

Shipments of Grain by Rail in Minnesota

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This summary of grain shipments by rail in Minnesota 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.

Minnesota ranks fourth among the grain and oilseed producing States, with a 2006–2010 average yearly production of 1.6 billion bushels (bbu). From 2006 to 2010, corn comprised 75 percent of Minnesota crops, soybeans 18 percent, wheat 6 percent, and oats 1 percent.

Nationally, Minnesota is ranked sixth in animal and poultry production, averaging 22.1 million Grain Consuming Animal Units (GCAU)² from 2006 to 2010.

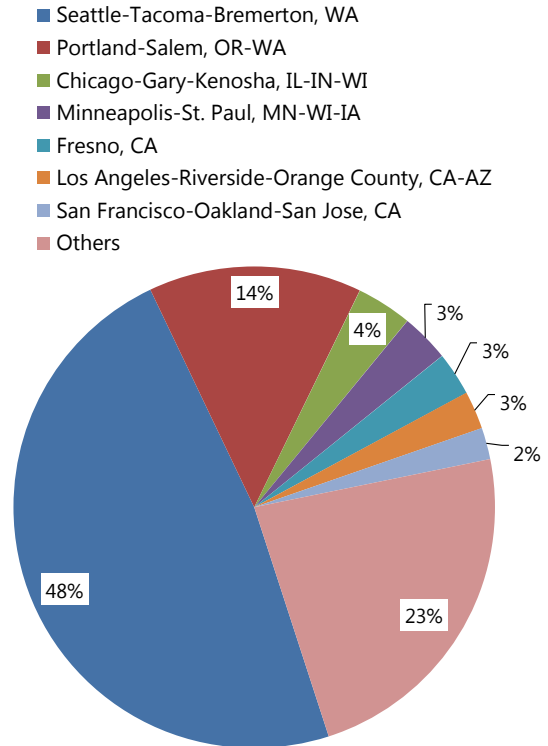
For each year from 2006 to 2010, an average of 332,000 metric tons of grain and oilseeds were inspected for export from Minnesota.

Railroad originations of grain and oilseeds had an average market share of 39.8 percent in the crop marketing years 2007–2010, a decrease from the average of 42.2 percent in the period 2001–2004.

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

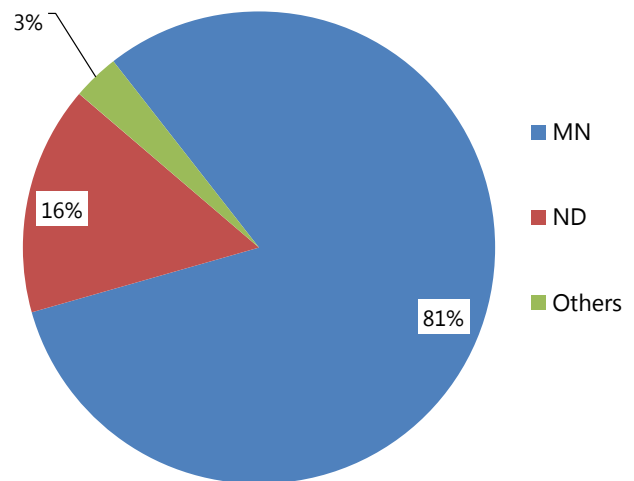
2 A standard unit used to compare feed needs of different livestock and poultry.

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



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

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



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

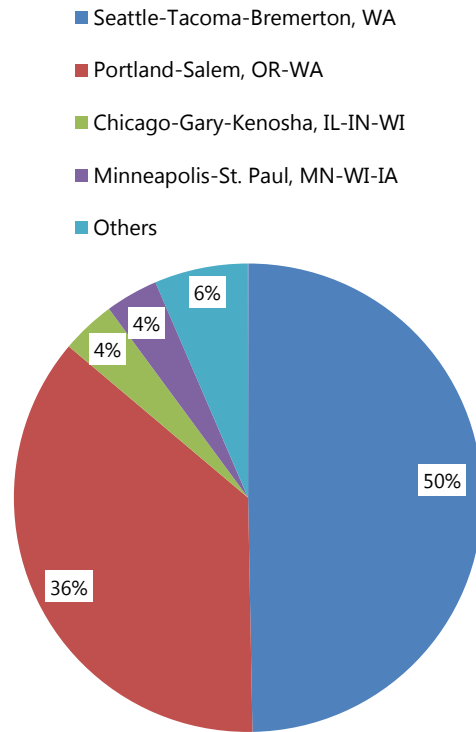
During the period 2006–2010, Minnesota shipped 54.9 million tons of corn by rail, up 39.7 percent from 39.3 million tons from 1996 to 2000. (fig. 1)

