - Summary

1) Grain Purchased		2) Retailed back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	200	160	80.1	0	0.0	40	19.9	2,565	21.7	9,254	78.3
Wheat	11,227	22	0.2	8,661	77.1	2,483	22.1				
Oats	24,226	1,076	4.4	16,278	67.2	6,679	27.6				
Soybeans	825	0	0.0	246	29.8	577	70.0				
Barley	10,425	280	0.2	8,363	80.2	2,041	19.6				
Total	46,903	1,538	3.3	33,548	71.5	11,820	25.2				

4c) Destination of Trucked Grain

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Minneapolis-St. Paul			319	12.9	420	6.3	103	17.8	1,925	94.3	2,767
Duluth-Superior			2,164	87.1	5,058	75.7			18	0.9	7,240
Savage					1,110	16.6	170	29.4	28	1.4	1,308
Halsted							305	52.8			305
Unknown	40	100			21	0.3			70	3.4	131
Iowa					70	1.1					70

1/ As % of total grain purchased.

2/ As % of total trucked grain.

Table 1 (Cont.)
District 4 - Summary

1) Grain Purchased		2) Retailed Back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	19,623	5,076	25.9	4,823	24.6	9,015	45.9	9,035	62.7	5,378	37.3
Wheat	3,419	5	0.2	2,709	79.2	670	19.6				
Oats	9,820	3,005	30.6	4,787	48.7	1,210	12.3				
Soybeans	13,633	75	0.5	7,142	52.4	3,284	24.1				
Barley	1,980	48	2.4	1,586	80.1	227	11.4				
Total	48,475	8,209	16.9	21,047	43.4	14,406	29.7				

4c) Destination of Trucked Grain

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Minneapolis-St. Paul	1,385	15.4	360	53.7	470	38.9	2,065	62.9	87	38.3	4,367
Dawson							762	23.2			762
Luverne	64	0.7									64
Morris	100	1.1							37	16.3	137
Hancock			37	5.4	13	1.1					50
Glencoe					15	1.3					15
Beardsley	18	0.2									18
Breckenridge					32	2.6	21	0.6			53
Savage	608	6.7	20	3.0	64	5.3	108	3.3	3	1.3	803

Savage	608	6.7	20	3.0	64	5.3	108	3.3	3	1.3	803

Table 1. District 4 (Cont.)
4c)

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Mankato							50	1.5			50
Red Wing							77	2.3			77
Appleton			14	2.0							14
Duluth-Superior			200	29.9			120	3.7			320
Unknown	2,312	25.6	40	6.0			80	2.5	100	44.1	2,532
New Richland, Wisc.	500	5.5			280	23.1					780
South Dakota	3,905	43.3									3,905
Omaha, Neb.					7	0.6					7
Sioux City, Iowa					328	27.1					328
Chicago, Ill.	125	1.5									125

1/ As % of total grain purchased.

2/ As % of total grain trucked.

Table 1. (Cont.)
District 5 - Summary

1) Grain Purchased		2) Retailed Back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	15,879	4,930	31.0	9,378	59.1	1,619	10.2	509	8.9	5,205	91.1
Wheat	1,753	6	0.3	1,315	75.0	423	24.1				
Oats	2,675	1,548	57.9	1,030	38.5	93	3.5				
Soybeans	9,656	5	0.1	6,123	63.4	3,550	36.8				
Barley	1,766	7	0.1	1,747	98.8	12	0.1				
Total	31,729	6,496	20.5	19,593	61.8	5,697	18.0				

4c) Destination of Trucked Grain

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Red Wing	893	55.1					17	0.5			910
Savage			194	45.8	85	91.8	1,547	43.6			1,826
New Prague			7	1.7							7
Minneapolis-St. Paul	456	28.2	171	40.5			965	27.2	12	100.0	1,604
Dawson							65	1.8			65
Mankato			26	6.0			955	26.9			981
Springfield			26	6.0							26
Unknown	100	6.2									100

Table 1. District 5 (Cont.)
4c)

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Lincoln, Neb.					8	8.2					8
Chicago, Ill.	170	10.5									170

1/ As % of total grain purchased.

2/ As % of total grain trucked.

Table 1 (Cont.)
District 6 - Summary

1) Grain Purchased		2) Retailed Back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	79	79	100					213	95.0	11	5.0
Wheat	10			10	100						
Oats	87	87	100								
Soybeans	255			31	12.2	224	87.8				
Barley											
Total	431	166	38.3	41	9.5	224	52.0				

4c) Destination of Trucked Grain

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Savage							224	100			224

1/ As % of total grain purchased.

