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# MINNESOTA farm business NOTES



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## THE FARMER'S STAKE IN TRANSPORTATION

John Hyslop and Reynold Dahl

Transportation costs greatly affect the prices received by Minnesota farmers. The impact of changing transportation rates and facilities on farm prices and on processors of farm products are analyzed in this article.

The discussion is limited to grains and grain products. However, the principles apply to all farm products.

### THE EFFECT ON FARM PRICES

#### Price Spread

The price the farmer receives for grain at the country elevator approximately equals the price at the central market less freight and handling charges.

An increase in transportation costs depresses the farm price relative to the central market price (see table 1). For example, the rail rate on wheat from Moorhead to Minneapolis increased 9.3 cents per bushel from 1946 to 1957. At the same time, the price spread between Moorhead and Minneapolis increased from \$.17 to \$.27.

Rail rates on grain from country origins to Minneapolis doubled between 1945 and 1958 (see table 2). For ex-

**Table 1. Moorhead and Minneapolis prices for No. 1 DNS wheat, and rail rate, September 15, 1946 to 1957**

Year	Moorhead wheat price	Minneapolis wheat price	Price difference	Rail rate Moorhead to Minneapolis
	cents per bushel			
1946	179	196	17	10.5
1947	255	276	21	12
1948	201	224	23	14.4
1949	197	221	24	15.6
1956	201	227	26	18.3
1957	198	225	27	19.8

ample, the rail rate per cwt. of grain from Crookston to Minneapolis increased from \$.18 at the end of World War II to \$.38 in February 1958. Higher railroad operating costs were largely responsible.

Railroads are the primary carriers of grain from country to terminal markets. However, in recent years, railroads received competition from trucks. Trucks have carried grain at somewhat lower rates. Therefore, they took over a considerable portion of the grain traffic from Minnesota country elevators.

In 1954, 30 million bushels of grain, 17 percent of purchases by country elevators, were shipped by truck. By 1958 this increased to 81 million bushels (30 percent).

#### At The Central Market

The relationship between country prices and freight rates cannot be fully explained by looking at the price spread between the central market and the country elevator. One must also examine the response of central market prices to changing freight rates. Only when a price making force changes can its effect be seen.

Assume that on August 25 the price of wheat in Minneapolis is \$2.00. The freight rate from some country point is \$.30 per bushel. The price of wheat at that point is thus \$1.70.

On August 26 a new freight rate is \$.35 per bushel. This increase does not affect the supply and demand factors at the central market, and the central market price remains at \$2.00. Farmers cannot adjust immediately the quantities offered on this crop. Thus, the price of wheat at the country elevator is reduced to \$1.65.

That is the immediate effect. But over longer time periods (1, 2, or 3 crop years) farmers can adjust quantities in response to price changes. Over the longer

**Table 2. Intrastate grain and grain product rates to Minneapolis**

Origin	WWII level	September 1949	February 1958	August 1958	September 1959	April 1960
	cents per cwt.					
Albert Lea	12	19	25	16	12	.....
Benson	14	20	27	18	.....	13
Crookston	18	28	38	34	.....	28
Dodge Center	12	19	25	13	10	.....
Fergus Falls	14	22	30	24	.....	18
Marshall	14	22	30	21	17	.....
Moorhead	17	26	34	30	.....	26
New Ulm	11	16	22	14	11	.....

Source: Director of Traffic, Minneapolis Grain Exchange.

period, the lower country price would probably reduce the quantities offered for sale.

If all other supply and demand conditions at Minneapolis remained constant, consumers would bid higher prices for the reduced quantities. This would result in a Minneapolis price of something more than \$2.00, say \$2.01. Therefore, consumers also are affected by increased freight rates. They pay a higher price for a smaller quantity.

After the central market price adjustment, the price in the country is still \$.35 less than at Minneapolis, or \$1.66.

Freight rates decline as well as increase. Immediately, farm prices rise by the full amount of the rate reduction. Over a longer time period, farmers can respond by increasing quantities offered. The increased quantities reduce prices to consumers. This is reflected back to the country and partially offsets the lower freight rate.

