



Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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WEEKLY HIGHLIGHTS

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Russia Pulls Out of Black Sea Grain Deal

On Monday, July 17, Russia [refused to extend](#) the agreement that has allowed Ukraine to export grain from its Black Sea ports for the past year (Reuters). Brokered by Turkey and the United Nations, the Black Sea Grain Initiative has allowed Ukraine to export 33 million metric tons (mmt) of corn, wheat, and other grains despite Russia's wartime blockade. In marketing year 2022/23, Ukraine was the fifth-largest exporter of wheat worldwide, exporting over 13.5 mmt. On July 18, the U.S. Agency for International Development announced an additional [\\$250 million in support of Ukraine's agricultural sector](#)—including grain elevators, trans-shipment facilities, and port and border infrastructure.

NCGA Cites Transportation as Key to Export Competitiveness

According to USDA's July [World Agriculture Supply and Demand Estimates](#), Brazil will likely export more corn than the United States, both in the current marketing year (MY) and upcoming MY 2023/24. However, [a new white paper](#) from the National Corn Growers Association (NCGA) suggests this trend may not necessarily continue. The white paper identifies U.S. superior infrastructure as being one reason for optimism about future U.S. corn exports. Currently, 60 percent of grain is transported by truck in Brazil, which is slightly lower than the analogous U.S. share. However, Brazil has only 25 percent of the roadway miles found in the United States (despite Brazil's being 87 percent the size of the United States). Additionally, only 12 percent of Brazil's roads are paved, compared to nearly 70 percent of U.S. roads. Another challenge for Brazil is that its storage capacity has not kept pace with rising grain production—leading to an estimated 4-billion-bushel shortfall of capacity this year. For more on Brazil's agricultural transportation, see USDA's [Brazil Soybean Transportation report](#).

Recent Chassis Maintenance Causes Short-Term Shortage in Chicago

According to the [Journal of Commerce](#), Chicago-region trucking firms recently reported a scarcity of chassis to move international shipping containers. Chassis providers have assured truckers and shippers the situation is temporary. In recent weeks, both Direct ChassisLink, Inc., and TRAC Intermodal—two of the largest U.S. intermodal equipment providers—have undergone significant upgrades, maintenance, and repair of their equipment. Progress in returning the chassis to service has been slowed by the challenge of finding sufficient mechanics to do the work. Containerized agricultural exports sourced in our Nation's heartland—such as grain, soybeans, and meat products—rely on chassis for movement to port regions.

CVA Announces Plans for a New Grain Shuttle Facility in Kansas

On July 6, Central Valley Ag (CVA)—a farmer-owned cooperative in Iowa, Kansas, and Nebraska—[announced plans](#) to build a new grain shuttle facility in Republic County, KS. Located on an existing grain elevator site, the new 5.5-million-bushel (mbu) grain facility will allow for a "high-speed shuttle loader" with access to a BNSF railway line. In addition to the grain shuttle facility, the site will include a 3.5-million-gallon liquid fertilizer plant that will be able to receive fertilizer by rail or truck. Construction of the grain shuttle facility is expected to start this fall and finish by summer 2025. In 2022, farmers in Republic County produced 5.1 mbu of soybeans—the fourth-highest production among Kansas counties.

Snapshots by Sector

Export Sales

For the week ending July 6, [unshipped balances](#) of wheat, corn, and soybeans for marketing year (MY) 2022/23 totaled 10.53 million metric tons (mmt), down 3 percent from last week and down 45 percent from the same time last year. Net [corn export sales](#) for MY 2022/23 were 0.469, up 86 percent from last week. Net [soybean export sales](#) were 0.081 mmt, up 57 percent from last week. Net weekly [wheat export sales](#) for MY 2023/24, were 0.396 mmt, down 2 percent from last week.

Rail

U.S. Class I railroads originated 12,629 [grain carloads](#) during the week ending July 8. This was a 20-percent decrease from the previous week, 23 percent fewer than last year, and 25 percent fewer than the 3-year average.

Average July [shuttle secondary railcar bids/offers](#) (per car) were \$59 below tariff for the week ending July 13. This was \$191 more than last week and \$26 lower than this week last year. Average non-shuttle secondary railcar bids/offers per car were \$75 above tariff. This was \$75 more than last week and \$13 more than this week last year.

Barge

For the week ending July 15, [barged grain movements](#) totaled 414,354 tons. This was 19 percent less than the previous week and 42 percent less than the same period last year.

For the week ending July 15, 267 grain barges [moved down river](#)—73 fewer than last week. There were 343 grain barges [unloaded](#) in the New Orleans region, 9 percent fewer than last week.

Ocean

For the week ending July 13, 18 [oceangoing grain vessels](#) were loaded in the Gulf—28 percent fewer than the same period last year. Within the next 10 days (starting July 14), 37 vessels were expected to be loaded—5 percent fewer than the same period last year.

As of July 13, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$46.75. This was 1 percent less than the previous week. The rate from the Pacific Northwest to Japan was \$25.75 per mt, 1 percent less than the previous week.

Fuel

For the week ending July 17, the U.S. average [diesel fuel price](#) was unchanged from the previous week at \$3.806 per gallon, 162.6 cents below the same week last year.

Feature Article/Calendar

Grain Transportation Update: Low Demand Likely To Persist Through Summer

Demand for grain transportation has been well below average this summer, reflecting low export demand for marketing year (MY) 2022/23 and low domestic grain stocks ([Grain Transportation Report, July 13, 2023, first highlight](#)). Grain carloads on the Nation's Class I railroads reached a 15-year low in the most recent week of data, and barge volumes are well below the 5-year average as well. Low volumes have lessened the impacts of recent challenges to barge supplies, including adverse weather conditions and low water levels affecting the Mississippi River System (MRS).

Over the last 15 weeks, grain transport cost indicators ([GTR table 1](#)) have declined 9 percent for trucking, 7 percent for shuttle trains, 2 percent for non-shuttle trains, 55 percent for barge, 9 percent for ocean vessels departing the U.S. Gulf Coast, and 10 percent for ocean vessels departing the Pacific Northwest (PNW). However, the demand for grain transportation could pick up in the near term. According to USDA's July [World Agricultural Supply and Demand Estimates \(WASDE\)](#), total U.S. disappearance of the three major grains is expected to rise in MY 2023/24.

Record Low Grain Carloads Coincide With Service Improvement

Apart from a slight uptick in April, grain carloads have generally declined since late January ([GTR fig. 2](#)). For the week ending July 8, total grain carloads across the four U.S. Class I railroads (BNSF Railway, Union Pacific Railroad, CSX Transportation, and Norfolk Southern Railway) were 12,629—the fewest weekly carloads since the last week of December 2008. At the State level, [grain cars loaded and billed](#) in June were up 20 percent from the prior 5-year average in Illinois and Ohio. However, the same indicator was down significantly in Iowa (48 percent), Indiana (19 percent), Kansas (58 percent), Minnesota (29 percent), Montana (41 percent), North Dakota (35 percent), Nebraska (59 percent), and South Dakota (40 percent). Apart from grain, total rail traffic, especially intermodal, is down so far in 2023.

The low demand for grain car service is reflected in the secondary market for shuttle trains. Bids for shuttles in the nearest month have been negative since January. In the latest week of data, near-month (July or August) shuttle car bids averaged -\$151. Unable to sell excess shuttle capacity on the secondary market, many shuttle contracts have been cancelled in the last several months.

Likely, as a result of the low carloads, nearly all the [Surface Transportation Board's service metrics](#) have improved. Average origin dwell time—i.e., from when a shuttle train is released at its origin or interchange until the receiving carrier moves the train—fell from over 30 hours at the start of April to 17 hours by July. One sign of improved network fluidity is a reduced number of grain cars not moved in over 48 hours. At the end of March, this metric averaged around 300 cars per week across Class I railroads. By the start of July, that number was down to 130 per week. Grain shippers are also having an easier time receiving manifest service: at the start of this year, unfilled grain car orders were nearly 19,000, and in the latest week of data, were down to 423.

Declines in Barge Demand, Barged Grain Movements, and Spot Rates

In second quarter 2023, barged grain movements and freight rates were challenged by extreme weather and slow export sales (see, also, [Grain Transportation Report, July 13](#)). In late April, portions of the MRS flooded, and all the locks and dams above St. Louis, MO, were closed to traffic until mid-May. Later in the quarter, diminished grain sales lowered demand for barges. Throughout the first and second quarters of 2023, export sales lagged last year and the previous 5-year-average, reducing the demand for barges. Although typically low in the second quarter as farmers focus on planting, second-quarter spot freight rates were much lower this year: with the closure of the upper MRS, rates fell sharply because of an excess supply of barges and a lack of demand for barges to move grain.

From April 4 to July 18, the St. Louis spot rate (the cost to request nearby services) dropped from 404 percent of the benchmark tariff (\$15.20 per ton) to 314 percent of benchmark tariff (\$12.53 per ton). Over the same April-July period, the spot rate on the Mid-Mississippi dropped from 566 percent of the benchmark tariff (\$30.11 per ton) to 384 percent of the benchmark tariff (\$20.43 per ton). The spot rate for the first week of July was 25 percent lower than last year.