2/ As % of total grain trucked.

Table 1 (Cont.)
District 7 - Summary

1) Grain Purchased		2) Retailed Back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	41,521	10,027	24.1	17,825	42.9	12,474	30.0	5,582	33.2	11,242	66.8
Wheat	964	21	2.1	608	63.0	408	42.3				
Oats	7,626	3,188	41.8	2,934	38.5	2,089	27.4				
Soybeans	8,954	29	0.3	7,906	88.3	1,657	18.5				
Barley	1,036	31	3.0	1,001	96.6	53	5.1				
Total	60,101	13,296	22.1	30,274	50.4	16,681	27.8				

4c) Destination of Trucked Grain

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Minneapolis-St. Paul	3,735	29.9	108	26.6	137	6.5	30	1.8	30	56.8	4,040
Springfield			118	29.0							118
Duluth-Superior	8	0.1									8
Savage	3,684	29.5									3,684
Red Wing	452	3.6					70	4.2			522
Shoreham	341	2.7									341
New Prague			59	14.3							59
Mankato							1,097	66.2			1,097
Amiret									18	33.1	18

Table 1. District 7 (Cont.)
4c)

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Unknown	592	4.7									592
Kansas	56	0.4			150	7.2					206
Oklahoma	51	0.4			124	5.9					175
Miles City, Mont.	73	0.6									73
South Dakota	215	1.7			65	3.1					280
Sioux City, Iowa	50	0.4									50
Sheldon, Iowa							19	1.6			19
Chicago, Ill.	444	3.6			32	1.5					476
Iowa	192	1.5			203	9.8					395
Unknown	2,580	20.9	123	30.1	1,378	66.0	441	26.6	5	10.1	4,527

1/ As % of total grain purchased.

2/ As % of total grain trucked.

Table 1 (Cont.)
District 8 - Summary

1) Grain Purchased		2) Retailed back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	39,151	5,729	14.6	21,353	54.5	13,165	33.6	3,602	16.3	18,488	83.7
Wheat	2,924	4	0.2	1,955	66.9	960	32.8				
Oats	4,406	2,020	45.8	1,240	28.1	996	22.6				
Soybeans	13,163	451	3.4	5,894	44.8	6,984	53.1				
Barley	165	0	0.0	186	112.8	0	0.0				
Total	59,809	8,204	13.7	30,628	51.2	22,105	37.0				

4c) Destination of Trucked Grain

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Duluth-Superior	66	0.5									66
Red Wing	1,966	14.9			11	1.1	278	4.0			2,255
Minneapolis-St. Paul	558	4.2	421	43.8	18	1.8					997
Mankato			199	20.7			4,072	58.3			4,271
Elk River					34	3.4					34
Savage	7,920	60.2	181	18.8	381	38.3	616	8.8			9,098
New Prague			160	16.7							160
Unknown	518	3.9			86	8.7					664
Iowa	113	0.9			201	20.2	40	0.6			354

Table 1. District 8 (Cont.)
4c)

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Mason City, Iowa	142	1.1					25	0.4			167
Chicago, Ill.	70	0.5									70
Illinois	988	7.5			7	0.7					995
Wisconsin	265	2.0									265
Fort Dodge, Iowa							1,658	23.7			1,658
Clinton, Iowa							33	0.5			33
Missouri					50	5.0					50
Milwaukee, Wisc.	70	0.5									70
Belmont, Iowa	133	1.0					38	0.5			171
Iowa Falls, Iowa							223	3.2			223
Pekin, Ill.	68	0.5									68
La Crosse, Wisc.	15	0.1									15
Unknown	271	2.2			208	20.8					479

1/ As % of total grain purchased.

2/ As % of total grain trucked.

Table 1. (Cont.)
District 9 - Summary

1) Grain Purchased		2) Retailed Back to Farmers		3) Shipped by Rail		4) Shipped by Truck		4a) Trucked Grain Sold at Elevator		4b) Trucked Grain Sold at Destination	
Grain	000 bu.	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 1/	000 bu.	% 2/	000 bu.	% 2/
Corn	8,023	2,402	29.9	1,249	15.6	4,372	54.5	577	5.8	9,375	94.2
Wheat	563			481	85.4	83	14.6				
Oats	4,859	1,447	29.8	1,708	35.2	1,562	32.2				
Soybeans	5,134			1,182	23.0	3,932	76.6				
Barley	116			113	97.3	3	2.7				
Total	18,695	3,849	21.3	4,733	25.3	9,952	53.2				

