

**GRAIN TRANSPORTATION:  
SOME CURRENT PROBLEMS**

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# GRAIN TRANSPORTATION

## Some Current Problems

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The North Dakota wheat producer has typically and, I might add, quite naturally devoted most of his time and financial resources to the production of his crop. Transportation and marketing on the other hand have not been accorded the same priority as production while they are the all important link between production and consumption. It is imperative that this linkage between production and consumption is managed properly because it is a necessary condition to the economic viability of the producer.

Transportation is not only a necessary condition, it is also a very expensive component of the marketing and production process. Transportation costs from the country elevator to the terminal market constitute the single largest operating expense item incurred in the production and marketing process on a per acre basis as is shown in Table 1. Transportation costs of \$14.89/acre exceeded fertilizer costs of \$11.10/acre.

Therefore, because of its cost and because of its importance in linking production and consumption, transportation must be managed. However, it is difficult if not impossible for the individual farm manager to manage the transportation of wheat between the country elevator and the terminal markets. That is why the North Dakota Wheat Commission has been very active in transportation matters and this is one of the reasons for the existence of the Upper Great Plains Transportation Institute.

<b>TABLE 1. PRODUCTION AND MARKETING COSTS.<sup>a</sup></b>	
<b>Item</b>	<b>(Dollars/Acre)</b>
Fertilizer	\$11.10
Fuel	3.80
Machine Repair	6.35
Herbicide	5.00
Crop Insurance	2.20
Custom Work	3.00
Seed	6.45
Interest on Operating Capital	1.30
Elevator Fee	3.40
Commission Fee	1.70
Transportation to Terminal Market <sup>b</sup>	14.89

Transportation problems facing today's producer are in part due to the fact that the North Dakota farm manager is a captive. That is to say that the shipper has no alternative mode to ship by or that if an alternative mode is available it is a higher cost mode. Both situations are found and experienced in North Dakota. North Dakota, first of all, is a land locked state with no inland waterway transportation system within its borders. Secondly, the only alternative to rail transportation is semi trucks whose cost of operation is much higher than that of railroads allowing the rail rate to be greater than the cost of providing the transportation service. Thirdly, the truck is only an alternative mode for a portion of North Dakota's production because of the exempt trucking industry capacity. The trucking industry, at least in the short run, does not have the capacity to

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<sup>a</sup>Based on yield of 34 bu./acre.

<sup>b</sup>X-357 Carrington restricted service rate of 73 cents/cwt (43.8 cents) bu.

move North Dakota's annual production to the three major terminal markets of Minneapolis/St. Paul, Duluth/Superior, and the Pacific Northwest as is being evidenced by the current prolonged grain car shortage. Furthermore, the shipper is also captive to the railroad for the shipment of certain grain to specific markets because of transit privileges and proportional rates. The railroads indeed have monopoly power in the movement of durum and barley to the Minneapolis/St. Paul market because of the proportional rates ex-Minneapolis.

Current problems which exist in North Dakota grain transportation are varied and many, with freight rates being a chief issue. Problems concerning freight rates include, but are not limited to, the absolute level of the rate relative the cost of providing the service, monopoly rates on such traffic as malting barley to Minneapolis/St. Paul, competitive rates from other producing regions such as Canada and Nebraska, prohibitively high domestic rates and general percentage ex parte rate increases.

Rail rates on wheat and barley originating in North Dakota are high relative to the cost of providing the transportation service. Ratios of revenue to variable cost as high as 276 percent are associated with wheat movements originating in North Dakota. Rail rates of this nature result in lower producer price for wheat and barley. However, the producer should and would be willing to pay rates which reflect the cost of providing the service plus a reasonable profit.

Barley rates are also a problem area for North Dakota shippers and present a unique situation in their relationship with the market. Barley movements to the Minneapolis/St. Paul market are tied almost exclusively to the rail mode because of movements beyond Minneapolis on the proportional rates and because of the malting barley trade.

The proportional rates are low commodity rates on grain between markets which can only be obtained if the grain moves into the originating market by rail. For example, the rate on barley and wheat from Minneapolis to Chicago is 66½ cents/cwt, if the grain moves into Minneapolis by rail (proportional rate). However, if the same grain moved into Minneapolis by truck the rate between Minneapolis and Chicago is 95 cents/cwt (the flat rate) which is 28½ cents/cwt higher. The differential between the rates ties the traffic to the railroads. The ancillary services on the two rates are the same and include such items as three free stops in transit.