Barged grain movements in second quarter 2023 were down both from second quarter 2022 and the previous 5-year-average. For the week ending July 15, YTD 2023 total downbound barged grain tonnage was 15.1 million tons—23 percent lower than the same week last year and 19 percent lower than the previous 5-year average. After the floods early in the quarter, low water levels toward the end of the quarter have caused 10-15-percent reductions in draft sizes and 14-25 percent reductions in tow size. These changes have lengthened barge transits by 1 to 2 days.

Dry-Bulk Ocean Freight Rates Below the Yearly Peak

After tapering off from their yearly peak on April 13, ocean freight rates for shipping grain have mostly stabilized for the past 2 weeks. As of July 17, the ocean freight rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$46.75—34 percent less than the same 2022 period and 23 percent less than the 4-year average. The rate from PNW to Japan was \$25 per mt—37 percent less than the same 2022 period and 33 percent less than the 4-year average. Also, as of July 17, the rate from the U.S. Gulf to Europe was \$25 per mt—29 percent less than the same 2022 period and 3 percent more than the 4-year average. Down sharply from a year ago, ocean freight rates are responding to low bulk market activity. The bulk market is sluggish because of weak Chinese cargo demand and June holidays in some Asian countries such as Singapore ([Transportation and Export Report, O'Neil Commodity Consulting, June 29 and July 6, 2023](#)). Further slowing the recovery of the bulk shipping market and pushing down ocean freight

rates, uncertainty surrounds the July 17 announcement that Russia [has pulled out](#) of the Black Sea Grain Initiative. (For the last year, the initiative has exempted Ukrainian grain exports from Russia’s wartime blockade of the Black Sea.) YTD, as of July 13, an average of 25 oceangoing grain vessels per week were loaded in the U.S. Gulf, same as the number of vessels loaded during the same period in 2022.

Diesel Prices Projected To Rise in Fourth Quarter

For the week ending July 17, the U.S. average diesel price was \$3.806 per gallon, unchanged from last week and down 1.63 per gallon from same time last year. Weekly average U.S. diesel prices have continued to fall for most of 2023, rising only six times this year: three increases were in January, and the other three were during the weeks ending April 17, June 19, and July 10. For the week ending July 10, U.S. average diesel prices rose 3.9 cents per gallon—the second-largest increase of 2023 (8 cents behind the January 23 increase). The July increase was due to rising crude oil prices following the [announcement](#) that the Organization of the Petroleum Exporting Countries and its allies (OPEC+) would reduce oil production to around 5 million barrels per day (about 5 percent of global oil demand). This resulted in the West Intermediate Texas crude oil price increasing from under \$68 per barrel on June 27 to over \$74 per barrel on July 10. Looking ahead, as global inventories decline, the Energy Information Administration’s (EIA) July 11 [Short Term Energy Outlook](#) projects spot Brent crude oil prices will gradually increase to \$80 per barrel in fourth quarter 2023 and will average \$84 per barrel in 2024. From third to fourth quarter 2023, EIA also projects the average per gallon diesel price will rise 23 cents per gallon to \$3.88 per gallon. U.S. diesel prices are projected to average \$3.96 per gallon in 2023 and \$3.84 gallon in 2024, up 1 cent and 2 cents, respectively, from EIA’s June forecast, but down from the 2022 average price of \$5.02 per gallon.

Grain Exports Increase in MY 2023/24

According to USDA’s July *WASDE*, total U.S. disappearance (domestic use, plus exports) of the three major grains is expected to total 20.6 billion bushels in MY 2023/24, up 3 percent from MY 2022/23. If it materializes, the rising disappearance will lift transportation demand. From MY 2022/23 to MY 2023/24, exports for these grains are projected to rise 7 percent, because of higher corn exports. Likewise, domestic use is expected to increase 3 percent, because of higher corn and soybean consumption (table 1).

Since *WASDE*’s June forecast, corn exports for MY 2022/23 were revised down by 1.9 million metric tons (mmt), because of slow outstanding export sales and competition from Brazil’s record second corn crop (Safrina), which enters the market in July. After subtracting, from *WASDE*’s MY 2022/23 projection, the corn that has already shipped—the outstanding balance of corn to be shipped through August 31 is 6.5 mmt. This total is 31 percent below the same time last year. From MY 2022/23 to MY 2023/24, because of rising supply, U.S. corn exports are projected to increase 27 percent to 53.4 mmt.

The robust domestic demand for soybean crush and strong competition from Brazil that pervaded MY 2022/23 are expected to continue in MY 2023/24. Tight U.S. soybean supplies (due to strong domestic demand) in MY 2023/24 are expected to raise U.S. prices, which would decrease U.S. competitiveness in the global market, particularly with Brazil. As a result, U.S. exports are projected to be 8 percent lower than MY 2022/23 and 6 percent lower (0.544 mmt) than *WASDE*’s June projections. After subtracting, from *WASDE*’s MY 2022/23 projection, the soybeans that have already shipped—the outstanding balance of soybeans to be shipped through August 31 is 4.2 mmt. This total is 31 percent below the same time last year.

For wheat, MY 2023/24 began on June 1. As of July 6, unshipped exports are 33 percent below the same time in MY 2022/23. For MY 2023/24, U.S. wheat exports are projected to fall 4 percent because of uncompetitive prices and lower supplies than other major exporters. Russia’s strong wheat crop and the country’s lower export taxes are expected to enhance Russia’s competitiveness.

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Table 1. Major grains: production and use, July 2023

| million bushels | | | | | |
|-----------------------------------|--------------|--------------|--------------|--------------|---------------|
| | Corn | Soybeans | Wheat | Total | Y/Y |
| United States 2023/24 (projected) | | | | | |
| Production | 15,320 | 4,300 | 1,739 | 21,359 | 8.7% |
| Exports | 2,100 | 1,850 | 725 | 4,675 | 6.5% |
| Domestic use | 12,385 | 2,426 | 1,132 | 15,943 | 2.5% |
| Ending stocks | 2,262 | 300 | 592 | | |
| Total use | 14,485 | 4,276 | 1,857 | | |
| Stocks/use | 15.6% | 7.0% | 31.9% | | |
| United States 2022/23 (projected) | | | | | |
| Production | 13,730 | 4,276 | 1,650 | 19,656 | -7.2% |
| Exports | 1,650 | 1,980 | 759 | 4,389 | -19.0% |
| Domestic use | 12,080 | 2,340 | 1,131 | 15,551 | -2.1% |
| Ending stocks | 1,402 | 255 | 580 | | |
| Total use | 13,730 | 4,320 | 1,890 | | |
| Stocks/use | 10.2% | 5.9% | 30.7% | | |
| United States 2021/22 (estimated) | | | | | |
| Production | 15,074 | 4,465 | 1,646 | 21,185 | |
| Exports | 2,472 | 2,152 | 796 | 5,420 | |
| Domestic use | 12,483 | 2,312 | 1,093 | 15,888 | |
| Ending stocks | 1,377 | 274 | 698 | | |
| Total use | 14,956 | 4,464 | 1,889 | | |
| Stocks/use | 9.2% | 6.1% | 37.0% | | |

Source: USDA, *World Agricultural Supply and Demand Estimates*, July 2023.

Grain Transportation Indicators

Table 1

Grain transport cost indicators¹

| For the week ending | Truck | Rail | | Barge | Ocean | |
|---------------------|-------|-------------|---------|-------|-------|---------|
| | | Non-Shuttle | Shuttle | | Gulf | Pacific |
| 07/19/23 | 255 | 325 | 246 | 204 | 209 | 183 |
| 07/12/23 | 255 | 321 | 238 | 172 | 207 | 181 |

¹Indicator: Base year 2000 = 100. Weekly updates include truck = diesel (\$/gallon); rail = near-month secondary rail market bid and monthly tariff rate with fuel surcharge (\$/car); barge = Illinois River barge rate (index = percent of tariff rate); ocean = routes to Japan (\$/metric ton); n/a = not available due to holiday.

Source: USDA, Agricultural Marketing Service.

Table 2

Market Update: U.S. origins to export position price spreads (\$/bushel)