Minnesota received a total of 2 million tons of corn by rail during the 2006–2010 marketing years, down 63.6 percent from 5.6 million tons during the 1996–2000 marketing years. (fig. 2)

From 2006 to 2010, Minnesota shipped 18.8 million tons of soybeans by rail, up 24.1 percent from 15.1 million tons shipped in the period 1996–2000. (fig. 3)

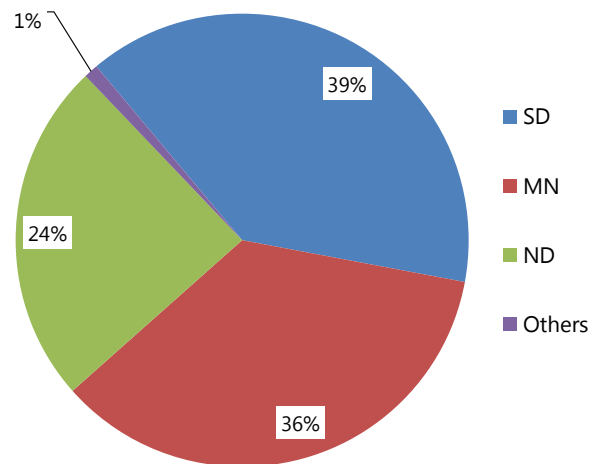
Minnesota received a total of 2 million tons of soybeans by rail during the 2006–2010 marketing years, down 61.3 percent from 5.3 million tons during the 1996–2000 marketing years. (fig. 4)

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



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

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



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

In the years 2006–2010, 11.4 million tons of wheat were shipped by rail from Minnesota, an 8.5 percent decrease from 12.5 million tons from 1996 to 2000. (fig. 5)

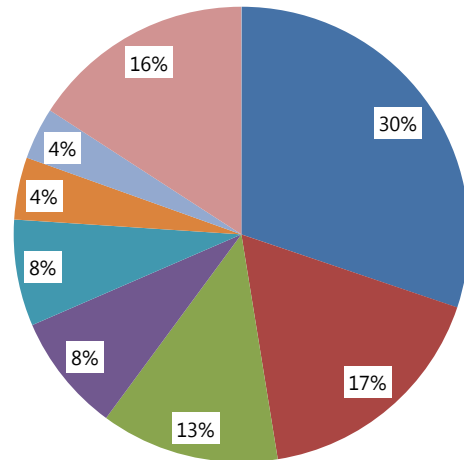
Minnesota received a total of 8.9 million tons of wheat by rail during the 2006–2010 marketing years, down 17.1 percent from 10.8 million tons during the 1996–2000 marketing years. (fig. 6)

Six percent of the grain car shipments originating in Minnesota from 2006 to 2010 were 1–5 cars in size, 23 percent were 6–49 cars, 5 percent were 50–74 cars, and the remaining 66 percent of shipments were 75 cars or greater. (fig. 7)

Average tariff rail rates for shipments originating in Minnesota were 2.9 cents per ton-mile from 2006 to 2010. Rates ranged from 2.06 cents per ton-mile in 2004 to 3.77 cents in 2010. Rates increased 63 percent from 2005 to 2010. (fig. 8)

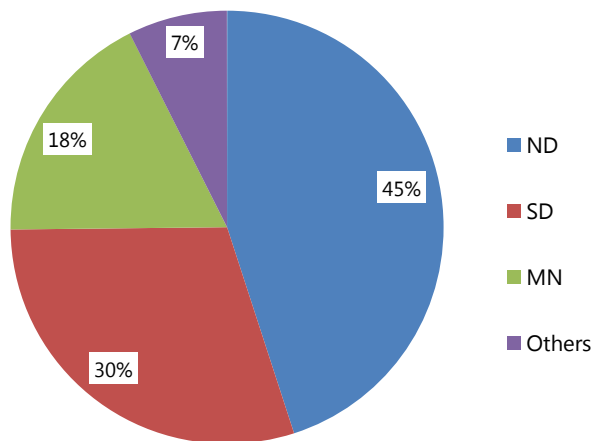
Figure 5. Business Economic Areas Receiving Minnesota Wheat by Rail, 2006–2010

- Chicago-Gary-Kenosha, IL-IN-WI
- Duluth-Superior, MN-WI
- Portland-Salem, OR-WA
- St. Louis, MO-IL
- Minneapolis-St. Paul, MN-WI-IA
- Rochester, MN-IA-WI
- New York-No. New Jersey-Long Island, NY-NJ-CT-PA-MA-VT
- Others