4c) Destination of Trucked Grain

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
Duluth					105	6.7					105
Savage	31	0.7			61	3.9					92
Preston							324	8.2			324
Minneapolis-St. Paul			83	100	62	4.0					145
Mankato							67	1.7			67
Red Wing	1,976	45.2			70	4.5	2,865	72.9			4,911
Winona									3	100	3
Unknown					455	29.1					455

Table 1. District 9 (Cont.)
4c)

Destination	Corn 000 bu.	% 2/	Wheat 000 bu.	% 2/	Oats 000 bu.	% 2/	Soybeans 000 bu.	% 2/	Barley 000 bu.	% 2/	Total Grain 000 bu.
La Crosse, Wisc.	1,488	34.0			759	48.6	607	15.4			2,854
Cedar Rapids, Iowa					15	1.0					15
Wisconsin	877	20.1									877
Clinton, Iowa							35	0.9			35
Waterloo, Iowa							35	0.9			35
Iowa					35	2.2					35

1/ As % of total grain purchased.

2/ As % of total grain trucked.

Table 2. Production, Purchases by Country Elevators and Truck Shipments by Grains and Crop Reporting Districts Minnesota, 1954, 1955, 1956, 1957, and 1958 Crops

TOTAL GRAINS

	1954	1955	1956	1957	1958
	000 bu.	000 bu.	000 bu.	000 bu.	000 bu.
Grain Production	539,229	568,358	595,321	586,083	634,152
Grain Purchased	175,025	244,385	256,310	260,690	266,142
Grain Trucked	29,843	86,756	94,350	80,285	80,884
Percent Trucked	17.0%	35.5%	36.8%	30.8%	30.4%

	1954		1955		1956		1957		1958	
Grain Trucked From:	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain
Crop Rep. Dist. 1	1,141	3.8	1,631	1.9	2,037	2.2	5,265	6.2	11,820	14.6
4	5,367	18.0	27,674	31.9	23,030	24.4	16,740	20.3	14,405	17.8
5	3,637	12.2	6,195	7.1	8,203	8.7	7,997	9.8	5,697	7.1
6	214	0.7	0	0.0	34	*	402	0.5	224	0.3
7	9,961	33.4	22,839	26.3	20,963	22.2	18,082	21.9	16,681	20.6
8	6,640	22.2	23,849	27.8	34,310	36.4	25,641	31.2	22,105	27.3
9	2,883	9.7	4,568	5.3	5,771	6.1	8,166	10.0	9,952	12.3
Total	29,843	100.0	86,756	100.0	94,350	100.0	80,285	100.0	80,884	100.0

CORN

	1954	1955	1956	1957	1958
	000 bu.	000 bu.	000 bu.	000 bu.	000 bu.
Corn Produced	277,043	284,935	329,705	327,192	312,448
Corn Purchased	71,093	110,087	132,534	129,912	124,476
Trucked Corn	19,439	52,847	64,288	43,041	40,685
Percent Trucked	27.3%	48.0%	48.5%	33.1%	32.7%

	1954		1955		1956		1957		1958	
Grain Trucked From:	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain
Crop Rep. Dist. 1	0	0.0	70	0.1	46	0.1	0	0.0	40	0.1
4	2,887	14.8	15,073	28.5	13,320	20.7	6,166	14.3	9,016	22.2
5	2,283	11.7	2,283	4.3	4,715	7.3	2,708	6.3	1,619	4.0
6	92	0.5	0	0.0	0	0.0	0	0.0	0	0.0
7	8,464	43.7	17,178	32.5	18,092	28.1	14,919	34.7	12,474	30.7
8	3,791	19.4	15,302	29.0	25,688	40.0	14,879	34.6	13,165	32.3
9	1,922	9.9	2,941	5.6	2,427	3.8	4,270	10.1	4,372	10.7
Total	19,439	100.0	52,847	100.0	64,288	100.0	43,041	100.0	40,685	100.0

* Less than .1%.

Table 2 (Cont.)