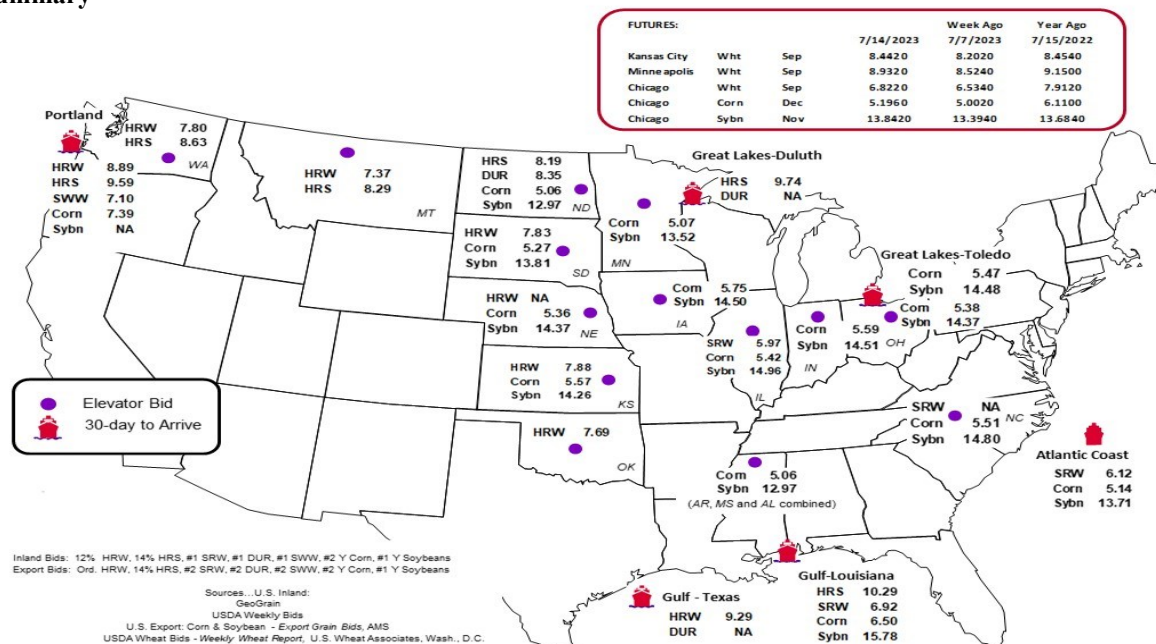
| Commodity | Origin-destination | 7/14/2023 | 7/7/2023 |
|-----------|--------------------|-----------|----------|
| Corn | IL-Gulf | -1.08 | -0.85 |
| Corn | NE-Gulf | -1.14 | -0.87 |
| Soybean | IA-Gulf | -1.28 | -1.25 |
| HRW | KS-Gulf | -1.41 | -1.58 |
| HRS | ND-Portland | -1.40 | -1.56 |

Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

Source: USDA, Agricultural Marketing Service.

The **grain bid summary** illustrates the market relationships for commodities. Positive and negative adjustments in differential between terminal and futures markets, and the relationship to inland market points, are indicators of changes in fundamental market supply and demand. The map may be used to monitor market and time differentials.

Figure 1
Grain bid summary



Rail Transportation

Table 3

Class I rail carrier grain car bulletin (grain carloads originated)

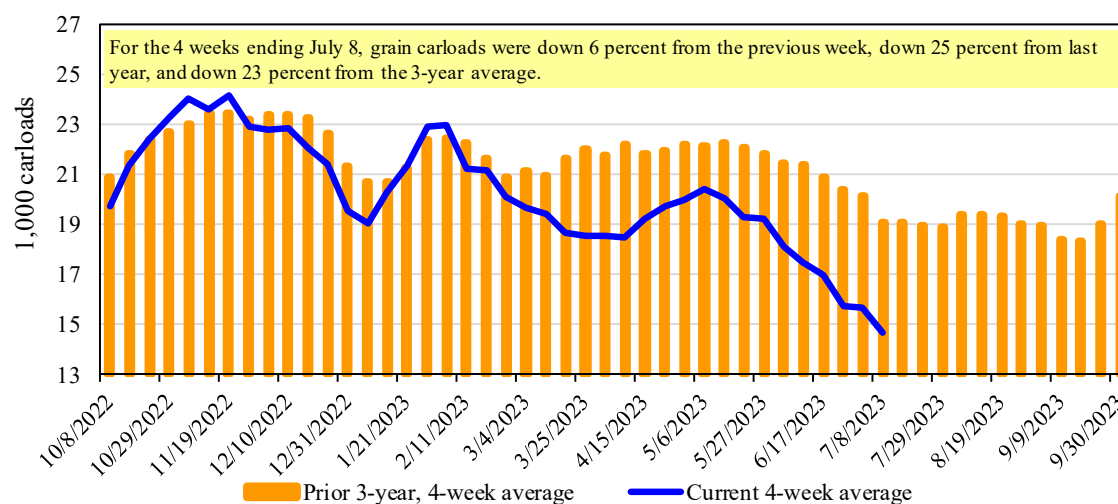
| For the week ending: 7/08/2023 | East | | West | | U.S. total | Central U.S./Canada | |
|-----------------------------------|--------|---------|---------|---------|------------|---------------------|---------|
| | CSXT | NS | BNSF | UP | | CPKC | CN |
| This week | 1,151 | 2,630 | 4,869 | 3,979 | 12,629 | 4,496 | 3,745 |
| This week last year | 1,743 | 2,723 | 7,321 | 4,527 | 16,314 | 6,956 | 3,811 |
| 2023 YTD | 51,036 | 73,443 | 243,776 | 145,348 | 513,603 | 261,066 | 122,449 |
| 2022 YTD | 49,196 | 65,762 | 305,068 | 155,352 | 575,378 | 244,006 | 93,315 |
| 2023 YTD as % of 2022 YTD | 104 | 112 | 80 | 94 | 89 | 107 | 131 |
| Last 4 weeks as % of 2022 | 95 | 101 | 64 | 74 | 75 | 118 | 96 |
| Last 4 weeks as % of 3-yr. avg. | 100 | 109 | 65 | 78 | 77 | 100 | 91 |
| Total 2022 | 93,428 | 130,558 | 570,232 | 296,945 | 1,091,163 | 538,276 | 214,050 |

Note: The last 4-week percentages compare the last 4 weeks of this year to the closest 4 weeks last year, and to the average across the prior 3 years. The U.S. total column excludes CPKC. NS = Norfolk Southern; UP = Union Pacific; CN = Canadian National; CPKC = Canadian Pacific Kansas City; YTD = year-to-date; avg. = average; yr. = year.

Source: Association of American Railroads.

Figure 2

Total weekly U.S. Class I railroad grain carloads



Note: U.S. total excludes Canadian Pacific Kansas City
Source: Association of American Railroads.

Table 4

Railcar auction offerings¹ (\$/car)²

| For the week ending: 7/13/2023 | | Delivery period | | | | | | | |
|-----------------------------------|----------------------|-----------------|----------|--------|--------|----------|--------|----------|--------|
| | | Jul-23 | Jul-22 | Aug-23 | Aug-22 | Sep-23 | Sep-22 | Oct-23 | Oct-22 |
| BNSF | COT grain units | no offer | no offer | 0 | 0 | no offer | 0 | no offer | 0 |
| | COT grain single-car | no offer | no offer | 219 | 14 | 104 | 287 | 126 | 80 |
| UP | GCAS/vouchers | no offer | n/a | 10 | n/a | 10 | n/a | n/a | n/a |

¹Auction offerings are for single-car and unit train shipments only.

²Average premium/discount to tariff, last auction. n/a = not available.

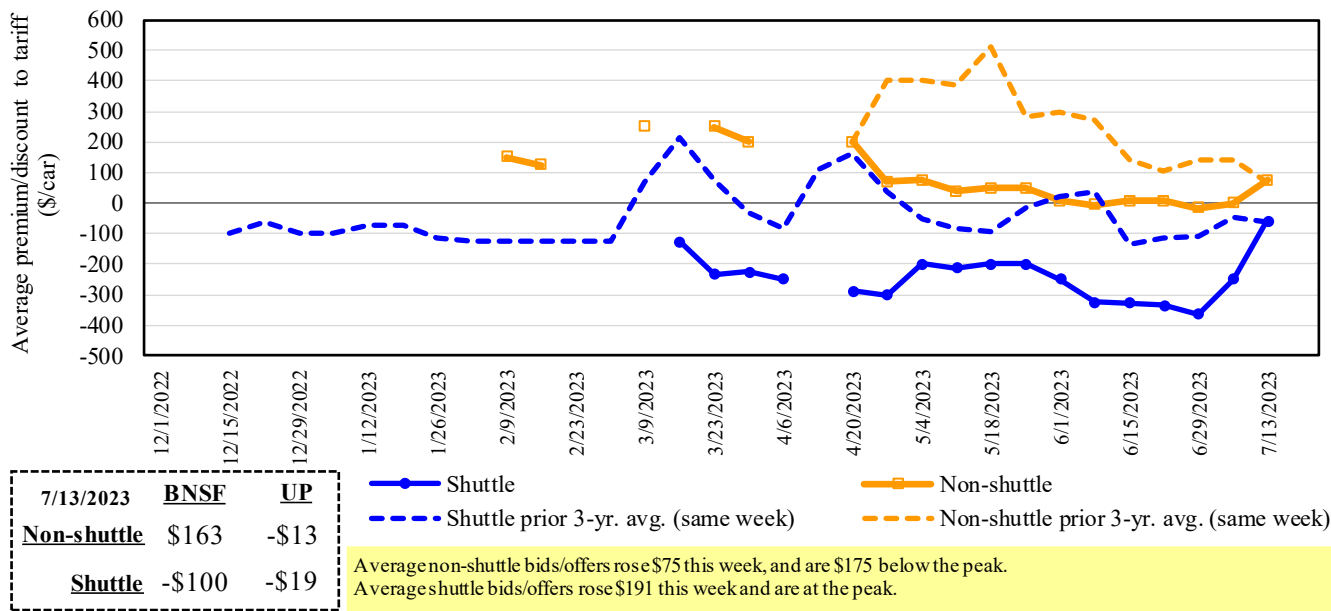
Note: BNSF = BNSF Railway; COT = Certificate of Transportation; UP = Union Pacific Railroad; and GCAS = Grain Car Allocation System.

Minimum bids for UP GCAS/vouchers are \$10.

Source: USDA, Agricultural Marketing Service.

