

Shipments of Grain by Rail in North Dakota

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This summary of grain shipments by rail in North Dakota is drawn from *State Grain Rail Statistical Summary*,¹ a report that describes the grain and oilseed shipped by rail in the United States from 2006 to 2010. The full report collects information on rail shipments from each State and to each State and examines some of the factors that influence the amount of grain grown and used. It examines rail shipments, rail receipts, grain and oilseed production, animal and poultry production, grain and oilseed exports, and grain and oilseed rail rates per ton-mile to explain the variations between States in shipments of these commodities.

North Dakota ranks ninth among the grain and oilseed producing States, with a 2006–2010 average yearly production of 755.1 million bushels (mbu).

In the period 2006–2010, wheat comprised 42 percent of North Dakota crops, corn 31 percent, soybeans 16 percent, barley 9 percent, and flaxseed and oats 1 percent each.

Nationally, North Dakota is ranked 37th in animal and poultry production, averaging 1.2 million Grain Consuming Animal Units (GCAU)² from 2006 to 2010.

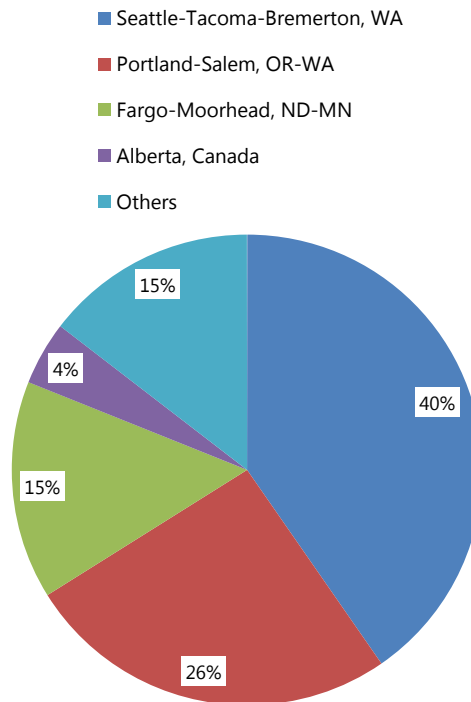
During the crop marketing years from 2001 to 2004, railroad originations of grain and oilseeds had an average market share of 65.6 percent, which increased to an average of 86 percent for the period 2007–2010.

During the period 2006–2010, North Dakota shipped 16.9 million tons of corn by rail, up 331 percent from 3.9 million tons from 1996 to 2000. (fig. 1)

1 Available at <http://dx.doi.org/10.9752/TS066.06-2013>

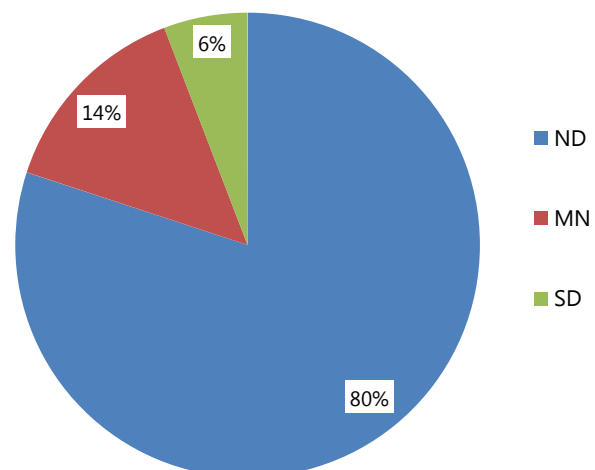
2 A standard unit used to compare feed needs of different livestock and poultry.

