The U.S. is the world’s largest grain producer.

Grains include corn, soybeans, oats, wheat, rice, sorghum and barley. We use grains for many purposes, ranging from the food we eat to animal feed and ethanol production. Average annual U.S. grain production from 2012 to 2021 was 595 million tons.

Freight railroads are critical to moving grain domestically and abroad.

With one railcar containing enough wheat to make more than 250,000 loaves of bread or enough corn to feed 37,000 chickens for an entire lifetime, freight railroads are a critical link in the grain supply chain.

Today, grain shippers benefit from strong competition among railroads, trucks, and barges. According to USDA data, the truck share of total U.S. grain transport was 67% in 2019 (the most recent year for which data are available), compared with 22% for railroads and 11% for barges. The rail share is just below 40% for grain export movements, according to USDA data.

In 2021, U.S. Class I railroads originated 1.5 million carloads of grain (5.5% of total carloads) carrying 152 million tons (10.3% of total tonnage).

Corn is by far the highest-volume grain carried by railroads. Corn is grown in large quantities in many different states, mainly in the Midwest. In 2021, corn accounted for 744,000 carloads (49% of total rail grain carloads), well ahead of wheat (296,000 carloads) and soybeans (299,000 carloads). Grain-related food products, including corn syrup, flour, soybean oil, soybean meal, dried distillers grains, and much more, accounted for an additional 784,000 carloads and $3.2 billion in rail revenue.

Many aspects of the grain market are unpredictable.

Some aspects of the grain market are generally predictable — e.g., poultry farms in the southern United States need large and relatively steady amounts of grain for feed — but many aspects of the grain market are volatile. For example, large annual fluctuations in grain production are common. Just from 2019 to 2021, U.S. grain production ranged from 570 million tons to 631 million tons, a significant swing. Further complexity comes from the difficulty in forecasting crop size, even when the forecasts are made close to harvest time. Global markets too are constantly changing, which is important because the United States is a huge grain exporter.

Timing adds more complexity. Those who have grain to sell want to sell it to the highest bidder. At harvest, a farmer might choose to sell the crop immediately — perhaps to a local processor or elevator — or the farmer might decide to store all or part of the crop in anticipation of a better price later. Likewise, an elevator might choose to sell the grain to, say, an overseas buyer, or it could decide to store the grain until prices improve. All of this makes planning and operations more difficult for those involved in grain logistics.

Key Takeaways

- Over the past five years, America’s freight railroads have shipped an average of 714,000 carloads of corn, 309,000 carloads of wheat, 281,000 carloads of soybeans, and 42,000 carloads of sorghum per year.
- According to the USDA, railroads account for around 24% of U.S. grain movements.
- Railroads transport around 750,000 carloads of grain-related food products each year, including 400,000 carloads of grain mill products (such as corn syrup and flour) and 250,000 carloads of processed soybeans, mainly soybean meal and soybean oil.
- Freight railroads constantly work to meet grain-related shipper needs and are resilient in the face of the complexities of grain markets.
Freight railroads focus on meeting the demand of their grain-related customers.

Despite these supply chain complexities, railroads constantly work to improve their service. In fact, freight railroads invest well about $20 billion a year, on average, back into their networks. These investments have enhanced key agricultural routes, helping railroads meet current and future demand in this highly complex marketplace while ensuring farmers remain globally competitive.

- **Investing in Infrastructure & Equipment:** Adequate grain car capacity is critical to efficient grain marketing and transportation, so railroads work with freight car providers to supply a rail car fleet that is as large as can be justified economically. In recent years, railroads have acquired thousands of new high-capacity covered hoppers for carrying grain and increasingly use highly efficient “shuttle trains” to move high volumes of grain reliably and cost-effectively. As of year-end 2020, the North American railroad grain car fleet consisted of nearly 276,000 cars (owned by railroads and non-railroads) with a capacity of 1.41 billion cubic feet.

- **Customer Planning & Communication:** Frequent communication with customers, terminals and grain industry experts gives railroads insights and forecasts so they know where to position equipment and personnel ahead of demand. Railroads developed mobile apps, which allow shippers to order rail cars, track shipments and get customer support.

- **Preparing Operations:** Railroads move hopper cars and locomotives out of storage and beef up mechanical inspection teams ahead of harvest season so assets are ready as demand rises.