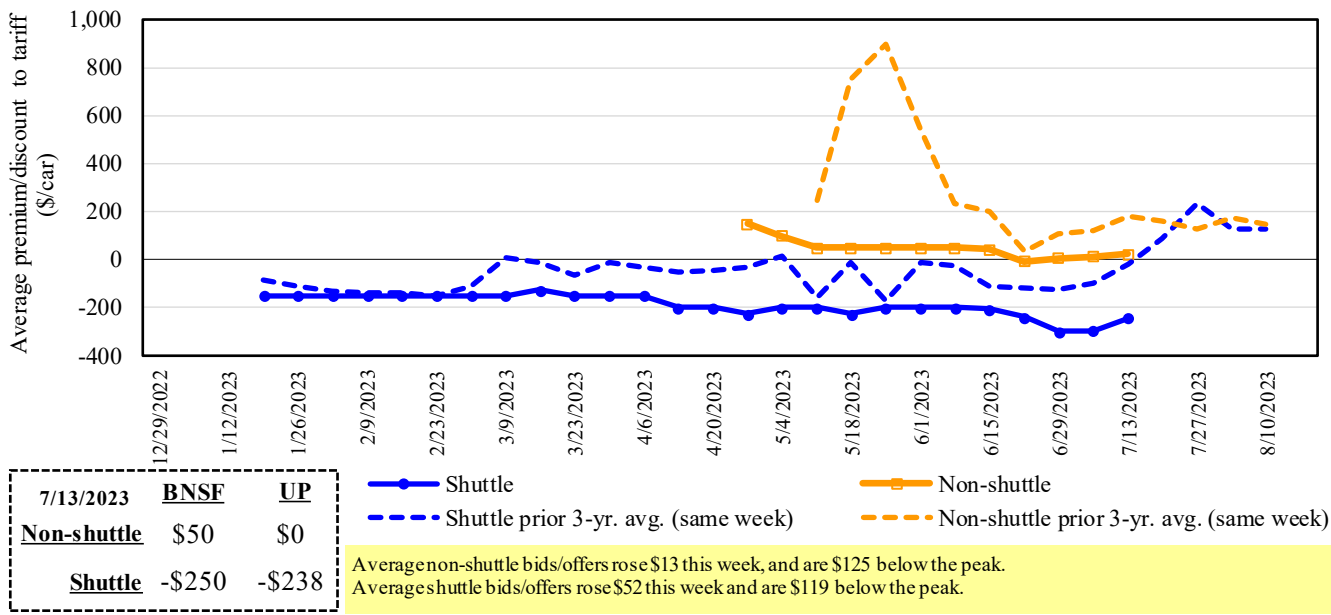
The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/supply.

Figure 3
Secondary market bids/offers for railcars to be delivered in July 2023



Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
 Source: USDA, Agricultural Marketing Service.

Figure 4
Secondary market bids/offers for railcars to be delivered in August 2023



Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
 Source: USDA, Agricultural Marketing Service.

Figure 5
Secondary market bids/offers for railcars to be delivered in September 2023

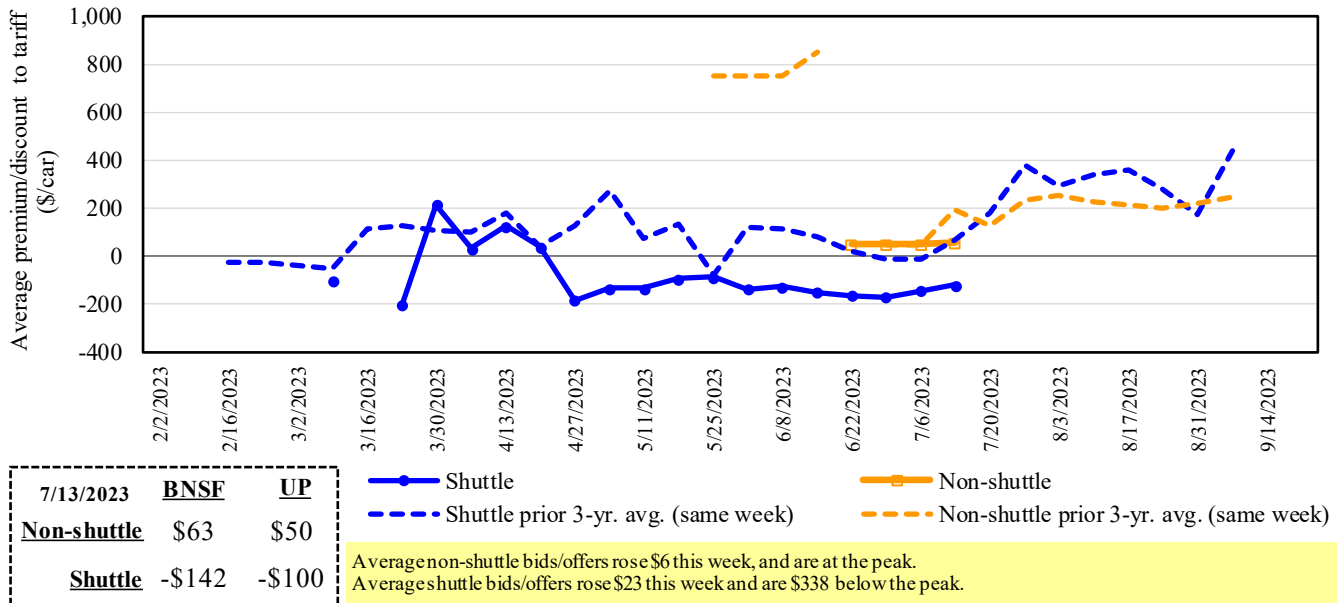


Table 5
Weekly secondary railcar market (\$/car)¹

| For the week ending: 7/13/2023 | | Delivery period | | | | | |
|-----------------------------------|----------------------------|-----------------|-------------|-------------|------------|------------|------------|
| | | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 |
| Non-shuttle | BNSF-GF | 163 | 50 | 63 | n/a | n/a | n/a |
| | Change from last week | 63 | 25 | 13 | n/a | n/a | n/a |
| | Change from same week 2022 | 100 | 38 | -138 | n/a | n/a | n/a |
| | UP-Pool | -13 | 0 | 50 | n/a | n/a | n/a |
| | Change from last week | 87 | 0 | 0 | n/a | n/a | n/a |
| | Change from same week 2022 | n/a | -400 | -350 | n/a | n/a | n/a |
| Shuttle | BNSF-GF | -100 | -250 | -142 | n/a | n/a | n/a |
| | Change from last week | 200 | 75 | 21 | n/a | n/a | n/a |
| | Change from same week 2022 | 0 | -88 | -408 | n/a | n/a | n/a |
| | UP-Pool | -19 | -238 | -100 | n/a | n/a | n/a |
| | Change from last week | 181 | 30 | 25 | n/a | n/a | n/a |
| | Change from same week 2022 | -52 | -338 | -375 | n/a | n/a | n/a |
| | CP-GF | -100 | -100 | n/a | n/a | n/a | n/a |
| | Change from last week | 0 | 0 | n/a | n/a | n/a | n/a |
| Change from same week 2022 | -200 | n/a | n/a | n/a | n/a | n/a | |

¹ Average premium/discount to tariff, \$/car-last week.

Note: Bids listed are market indicators only and are not guaranteed prices. n/a = not available;

GF = guaranteed freight; Pool = guaranteed pool; BNSF = BNSF Railway; UP = Union Pacific Railroad; CP = Canadian Pacific Railway.

Data from The Malsam Co., Tradewest Brokerage Co.

Source: USDA, Agricultural Marketing Service.