Figure 1. Business Economic Areas Receiving North Dakota Corn by Rail, 2006–2010



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Figure 2. Sources of North Dakota Rail Corn Receipts, 2006–2010



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

North Dakota received a total of 3 million tons of corn by rail during the 2006–2010 marketing years. (fig. 2)

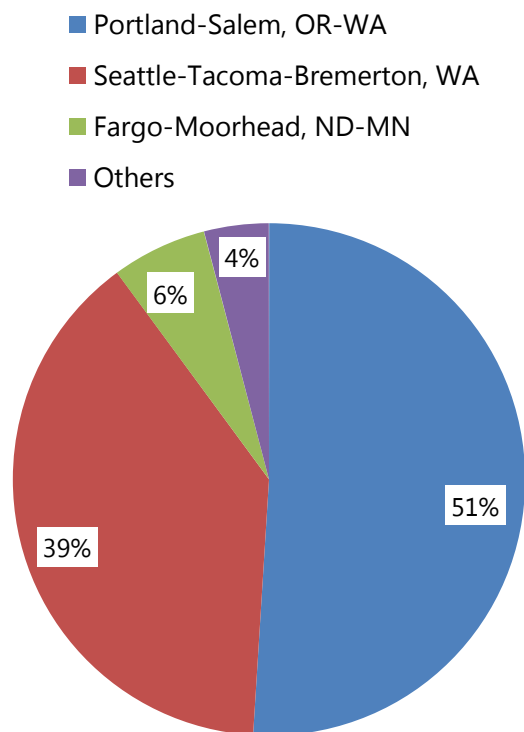
From 2006 to 2010, North Dakota shipped 21.4 million tons of soybeans by rail, up 379 percent from 4.5 million tons shipped in the period 1996–2000. (fig. 3)

North Dakota received a total of 1 million tons of soybeans by rail during the 2006–2010 marketing years. (fig. 4)

In the years 2006–2010, 47.1 million tons of wheat were shipped by rail from North Dakota, a 31.1-percent increase from 36 million tons from 1996 to 2000. (fig. 5)

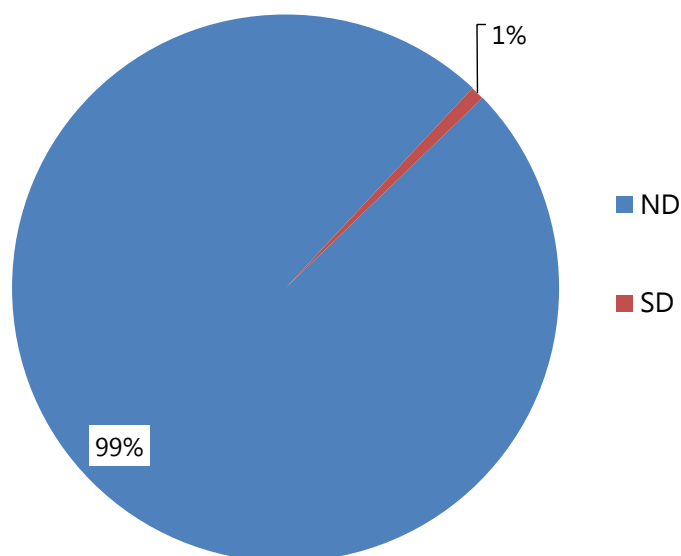
North Dakota received a total of 3.7 million tons of wheat by rail during the 2006–2010 marketing years, up 74 percent from 2.1 million tons during the 1996–2000 marketing years. (fig. 6)

Figure 3. Business Economic Areas Receiving North Dakota Soybeans by Rail, 2006–2010



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Figure 4. Sources of North Dakota Rail Soybean Receipts, 2006–2010



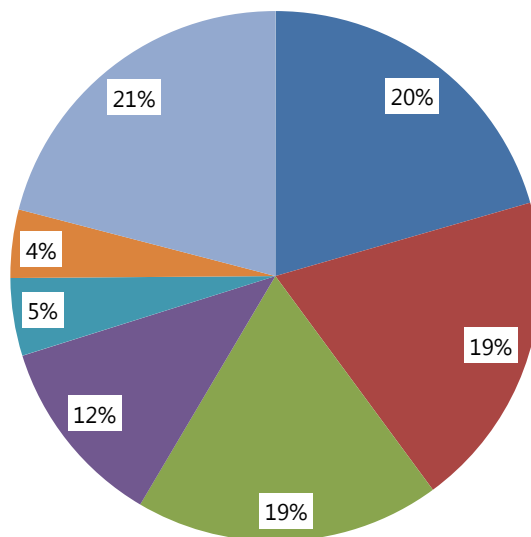
Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Ten percent of the grain car shipments originating in North Dakota from 2006 to 2010 were 1–5 cars in size, 35 percent were 6–49 cars, 7 percent were 50–74 cars, and the remaining 48 percent of shipments were 75 cars or greater. (fig. 7)