#### Beyond The Central Market

Changes in freight rates beyond the central market are also important. Rail rates on grain and grain products out-

(Continued on page 2)

**Table 3. Average rail freight rates on grain and grain products outbound from Minnesota in cents per ton mile, 1948 to 1959**

Item	cents per ton mile				
	1948	1951	1957	1958	1959
Grain and grain products	1.0	1.1	1.3	1.4	1.3
Grains .....	1.2	1.1	1.4	1.4	1.4
Grain products	0.8	1.0	1.2	1.3	1.2

Source: Interstate Commerce Commission, *Carload Waybill Statistics*.

bound from Minnesota increased from an average of 1 cent per ton mile in 1948 to 1.4 cents in 1958 (see table 3). This is a smaller increase than in rates from farm to central market.

Railroads received competition for this traffic, too. Water carriers, ideally suited to the bulk transportation of grain, received most of it.

Increasing rail rates have also resulted in an increase of barge shipments from the Twin Cities and nearby Minnesota River ports—from 9 million bushels in 1954 to 29 million in 1958.

For example, Duluth-Superior's average grain shipment was 100 million bushels per year from 1954 to 1958. In 1959, 140 million bushels were shipped. The increase is probably associated with the opening of the St. Lawrence Seaway.

Farmers have benefited from this carrier competition. Rates charged by motor and water carriers have been lower than rail rates. Thus, the price effect of transportation costs has been some blend of rail, truck, and water rates.

Furthermore, carrier competition in recent years resulted in selective grain rate reductions by the railroads. In 1958 extensive reductions were made in the gathering rates on coarse grains and soybeans. For example, the rate on coarse grains from Marshall to Minneapolis declined from \$.30 per cwt. in February 1958 to \$.17 in September 1959 (see table 2). In 1960 gathering rates on wheat, rye, and flaxseed were reduced below the 1949 level.

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Finally, in June 1961, a rate adjustment on outbound shipments was applied to wheat, rye, flaxseed, and their products. This should result in a considerable lowering of transportation costs.

## THE EFFECT ON GRAIN PROCESSORS

Transportation costs also affect the competitive position of Minnesota grain processors. These firms originally selected their low cost locations close to: (1) railroad transportation, and (2) the source of the raw material. The latter was in order to take advantage of the weight lost in processing. Generally the market for these firms' products has been in the population centers of the East.

So long as railroads had little competition, and the rates on grain products did not rise relative to the rates on

grain, Minnesota was an ideal location. But, conditions changed.

Buffalo, New York replaced Minneapolis as the nation's leading flour milling center. Buffalo millers could take advantage of the low cost water transportation of wheat on the Great Lakes. This opportunity is not available to Minneapolis millers because technical factors restrict the bulk carriage of grain products by water.

Rail rates on grain products from Minnesota advanced relative to rates on grain in recent years (see table 3). Rail rates per ton mile on outbound shipments of grain from Minnesota increased about 17 percent from 1948 to 1959. However, rail rates on grain products increased more than 50 percent.

This situation, if it continues, coupled with low cost water transportation for grain but not grain products, could result in a competitive disadvantage for Minnesota grain processors.

## Your County Extension Committee Looks At The Census

Harold Pederson, Glenn Nelson, and  
B. G. Crewdson

Many county educational program planning committees will revise their work programs after reviewing recent census report data.<sup>1</sup>

Your County Extension Committee, especially, has a challenging task. It must interpret the county changes in terms of effects on the following program areas: (1) farm business, (2) family living, (3) youth, and (4) public affairs.

Some trends are certain to influence future educational and action programs. These concern population, number and size of farms, and the growth or decline among the state's 87 counties.

## POPULATION

The state's population was nearly 3½ million people in 1960 (table 1), about 15 percent higher than in 1950. Incidentally, the beginning of the last decade was the first time that the urban population exceeded the rural population.

This increase in population, however, was not uniformly distributed over the state. Decreases actually occurred in 36 counties. Their rates of decrease varied

from less than 1 to about 20 percent. Increases reported for the remaining 51 counties ranged from less than 1 to 141 percent (table 2).

## FARMS

Nearly 19 percent fewer farms were reported for Minnesota in 1959 than for 1950. The number of people living on farms dropped nearly 16 percent during this same period. Every county reported a decline in number of farms since 1954 (table 3).

Let us examine the data on farm size. Four categories were included in the 140 to 500 acre range. These accounted for 58 percent of all farms in 1950 and 64 percent in 1959.