Table 6

Tariff rail rates for unit and shuttle train shipments¹

| July 2023 | Origin region ³ | Destination region ³ | Tariff rate/car | Fuel surcharge per car | Tariff plus surcharge per: | | Percent change Y/Y ⁴ |
|----------------------|----------------------------|---------------------------------|-----------------|------------------------|----------------------------|---------------------|---------------------------------|
| | | | | | metric ton | bushel ² | |
| Unit train | | | | | | | |
| Wheat | Wichita, KS | St. Louis, MO | \$4,095 | \$187 | \$42.52 | \$1.16 | 1 |
| | Grand Forks, ND | Duluth-Superior, MN | \$3,858 | \$51 | \$38.81 | \$1.06 | 2 |
| | Wichita, KS | Los Angeles, CA | \$7,640 | \$260 | \$78.45 | \$2.14 | -6 |
| | Wichita, KS | New Orleans, LA | \$4,825 | \$329 | \$51.18 | \$1.39 | -1 |
| | Sioux Falls, SD | Galveston-Houston, TX | \$7,376 | \$214 | \$75.37 | \$2.05 | -5 |
| | Colby, KS | Galveston-Houston, TX | \$5,075 | \$361 | \$53.98 | \$1.47 | -2 |
| | Amarillo, TX | Los Angeles, CA | \$5,121 | \$502 | \$55.84 | \$1.52 | -7 |
| Corn | Champaign-Urbana, IL | New Orleans, LA | \$4,000 | \$372 | \$43.42 | \$1.10 | -7 |
| | Toledo, OH | Raleigh, NC | \$8,551 | \$413 | \$89.01 | \$2.26 | 1 |
| | Des Moines, IA | Davenport, IA | \$2,655 | \$79 | \$27.15 | \$0.69 | 3 |
| | Indianapolis, IN | Atlanta, GA | \$6,593 | \$310 | \$68.55 | \$1.74 | 1 |
| | Indianapolis, IN | Knoxville, TN | \$5,564 | \$201 | \$57.25 | \$1.45 | 3 |
| | Des Moines, IA | Little Rock, AR | \$4,250 | \$232 | \$44.50 | \$1.13 | 1 |
| | Des Moines, IA | Los Angeles, CA | \$6,130 | \$675 | \$67.57 | \$1.72 | -5 |
| Soybeans | Minneapolis, MN | New Orleans, LA | \$3,472 | \$546 | \$39.91 | \$1.09 | -27 |
| | Toledo, OH | Huntsville, AL | \$7,037 | \$294 | \$72.80 | \$1.98 | 1 |
| | Indianapolis, IN | Raleigh, NC | \$7,843 | \$419 | \$82.04 | \$2.23 | 1 |
| | Indianapolis, IN | Huntsville, AL | \$5,689 | \$199 | \$58.47 | \$1.59 | 3 |
| | Champaign-Urbana, IL | New Orleans, LA | \$4,865 | \$372 | \$52.01 | \$1.42 | -2 |
| Shuttle train | | | | | | | |
| Wheat | Great Falls, MT | Portland, OR | \$4,393 | \$150 | \$45.11 | \$1.23 | -4 |
| | Wichita, KS | Galveston-Houston, TX | \$4,611 | \$116 | \$46.95 | \$1.28 | -6 |
| | Chicago, IL | Albany, NY | \$7,090 | \$390 | \$74.28 | \$2.02 | 1 |
| | Grand Forks, ND | Portland, OR | \$6,051 | \$258 | \$62.66 | \$1.71 | -6 |
| | Grand Forks, ND | Galveston-Houston, TX | \$5,399 | \$269 | \$56.29 | \$1.53 | -8 |
| | Colby, KS | Portland, OR | \$5,923 | \$592 | \$64.69 | \$1.76 | -7 |
| | Corn | Minneapolis, MN | Portland, OR | \$5,660 | \$315 | \$59.33 | \$1.51 |
| Sioux Falls, SD | | Tacoma, WA | \$5,620 | \$288 | \$58.67 | \$1.49 | -7 |
| Champaign-Urbana, IL | | New Orleans, LA | \$4,170 | \$372 | \$45.11 | \$1.15 | -2 |
| Lincoln, NE | | Galveston-Houston, TX | \$4,360 | \$168 | \$44.96 | \$1.14 | -3 |
| Des Moines, IA | | Amarillo, TX | \$4,670 | \$291 | \$49.27 | \$1.25 | 0 |
| Minneapolis, MN | | Tacoma, WA | \$5,660 | \$312 | \$59.31 | \$1.51 | -8 |
| Council Bluffs, IA | | Stockton, CA | \$5,580 | \$323 | \$58.62 | \$1.49 | -8 |
| Soybeans | Sioux Falls, SD | Tacoma, WA | \$6,350 | \$288 | \$65.92 | \$1.79 | -6 |
| | Minneapolis, MN | Portland, OR | \$6,400 | \$315 | \$66.68 | \$1.81 | -7 |
| | Fargo, ND | Tacoma, WA | \$6,250 | \$256 | \$64.61 | \$1.76 | -5 |
| | Council Bluffs, IA | New Orleans, LA | \$5,095 | \$429 | \$54.86 | \$1.49 | -3 |
| | Toledo, OH | Huntsville, AL | \$5,277 | \$294 | \$55.33 | \$1.51 | 1 |
| Grand Island, NE | Portland, OR | \$5,730 | \$606 | \$62.92 | \$1.71 | -1 | |

¹A unit train refers to shipments of at least 25 cars. Shuttle train rates are generally available for qualified shipments of

75-120 cars that meet railroad efficiency requirements.

²Approximate load per car = 111 short tons (100.7 metric tons): corn 56 pounds per bushel (lbs/bu), wheat and soybeans 60 lbs/bu.

³Regional economic areas are defined by the Bureau of Economic Analysis (BEA).

⁴Percentage change year over year (Y/Y) calculated using tariff rate plus fuel surcharge.

Source: BNSF Railway, Canadian National Railway, CSX Transportation, and Union Pacific Railroad.

Table 7

Tariff rail rates for U.S. bulk grain shipments to Mexico

| Date: December 2021 | | | Tariff rate per car ¹ | Fuel surcharge per car ² | Tariff rate plus fuel surcharge per: | | Percent change ⁴ Y/Y |
|---------------------|-----------------|----------------------|-------------------------------------|---|---|---------------------|---------------------------------------|
| Commodity | Origin state | Destination region | | | metric ton ³ | bushel ³ | |
| Wheat | MT | Chihuahua, CI | \$7,699 | \$0 | \$78.67 | \$2.14 | 4 |
| | OK | Cauatitlan, EM | \$6,900 | \$230 | \$72.85 | \$1.98 | 6 |
| | KS | Guadalajara, JA | \$7,619 | \$719 | \$85.19 | \$2.32 | 7 |
| | TX | Salinas Victoria, NL | \$4,420 | \$138 | \$46.57 | \$1.27 | 4 |
| Corn | IA | Guadalajara, JA | \$9,102 | \$663 | \$99.77 | \$2.53 | 6 |
| | SD | Celaya, GJ | \$8,300 | \$0 | \$84.81 | \$2.15 | 2 |
| | NE | Queretaro, QA | \$8,322 | \$462 | \$89.75 | \$2.28 | 5 |
| | SD | Salinas Victoria, NL | \$6,905 | \$0 | \$70.55 | \$1.79 | 0 |
| | MO | Tlalnepantla, EM | \$7,687 | \$450 | \$83.14 | \$2.11 | 5 |
| | SD | Torreón, CU | \$7,825 | \$0 | \$79.95 | \$2.03 | 2 |
| Soybeans | MO | Bojay (Tula), HG | \$8,647 | \$614 | \$94.63 | \$2.57 | 5 |
| | NE | Guadalajara, JA | \$9,207 | \$646 | \$100.67 | \$2.74 | 5 |
| | IA | El Castillo, JA | \$9,510 | \$0 | \$97.17 | \$2.64 | 1 |
| | KS | Torreón, CU | \$8,109 | \$466 | \$87.61 | \$2.38 | 5 |
| Sorghum | NE | Celaya, GJ | \$7,932 | \$597 | \$87.15 | \$2.21 | 6 |
| | KS | Queretaro, QA | \$8,108 | \$287 | \$85.77 | \$2.18 | 3 |
| | NE | Salinas Victoria, NL | \$6,713 | \$231 | \$70.94 | \$1.80 | 3 |
| | NE | Torreón, CU | \$7,225 | \$438 | \$78.29 | \$1.99 | 6 |

¹Rates are based upon published tariff rates for high-capacity shuttle trains. Shuttle trains are available for qualified shipments of 75-110 cars that meet railroad efficiency requirements.

²Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009.

³Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

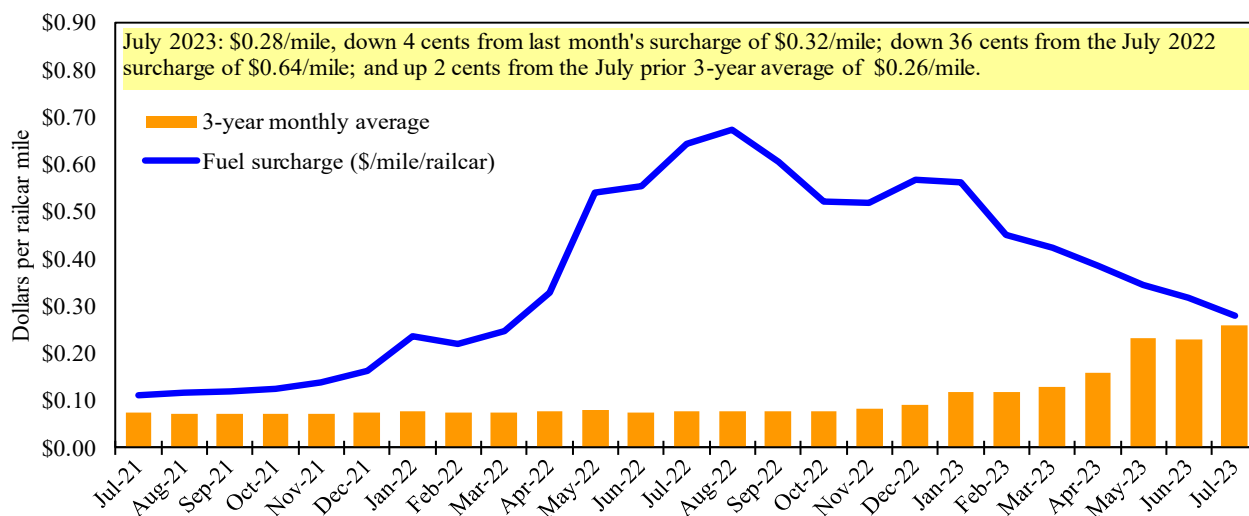
⁴Percentage change calculated using tariff rate plus fuel surcharge; Y/Y = year over year.

⁵As of January 1, 2022, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

As we incorporate the change, Table 7 updates will be delayed.

Sources: BNSF Railway, Union Pacific Railroad, Kansas City Southern.