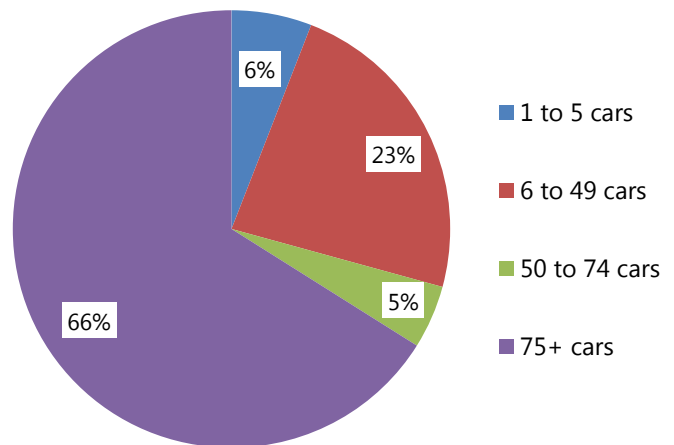
Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

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



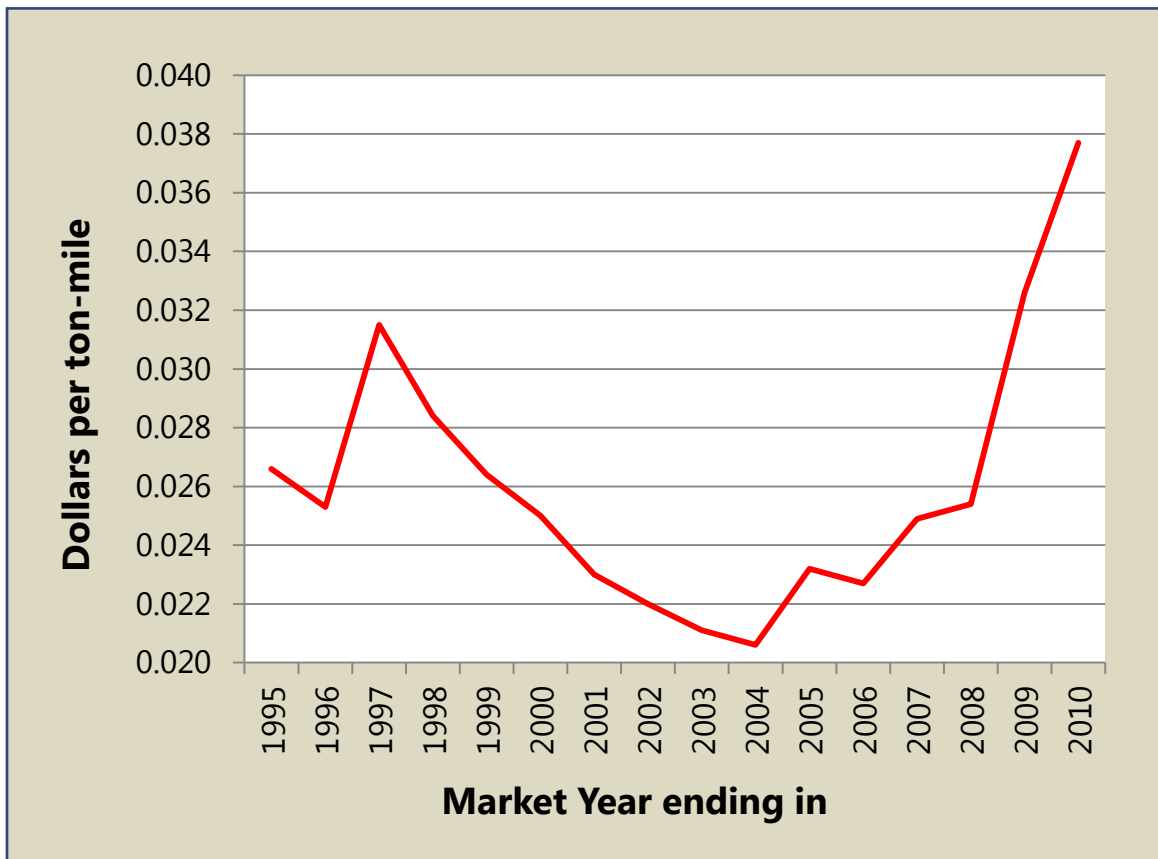
Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Figure 7. Minnesota Grain Originations by Shipment Size



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

Figure 8. Average Minnesota Rail Tariff Rates



Source: USDA analysis of Surface Transportation Board Confidential Waybill Samples

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

	Corn	Soybeans	Wheat	Total Grain and Oilseeds	GCAUs*
Average Yearly Production	1194.62 mbu†	292.99 mbu	87.79 mbu	1592.48 mbu	22,123,049
Average Yearly Export Inspections (metric tons)	16,817	116,573	187,148	331,599	-
Total Rail Receipts (tons)	2,043,922	2,037,788	8,931,505	-	-
Total Rail Shipments (tons)	54,888,209	18,756,891	11,430,710	-	-

* 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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