Average tariff rail rates for shipments originating in North Dakota were 3.4 cents per ton-mile from 2006 to 2010. Rates ranged from 3.03 cents per ton-mile in 2004 to 4.16 cents in 2010. Rates increased 22 percent from 2005 to 2010. (fig. 8)

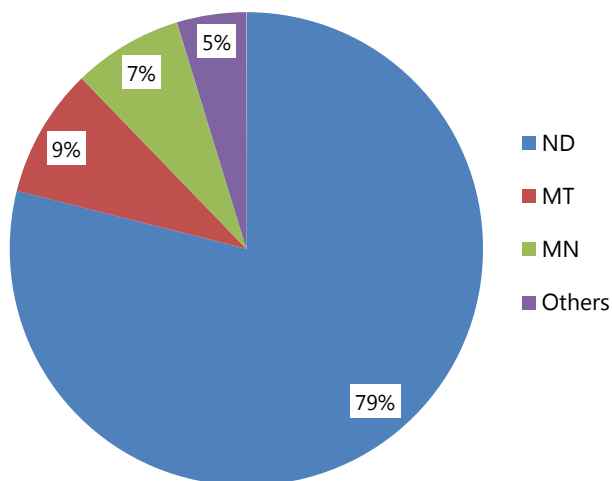
Figure 5. Business Economic Areas Receiving North Dakota Wheat by Rail, 2006–2010

- Portland-Salem, OR-WA
- Duluth-Superior, MN-WI
- Chicago-Gary-Kenosha, IL-IN-WI
- St. Louis, MO-IL
- Fargo-Moorhead, ND-MN
- Minneapolis-St. Paul, MN-WI-IA
- Others



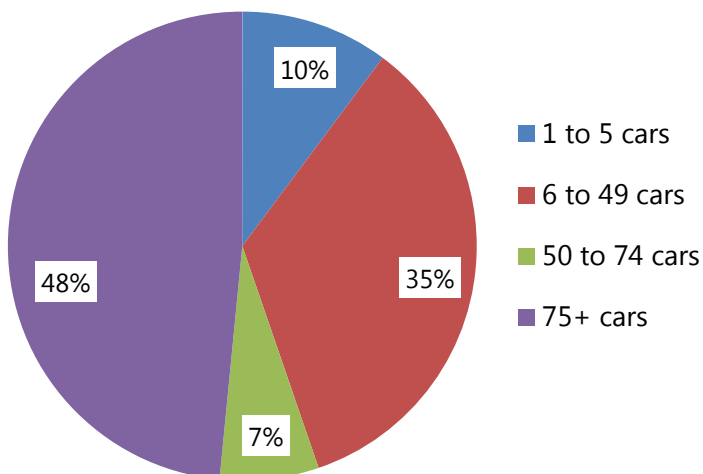
Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Figure 6. Sources of North Dakota Rail Wheat Receipts, 2006–2010