Figure 6

Railroad fuel surcharges, North American weighted average¹

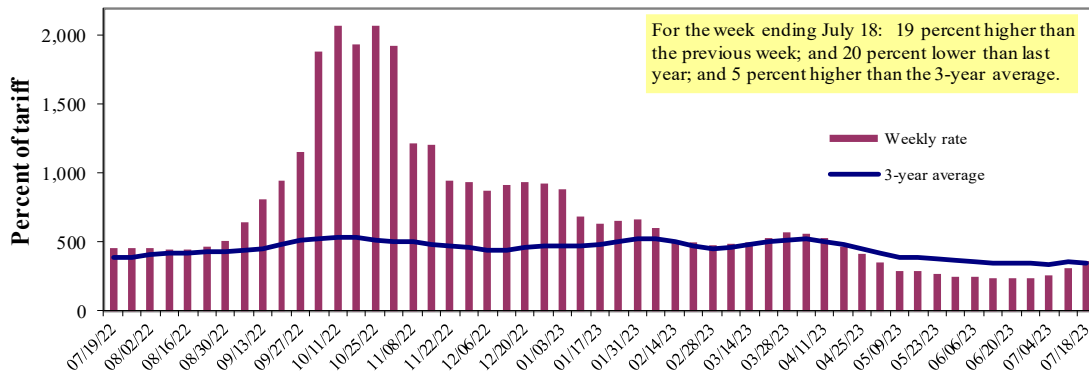
¹Weighted by each Class I railroad's proportion of grain traffic for the prior year.

Sources: BNSF Railway, Canadian National Railway, CSX Transportation, Canadian Pacific Railway, Union Pacific Railroad, Kansas City Southern Railway, Norfolk Southern Corporation.

Barge Transportation

Figure 7

Illinois River barge freight rate^{1,2}



¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average.
Source: USDA, Agricultural Marketing Service.

Table 8

Weekly barge freight rates: Southbound only

| | | Twin Cities | Mid-Mississippi | Lower Illinois River | St. Louis | Cincinnati | Lower Ohio | Cairo-Memphis |
|--|--------------------------|-------------|-----------------|----------------------|-----------|------------|------------|---------------|
| Rate¹ | 7/18/2023 | 391 | 384 | 368 | 314 | 296 | 296 | 292 |
| | 7/11/2023 | 370 | 319 | 310 | 270 | 258 | 258 | 248 |
| \$/ton | 7/18/2023 | 24.20 | 20.43 | 17.08 | 12.53 | 13.88 | 11.96 | 9.17 |
| | 7/11/2023 | 22.90 | 16.97 | 14.38 | 10.77 | 12.10 | 10.42 | 7.79 |
| Current week % change from the same week: | | | | | | | | |
| | Last year | -31 | -25 | -20 | -16 | -36 | -36 | -18 |
| | 3-year avg. ² | -10 | 8 | - | 27 | 3 | 3 | 21 |
| Rate¹ | August | 464 | 415 | 405 | 384 | 388 | 388 | 388 |
| | October | 657 | 633 | 618 | 610 | 625 | 625 | 664 |

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average; ton = 2,000 pounds; "-" data not available.
Source: USDA, Agricultural Marketing Service.

Figure 8 Benchmark tariff rates

Calculating barge rate per ton:
(Rate * 1976 tariff benchmark rate per ton)/100

Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.

Map Credit: USDA, Agricultural Marketing Service

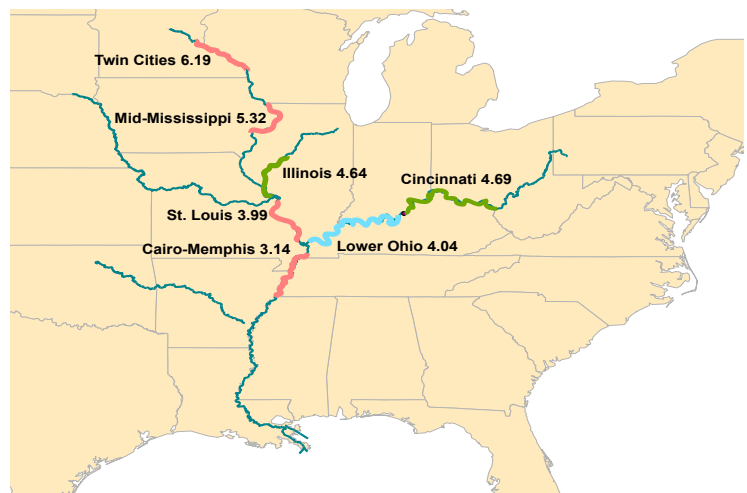
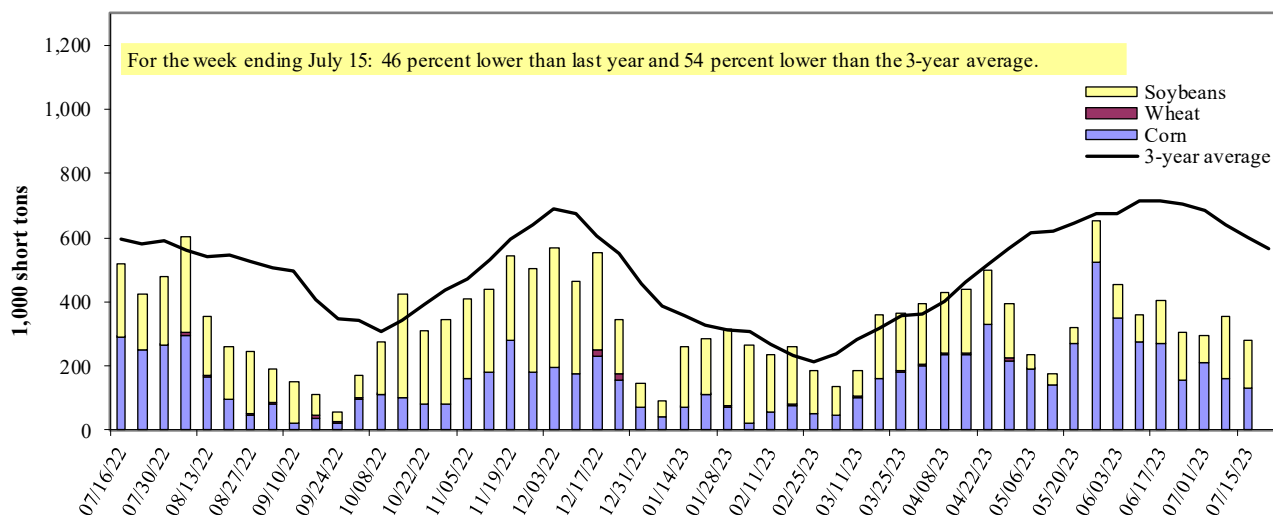


Figure 9

Barge movements on the Mississippi River¹ (Locks 27 - Granite City, IL)



¹ The 3-year average is a 4-week moving average.

Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Table 9

Barged grain movements (1,000 tons)

| For the week ending 07/15/2023 | Corn | Wheat | Soybeans | Other | Total |
|--|---------------|--------------|---------------|------------|---------------|
| Mississippi River | | | | | |
| Rock Island, IL (L15) | 88 | 0 | 82 | 0 | 170 |
| Winfield, MO (L25) | 109 | 0 | 115 | 0 | 224 |
| Alton, IL (L26) | 133 | 0 | 146 | 0 | 279 |
| Granite City, IL (L27) | 133 | 0 | 146 | 0 | 279 |
| Illinois River (La Grange) | 32 | 0 | 47 | 3 | 83 |
| Ohio River (Olmsted) | 39 | 21 | 53 | 0 | 113 |
| Arkansas River (L1) | 0 | 22 | 0 | 0 | 22 |
| Weekly total - 2023 | 172 | 44 | 199 | 0 | 414 |
| Weekly total - 2022 | 353 | 66 | 282 | 9 | 710 |
| 2023 YTD ¹ | 8,032 | 732 | 6,210 | 159 | 15,133 |
| 2022 YTD ¹ | 11,486 | 1,027 | 6,951 | 162 | 19,625 |
| 2023 as % of 2022 YTD | 70 | 71 | 89 | 98 | 77 |
| Last 4 weeks as % of 2022 ² | 54 | 69 | 61 | 23 | 58 |
| Total 2022 | 16,437 | 1,594 | 14,464 | 232 | 32,727 |

¹ Weekly total, YTD (year-to-date), and calendar year total include MI/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye.

Total may not add exactly due to rounding.