Farm size categories ranging from 10 to 140 acres accounted for nearly 40

**Table 1. Population, Minnesota, 1950 and 1960**

Area	Population			
	1960		1950	
	Total (thousands)	Percent of total	Total (thousands)	Percent of total
State .....	3,414	100	2,982	100
Urban .....	2,122*	62	1,625†	55
Rural .....	1,291	38	1,358	45

\* Includes 126 towns and villages and 12 cities with populations of 2,500 or more.

† Includes 91 towns and villages and 12 cities with populations of 2,500 or more.

<sup>1</sup> Lee Taylor and Glenn Nelson. *Minnesota's People and Farms, 1950-1960*. M 45, Agr. Expt. Sta., Univ. of Minn., March 1961.

percent of all farms in 1950, but only 32 percent in 1959. The number of farms over 500 acres in size made up less than 3 percent of all farms in 1950 but nearly 5 percent in 1959 (table 4).

**EFFECTS ON PROGRAM PLANS**

The trends reported in this article will be analyzed by your Agricultural Extension Service and other program planning agencies. These considerations appear desirable for the four major programs areas:

**The Farm Business**

- Educational programs for full-time farm operators will be directed towards fewer people. Such programs, however, require more intensive and specialized subject matter.
- The trend towards larger farm operations requires more emphasis on improving management skills.
- The trend towards specialization results in emphasis on improved crop and livestock production practices.

**Table 2. Variations among counties by percent change of population, Minnesota, 1950 to 1960**

Recent change in population	Number of counties
<b>Decreases</b>	
Less than 10 .....	25
10 to 19.9 .....	11
<b>Total</b> .....	<b>36</b>
<b>Increases</b>	
Less than 10 .....	27
10 to 19.9 .....	15
20 and more* .....	9
<b>Total</b> .....	<b>51</b>

\* Includes five counties with increases ranging from 35 to 141 percent.

**Table 3. Percent change in number of farms by county, Minnesota, 1954 to 1959**

Percent decrease in number of farms	Number of counties
Less than 5 .....	6
5 to 9.9 .....	38
10 to 14.9 .....	18
15 to 19.9 .....	8
20 to 24.9 .....	7
25 to 29.9 .....	5
30 and more .....	5
<b>Total</b> .....	<b>87</b>

**Table 4. Number of farms according to farm size, Minnesota, 1950 and 1959**

Farm size	Total farms		Percent of total	
	1959	1950	1959	1950
acres		number		percent
Under 10 .....	2,911	5,785	1.9	3.2
10 to 139 .....	43,740	64,309	30.0	36.0
140 to 179 .....	30,117	39,479	20.7	22.1
180 to 219 .....	15,573	17,590	10.7	9.8
220 to 259 .....	15,737	17,240	10.8	9.6
260 to 499 .....	30,969	29,566	21.3	16.5
500 to 999 .....	5,755	4,557	4.0	2.5
1,000 or more .....	837	593	0.6	0.3
<b>Total</b> .....	<b>145,639</b>	<b>179,119</b>	<b>100.0</b>	<b>100.0</b>

Note: The definition used for farms in 1959 was slightly more restrictive than in 1950.

- The number of part-time farmers may increase. Inquiries received from these people will involve a wide range of subject matter.
- Shifts in population require revision of many youth programs.
- Farm trends vary widely by areas within the state and counties.
- The number of young people eligible to take part in organized youth programs will probably increase near the larger urban centers.
- Interest in marketing will increase.

**Family Living**

- The number of nonfarm women interested in family living programs will increase.
- Homemaker programs in strictly rural areas will differ from those for rural-urban and strictly urban areas. Homemakers on farms, for example, are becoming more interested in the total farm business.

- More homemakers will probably seek employment away from home.
- Plans for reaching homemakers with educational information must meet changing situations.

**Youth**

- A larger proportion of high school graduates are entering college.
- A growing total population and decreasing farm population is resulting in more urban oriented schools.
- Fewer farm opportunities have prompted a larger percentage of young men to seek nonfarm careers.
- New projects for youth are needed.
- A large proportion of girls in rural areas secure employment in urban areas immediately after high school.