WHEAT

	1954	1955	1956	1957	1958
	000 bu.	000 bu.	000 bu.	000 bu.	000 bu.
Wheat Produced	10,157	12,015	17,218	15,782	25,345
Wheat Purchased	10,675	12,067	14,488	15,771	20,860
Trucked Wheat	312	1,080	905	2,342	5,027
Percent Trucked	2.9%	9.0%	6.3%	14.7%	24.1%

	1954		1955		1956		1957		1958	
Grain Trucked From:	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain
Crop Rep. Dist. 1	250	80.1	336	31.1	156	17.2	789	33.7	2,483	49.4
4	15	4.8	496	45.9	484	53.5	812	34.7	670	13.3
5	47	15.1	170	15.7	183	20.3	164	7.0	423	8.4
6	0	0.0	0	0.0	3	0.3	2	*	0	0.0
7	0	0.0	0	0.0	21	2.3	96	4.1	408	8.1
8	0	0.0	43	4.0	44	4.9	448	19.1	960	19.1
9	0	0.0	35	3.3	14	1.5	32	1.4	82	1.7
Total	312	100.0	1,080	100.0	905	100.0	2,342	100.0	5,027	100.0

OATS

	1954	1955	1956	1957	1958
	000 bu.	000 bu.	000 bu.	000 bu.	000 bu.
Oats Produced	181,685	197,948	167,583	167,832	211,464
Oats Purchased	40,550	47,786	47,066	43,905	53,698
Trucked Oats	4,303	13,663	9,144	8,409	12,628
Percent Trucked	10.6%	28.6%	19.4%	19.1%	23.5%

	1954		1955		1956		1957		1958	
Grain Trucked From:	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain
Crop Rep. Dist. 1	818	19.0	1,108	8.1	958	10.5	2,672	31.8	6,679	52.9
4	1,670	38.8	6,914	50.6	4,792	52.4	4,877	33.4	1,210	9.6
5	354	8.2	144	1.1	0	0.0	80	0.9	93	0.7
6	74	1.7	0	0.0	0	0.0	0	0.0	0	0.0
7	979	22.7	4,106	30.1	1,479	16.2	1,453	17.3	2,089	16.5
8	295	6.8	747	5.5	1,330	14.5	713	8.5	996	7.9
9	118	2.8	644	4.6	586	6.4	682	8.1	1,562	12.4
Total	4,303	100.0	13,633	100.0	9,144	100.0	8,409	100.0	12,628	100.0

* Less than .1 %.

* Less than .1 %.

Table 2 (Cont.)

SOYBEANS

	1954	1955	1956	1957	1958
	000 bu.	000 bu.	000 bu.	000 bu.	000 bu.
Beans Produced	42,294	45,162	52,540	54,804	53,935
Beans Purchased	32,517	58,521	50,360	58,457	51,620
Trucked Beans	5,517	18,621	18,374	26,509	20,208
Percent Trucked	16.9%	31.8%	36.6%	45.3%	39.1%

	1954		1955		1956		1957		1958	
Grain Trucked From:	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain
Crop Rep. Dist. 1	11	0.2	32	0.2	89	0.5	383	1.4	577	2.8
4	699	12.1	4,825	25.9	3,711	20.2	6,283	23.7	3,284	16.2
5	921	16.7	3,598	19.3	3,218	17.5	5,046	19.0	3,550	17.6
6	48	0.9	0	0.0	31	0.2	400	1.5	224	1.1
7	518	9.6	1,468	7.9	1,347	7.3	1,613	6.1	1,657	8.2
8	2,507	45.4	7,757	41.6	7,246	39.4	9,601	36.3	6,984	34.6
9	843	15.1	941	5.1	2,732	14.9	3,182	12.0	3,932	19.5
Total	5,517	100.0	18,621	100.0	18,374	100.0	26,509	100.0	20,208	100.0

BARLEY

	1954	1955	1956	1957	1958
	000 bu.	000 bu.	000 bu.	000 bu.	000 bu.
Barley Produced	28,050	28,298	28,275	20,475	32,960
Barley Purchased	20,190	15,924	11,862	12,645	15,488
Trucked Barley	267	545	1,640	2,091	2,336
Percent Trucked	1.3%	3.4%	13.8%	16.5%	15.1%

	1954		1955		1956		1957		1958	
Grain Trucked From:	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain	000 bu.	Percent of Trucked Grain
Crop Rep. Dist. 1	62	23.2	85	15.6	789	48.1	1,421	67.9	2,040	87.4
4	126	47.2	366	67.2	724	44.1	670	32.1	227	9.7
5	32	12.0	0	0.0	87	5.3	0	0.0	12	0.5
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	87	15.9	25	1.5	0	0.0	53	2.3
8	47	17.6	0	0.0	2	0.2	0	0.0	0	0.0
9	0	0.0	7	1.3	13	0.8	0	0.0	3	0.1
Total	267	100.0	545	100.0	1,640	100.0	2,091	100.0	2,336	100.0