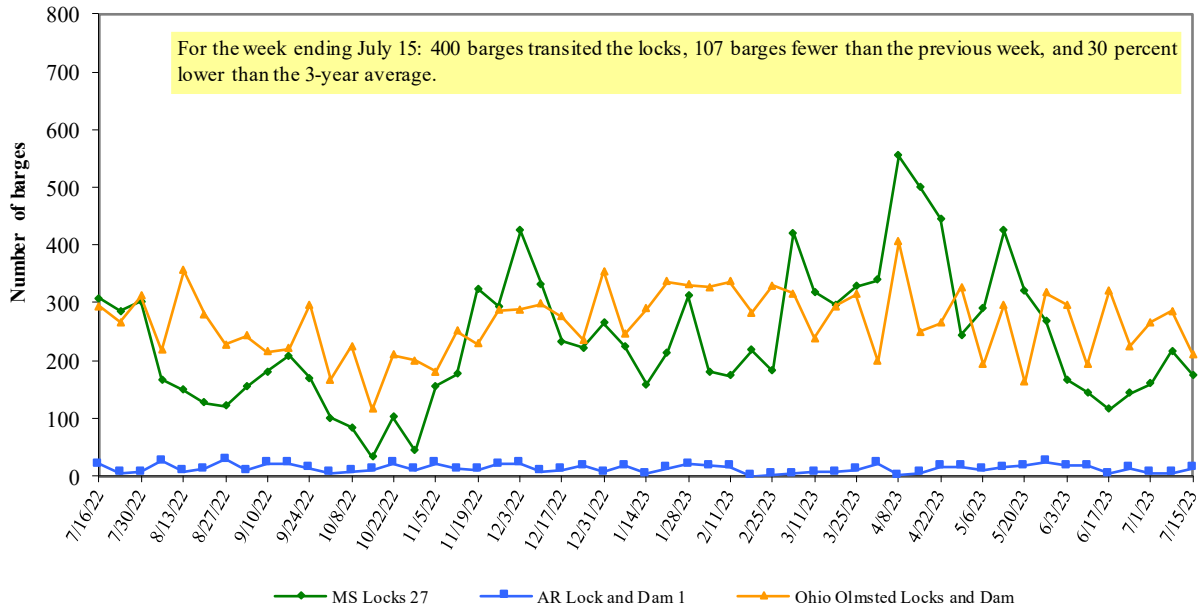
² As a percent of same period in 2022.

Note: L (as in "L15") refers to a lock, locks, or locks and dam facility. The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 10

Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam

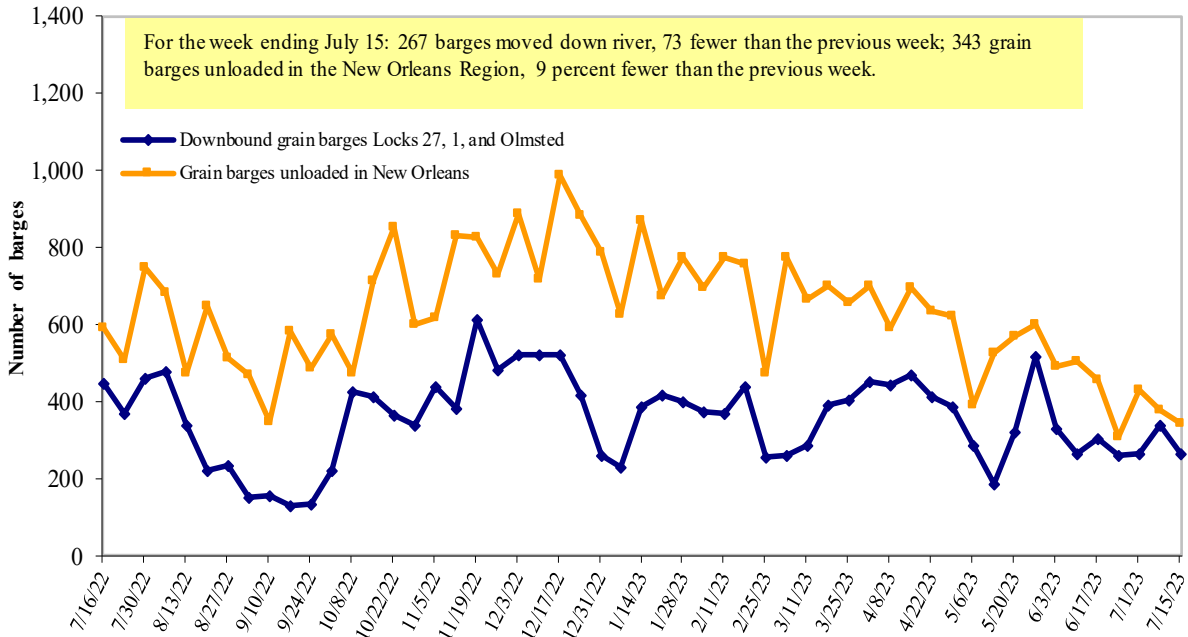


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 11

Grain barges for export in New Orleans region



Note: Olmsted = Olmsted Locks and Dam. The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers and USDA, Agricultural Marketing Service.

Truck Transportation

The **weekly diesel price** provides a proxy for trends in U.S. truck rates as diesel fuel is a significant expense for truck grain movements.

Table 10

Retail on-highway diesel prices, week ending 7/17/2023 (U.S. \$/gallon)

| Region | Location | Price | Change from | |
|--------|----------------------------|-------|-------------|----------|
| | | | Week ago | Year ago |
| I | East Coast | 3.879 | 0.021 | -1.588 |
| | New England | 4.081 | 0.007 | -1.612 |
| | Central Atlantic | 4.092 | 0.014 | -1.648 |
| | Lower Atlantic | 3.779 | 0.025 | -1.561 |
| II | Midwest | 3.726 | -0.016 | -1.683 |
| III | Gulf Coast | 3.506 | 0.001 | -1.577 |
| IV | Rocky Mountain | 3.927 | -0.012 | -1.619 |
| | West Coast | 4.465 | 0.005 | -1.651 |
| V | West Coast less California | 4.131 | -0.015 | -1.637 |
| | California | 4.848 | 0.027 | -1.668 |
| Total | United States | 3.806 | 0.000 | -1.626 |

¹Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

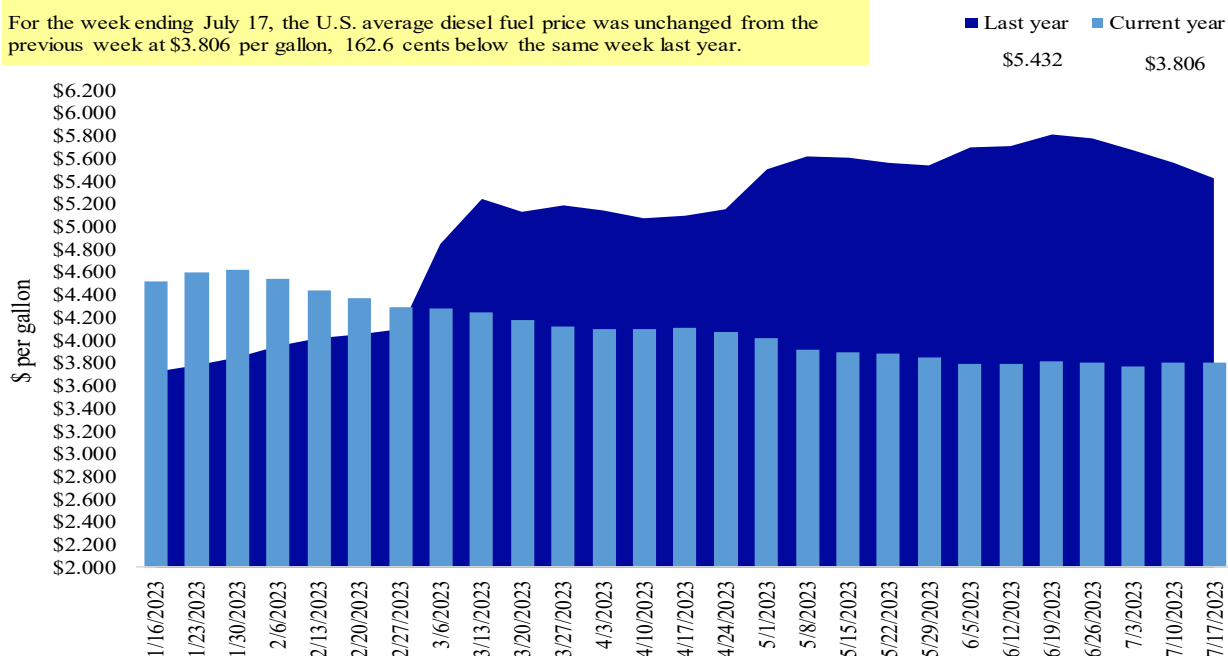
Note: On June 13, 2022, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration.

Figure 12

Weekly diesel fuel prices, U.S. average

For the week ending July 17, the U.S. average diesel fuel price was unchanged from the previous week at \$3.806 per gallon, 162.6 cents below the same week last year.



Note: On June 13, 2022 the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration, Retail On-Highway Diesel Prices.

Grain Exports

Table 11

U.S. export balances and cumulative exports (1,000 metric tons)

| For the week ending | Wheat | | | | | | Corn | Soybeans | Total |
|--|-------|-------|-------|-------|-----|-----------|--------|----------|---------|
| | HRW | SRW | HRS | SWW | DUR | All wheat | | | |
| Export balances¹ | | | | | | | | | |
| 7/6/2023 | 633 | 1,065 | 1,226 | 607 | 43 | 3,573 | 4,057 | 2,900 | 10,530 |
| This week year ago | 1,531 | 1,141 | 1,388 | 1,173 | 124 | 5,357 | 7,002 | 6,921 | 19,279 |
| Cumulative exports-marketing year² | | | | | | | | | |
| 2022/23 YTD | 354 | 319 | 424 | 330 | 17 | 1,444 | 35,452 | 49,703 | 86,599 |
| 2021/22 YTD | 506 | 266 | 622 | 305 | 18 | 1,717 | 53,415 | 52,474 | 107,605 |
| YTD 2022/23 as % of 2021/22 | 70 | 120 | 68 | 108 | 97 | 84 | 66 | 95 | 80 |
| Last 4 wks. as % of same period 2021/22 | 44 | 96 | 81 | 47 | 63 | 66 | 63 | 45 | 57 |
| Total 2021/22 | 7,172 | 2,786 | 5,254 | 3,261 | 196 | 18,669 | 59,764 | 57,189 | 135,622 |
| Total 2020/21 | 8,422 | 1,790 | 7,500 | 6,438 | 656 | 24,807 | 66,958 | 60,571 | 152,335 |

¹ Current unshipped (outstanding) export sales to date.