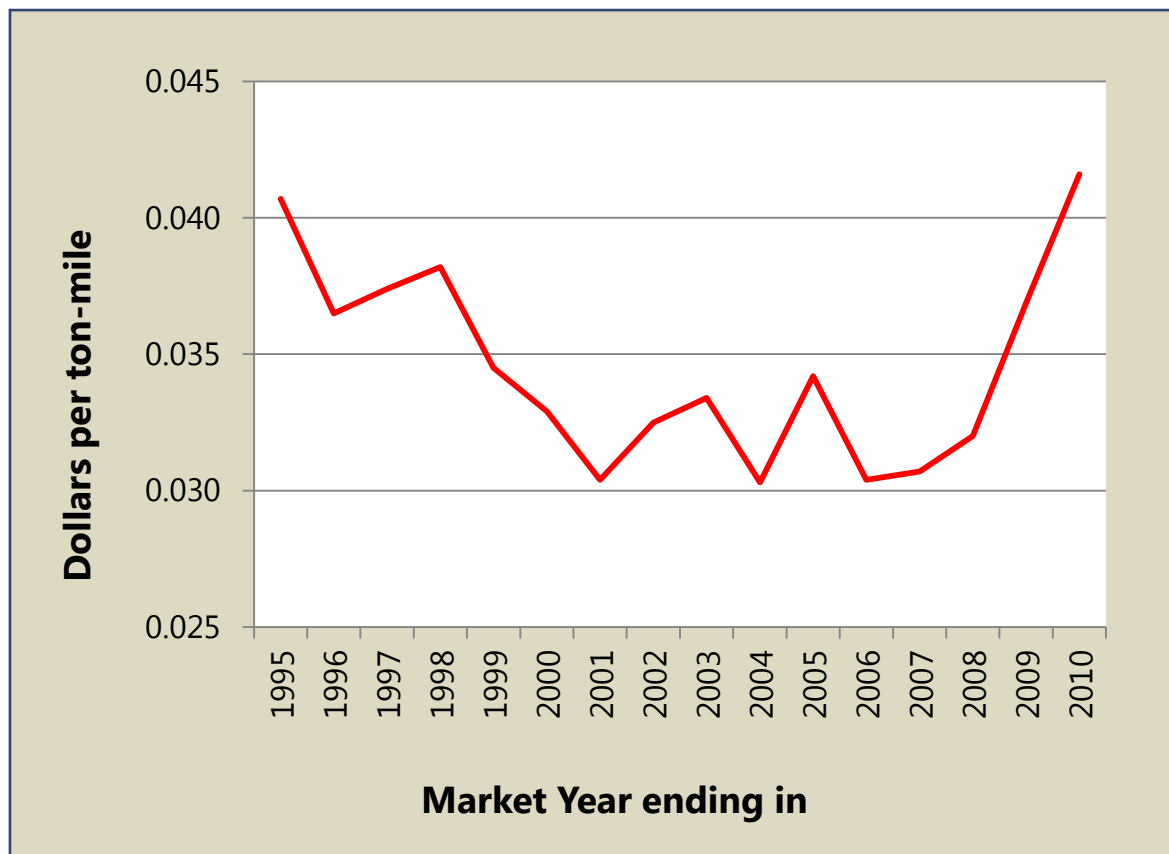
Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Figure 7. North Dakota Grain Originations by Shipment Size



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Figure 8. Average North Dakota Rail Tariff Rates



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Table 1. North Dakota Grain and Oilseed Production and Rail Shipments, 2006-2010

	Corn	Soybeans	Wheat	Total Grain and Oilseeds	GCAUs*
Average Yearly Production	233.92 mbu†	117.67 mbu	320.12 mbu	755.11 mbu	1,214,854
Total Rail Receipts (tons)	2,963,834	1,002,060	3,683,122	-	-
Total Rail Shipments (tons)	16,845,471	21,347,228	47,047,967	-	-

* Grain Consuming Animal Units

† Million bushels

Data and Methodology

Data from the Surface Transportation Board's Confidential Waybill Samples over the period 1996-2010 were analyzed to measure grain and oilseed shipments by rail. The data were aggregated and sorted by a number of characteristics, the major categories being shipment origin, destination, and type of grain or oilseed. This information was then organized by both origin and destination State. The data were also sorted by shipment size for each State, showing the relative frequencies of grain and oilseed shipments of different sizes. Data having less than 30 observations are excluded, as are States having data for only 1 or 2 years of the 5-year period. Despite these precautions, States with relatively low volumes are more subject to year-to-year variation than are States with higher volumes because of the number of available observations used to calculate totals. This is a result of the sampling techniques used in the Waybill Samples. Thus, higher volumes are less likely to suffer from sampling limitations and be more representative of actual rail movements for any given year than are lower volumes.

GCAUs were calculated for each State using information on animal populations and the corresponding levels of feed necessary to maintain the populations. These calculations included meat and poultry for consumption and production purposes. Cows, sheep, turkeys, hogs, and chickens were included.

The export inspection numbers in this report were taken from USDA Grain Inspection, Packers and Stockyards Administration grain and oilseed export inspections at U.S. ports exporting grain and oilseeds in bulk. Grain and oilseed production levels by State were also calculated.

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