However, barley movements to the Duluth/Superior market are subject to intermodal (truck vs. rail) competition because of the export nature of the movement which results in varying market shares for the two modes. The railroads, until recently, have chosen to separate the two markets relative to the rate charged from North Dakota country origins by allowing barley to move at the same rate to both destinations. The level of the published rate was based on the monopoly circumstances of the barley movement to the Minneapolis/St. Paul market (the current rates are based on the rate structure of 1930's when truck competition was non-existent). Recently the railroads have introduced lower barley rates on a temporary basis to both markets. Since the rates are of a temporary nature it is difficult to ascertain what the rate structure will look like in the future. One possibility is a domestic and an export rate to both markets which would allow railroads to maximize revenue in both moves by monopoly pricing on the domestic movement (malting barley to Minneapolis) and truck competitive pricing on the export movement (primarily the Duluth movement).

Relatively lower rates to common destinations from competing wheat producing regions also presents a problem to the North Dakota producer. Such a rate relationship can result in a lower product price for the producer compared to producers from the competing regions and/or a smaller market share of the market in question. The implication is that the North Dakota wheat producer is less effective in competing for export sales (and domestic sales to some degree) which could result in the displacement of wheat production from an area which has few agronomic alternatives. Two such cases of lower rates from competing regions which are well documented currently exist and effect North Dakota producers. One case is wheat movements from Nebraska and North Dakota to the Pacific Northwest for export. Nebraska's rates for moving hard red winter wheat to the Pacific Northwest are 50 cents/cwt less than North Dakota's rates for somewhat greater distances. This amounts to a 30 cents/bu differential for a wheat that has a high degree of substitutability particularly in years of high protein content for hard red winters. A similar situation exists in North Dakota's rate relationship with the Canadian rates. Although the results of the differential are much more uncertain because of the international aspect of the problem long run effects could (under certain circumstances) tend to be the same as though an international border did not exist.

Domestic rates to the densely populated West Coast and Pacific Northwest present a barrier to entry to that domestic market. However, it must be noted that the North Dakota producer is at a locational disadvantage as far as the West Coast domestic market is concerned. The wheat producing states west of North Dakota have a natural advantage in that they are closer to the point of consumption. This disadvantage cannot be overcome, however a sufficiently high freight rate rules out any efforts that can be made in trying to compete for the domestic West Coast market. The domestic rate to the West Coast market

exceeds three dollars a hundred weight (\$2.00/bu.) which makes it prohibitive to even attempt to develop a domestic West Coast market for North Dakota producers. Even if a potential market for durum or some other commodity existed it is impossible to compete with other wheats at \$2.00 per bushel.

An issue which presents greater problems for those more distant from the terminal markets and also disadvantages one market over another is that of general percentage rate increases which have occurred with some regularity during the past five years. This results from the simple observation that ten percent of eighty cents is absolutely greater than ten percent of thirty cents by a nickel. Since eastbound rates are distance related for North Dakota wheat (the rates are higher for further distances) the western producers' rates increase by a greater absolute amount than the producer who farms in the eastern section of the state. If the increases were related to costs the question of equity would not exist, however the rate structure is not of a cost related nature in the normal sense of the word. The results of percentage increases have been an increase in the rates of approximately ten cents in the eastern part of the state versus an increase in the neighborhood of thirty cents in the western part of the state in the past four years.

Another problem associated with percentage increases is the change in relationship between markets. Again, it must be reiterated that the question is not one of locational disadvantage because the rates are not of a cost related nature in the first place and secondly, a percentage increase will eventually distort cost related rates because some variable costs are fixed per movement. The effects of percentage increases on markets can be demonstrated by noting the effect that the X-357 seven percent increase had on the cost of positioning wheat for export at the Pacific Northwest and at the Gulf and Duluth/Superior from Dickinson, ND. The rate to Duluth increased from 93 cents/cwt to



99½ cents/cwt or 6½ cents/cwt as a result of the seven percent increase. The increase to the Gulf via Minneapolis was similar assuming that barge rates to the Gulf from Minneapolis did not change. However, the rates to the Pacific Northwest increased from 184 cents/cwt to 196 cents/cwt an increase of 12 cents/cwt (7.2 cents/bu). The result of this is that the Pacific Northwest has to bid more aggressively to maintain its market share. This increase will not result in increased farm income but increased rail income.

Other transportation issues of equal and greater importance, such as deregulation and railroad abandonment and rationalization, exist in today's changing transportation system and industries. The partial listing here, however, indicates the importance and the degree of the problem which North Dakota producers and farm managers face. It is a problem which continued attention must be paid to.