**Public Affairs**

- The voting strength has shifted from rural to urban areas.
- More people are probably concerned about retail prices of food than about prices received by farmers.
- Since wide fluctuations in prices received by farmers do not greatly affect retail prices, more knowledge is needed to develop an understanding of farm problems.
- Adult educational programs are needed for a wide range of subject matter fields (taxes, zoning, schools, recreation facilities, and community development).

**RECENT PUBLICATIONS**

Abel, M. E., Wetmore, J. M., and Learn, E. W., *Expanding the Demand for Farm Food Products in the United States*, Sta. Bul. 456, June 1961. Obtain copies from your county agent or the Bulletin Room, Institute of Agriculture, Univ. of Minn., St. Paul 1.

*U. S. Census of Agriculture, 1959*; Vol. 1, Part 15, Minnesota. This contains data pertaining to Minnesota agriculture obtained in the 1959 and earlier census. Purchase copies from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.

# THE OUTLOOK CORNER

## 1962 At A Glance

K. E. Egertson and J. L. App

The following statements relate to important Minnesota farm enterprises. They summarize a series of outlook sheets entitled, "What's ahead for Minnesota Farmers?" Copies can be obtained from your county extension agent's office.

### BEEF CATTLE

U. S. cattle numbers have increased for 4 years. They should reach a new high of 98 million head (revised figures) on January 1, 1962. This, under normal conditions, would result in a moderate increase in cattle slaughter in 1962.

Only a small increase in market supplies is expected. When matched with increased demand for beef, this should lead to higher prices for fed cattle.

In view of present feeder cattle prices (October 1), expected profit prospects are about fair to average for the 1962 feeding period.

### HOGS

U. S. hog production is increasing moderately. The current hog numbers cycle turned upward in the last quarter of 1960. The same trend continued in spring 1961.

Hog farrowings should increase by 3 to 6 percent during the 1961 fall and 1962 spring periods. This will mean heavier slaughter in 1962, and, therefore, somewhat lower prices than in 1961.

However, hog prices and profit prospects still look favorable. This will be true at least for the first three quarters of 1962.

### SHEEP AND LAMBS

Sheep numbers declined in the past 2 years. On January 1, 1962 numbers should be from 2 to 3 percent lower than last year's level.

Sheep and lamb slaughter will be lighter in 1962 because of (1) the heavy slaughter in 1961 and (2) only a moderate increase in the 1961 lamb crop.

Thus, profit prospects are better for the native sheep flock enterprise.

With lower prices paid for feeder lambs this fall, and expected higher slaughter prices in 1962, the lamb feeding operations should show higher labor returns in 1962.

### DAIRY

Total U. S. milk production in 1961 will exceed last year's output of 122.9 billion pounds. Milk production should increase further in 1962 due to: (1) a slowdown in the rate of decline in cow numbers and (2) continued increase in production per cow.

Consumption, however, will not keep up with production. Therefore, the dairy industry will continue to have surpluses. Prices for dairy products will be strongly influenced by support levels announced next spring.

### FEED GRAINS

Feed grain supplies are expected to decrease 3 percent in 1961—after 7 years of expansion. Production of corn, oats, sorghum, and barley will be below 1960 levels. Prices, therefore, should rise moderately. However, the price increases will likely be limited by Commodity Credit Corporation sales of corn and sorghum stocks.

### SOYBEANS

Soybean production will reach a record high in 1961, 29 percent above last year's levels. The carryover supplies, lowest in recent years, will be built up.

Support price for soybeans will prevent prices from dropping to 1960's level during the fall. The strong demand for food fats also should continue. However, the record crop will cause soybean meal prices to decrease during 1962.

### EGGS

Per capita consumption of eggs in 1960 was the lowest since the late 1940's. Minnesota's egg production was 3.2 percent lower this year than in 1960. This, coupled with a comparable decline in U. S. production, accounted for the higher egg prices.

The laying flocks in the beginning of 1962 probably will be 5 to 6 percent larger than the same period in 1961. Egg prices received by producers will be below the 1960 to 1961 laying year. However, they will still be considerably above 1959 to 1960 levels.

### TURKEYS

In the fall 1961 period, total tonnage of turkey meat will be about 25 percent above a year ago. Consumption cannot meet this large increase and maintain prices to turkey producers at a favorable level.

Due to the depressed situation in 1961, the number of turkeys raised in 1962 will likely be less. Some improvement in prices should result.

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