² Shipped export sales to date.

Note: marketing year: wheat = 6/01-5/31, corn and soybeans = 9/01-8/31. YTD = year-to-date; wks. = weeks; HRW= hard red winter; SRW = soft red winter; HRS= hard red spring; SWW= soft white wheat; DUR= durum.

Source: USDA, Foreign Agricultural Service.

Table 12

Top 5 importers¹ of U.S. corn

| For the week ending 7/06/2023 | Total commitments ² | | | % change current MY from last MY | Exports ³ 3-yr. avg. 2019-21 |
|---|--------------------------------|-----------------------|--------------------|--|---|
| | 2023/24 next MY | 2022/23 current MY | 2021/22 last MY | | |
| | | 1,000 mt - | | | -1,000 mt - |
| Mexico | 2,433 | 15,068 | 16,592 | (9) | 15,227 |
| China | 272 | 7,579 | 14,719 | (49) | 12,616 |
| Japan | 746 | 6,525 | 9,873 | (34) | 10,273 |
| Columbia | 0 | 2,195 | 4,359 | (50) | 4,398 |
| Korea | 0 | 821 | 1,474 | (44) | 2,563 |
| Top 5 importers | 3,451 | 32,188 | 47,017 | (32) | 45,077 |
| Total U.S. corn export sales | 4,039 | 39,509 | 60,416 | (35) | 56,665 |
| % of YTD current month's export projection | 8% | 94% | 96% | | |
| Change from prior week ² | 471 | 469 | 59 | | |
| Top 5 importers' share of U.S. corn export sales | 85% | 81% | 78% | | 80% |
| USDA forecast July 2023 | 53,435 | 41,985 | 62,901 | (33) | |
| Corn use for ethanol USDA forecast, July 2023 | 134,620 | 132,715 | 135,281 | (2) | |

¹Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; marketing year (MY) = Sep 1 - Aug 31.

²Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

³FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average; YTD = year to date.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 13

Top 5 importers¹ of U.S. soybeans

| For the week ending 7/06/2023 | Total commitments ² | | | % change current MY from last MY | Exports ³ 3-yr. avg. 2019-21 |
|--|--------------------------------|-----------------------|--------------------|--|---|
| | 2023/24 next MY | 2022/23 current MY | 2021/22 last MY | | |
| | 1,000 mt - | | | | -1,000 mt - |
| China | 1,722 | 31,172 | 30,360 | 3 | 27,283 |
| Mexico | 545 | 4,729 | 5,384 | (12) | 4,929 |
| Egypt | 0 | 1,208 | 4,086 | (70) | 3,553 |
| Japan | 187 | 2,356 | 2,422 | (3) | 2,266 |
| Indonesia | 2 | 1,624 | 1,656 | (2) | 2,116 |
| Top 5 importers | 2,456 | 41,089 | 43,907 | (6) | 40,147 |
| Total U.S. soybean export sales | 4,154 | 52,602 | 59,394 | (11) | 54,231 |
| % of projected exports | 8% | 98% | 101% | | |
| change from prior week ² | 209 | 81 | (363) | | |
| Top 5 importers' share of U.S. soybean export sales | 59% | 78% | 74% | | 74% |
| USDA forecast, July 2023 | 50,409 | 53,951 | 58,638 | (8) | |

¹Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; marketing year (MY) = Sep 1 - Aug 31.

²Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

³FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average; YTD = year to date.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 14

Top 10 importers¹ of all U.S. wheat

| For the week ending 7/06/2023 | Total commitments ² | | % change current MY from last MY | Exports ³ 3-yr. avg. 2020-22 |
|---|--------------------------------|--------------------|--|---|
| | 2023/24 current MY | 2022/23 last MY | | |
| | 1,000 mt - | | | -1,000 mt - |
| Mexico | 980 | 1,203 | (19) | 3,397 |
| Philippines | 647 | 966 | (33) | 2,615 |
| Japan | 607 | 681 | (11) | 2,281 |
| China | 17 | 272 | (94) | 1,740 |
| Korea | 393 | 558 | (30) | 1,426 |
| Nigeria | 100 | 303 | (67) | 1,276 |
| Taiwan | 338 | 171 | 97 | 944 |
| Thailand | 105 | 125 | (16) | 643 |
| Colombia | 80 | 272 | (71) | 537 |
| Indonesia | 73 | 11 | 567 | 469 |
| Top 10 importers | 3,340 | 4,563 | (27) | 15,327 |
| Total U.S. wheat export sales | 5,018 | 7,074 | (29) | 20,411 |
| % of projected exports | 25% | 34% | | |
| change from prior week ² | 396 | 1,017 | | |
| Top 10 importers' share of U.S. wheat export sales | 67% | 65% | | 75% |
| USDA forecast, June 2023 | 19,755 | 20,681 | (4) | |

¹Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2022/23; Marketing year (MY) = Jun 1 - May 31.

²Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from the previous week's outstanding and/or accumulated sales.

³FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number.

Source: USDA, Foreign Agricultural Service.

Table 15

Grain inspections for export by U.S. port region (1,000 metric tons)

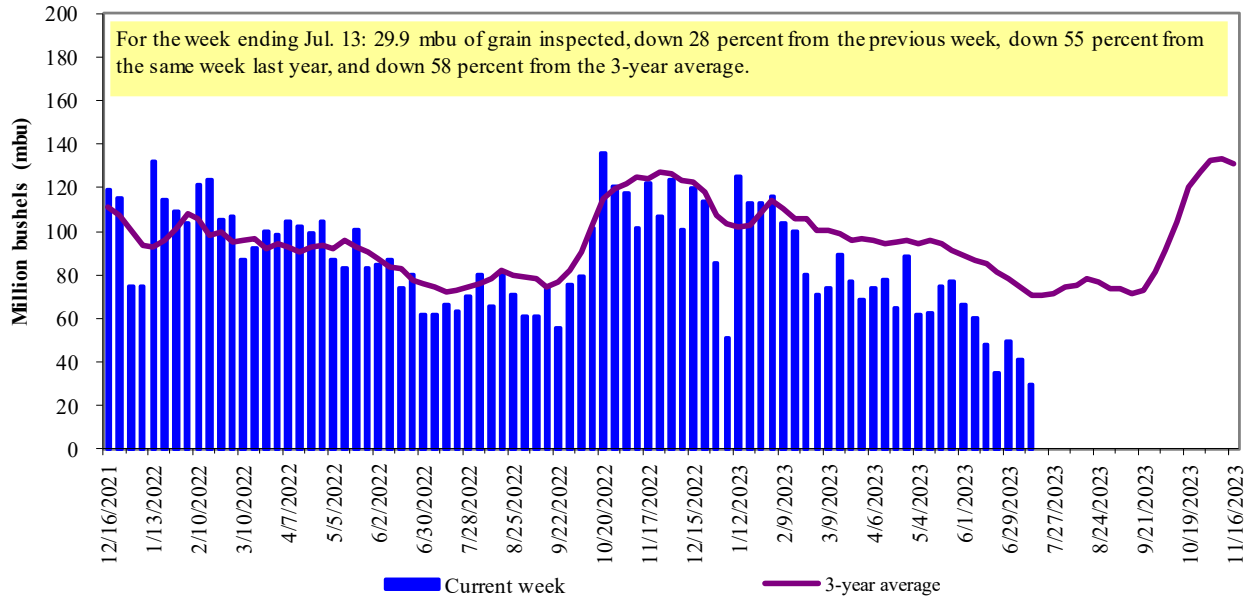
| Port regions | For the week ending 07/13/23 | Previous week* | Current week as % of previous | 2023 YTD* | 2022 YTD* | 2023 YTD as % of 2022 YTD | Last 4-weeks as % of: | | 2022 total* |
|-------------------------------|---------------------------------|-------------------|----------------------------------|---------------|---------------|------------------------------|-----------------------|------------------|----------------|
| | | | | | | | Last year | Prior 3-yr. avg. | |
| Pacific Northwest | | | | | | | | | |
| Wheat | 38 | 218 | 17 | 5,475 | 4,840 | 113 | 125 | 81 | 9,836 |
| Corn | 0 | 0 | n/a | 3,923 | 8,225 | 48 | 7 | 6 | 9,615 |
| Soybeans | 0 | 0 | n/a | 3,521 | 4,495 | 78 | 0 | 0 | 14,178 |
| Total | 38 | 218 | 17 | 12,919 | 17,561 | 74 | 43 | 35 | 33,629 |
| Mississippi Gulf | | | | | | | | | |
| Wheat | 171 | 148 | 115 | 1,757 | 2,228 | 79 | 136 | 120 | 4,053 |
| Corn | 223 | 184 | 121 | 14,560 | 22,339 | 65 | 56 | 55 | 30,781 |
| Soybeans | 89 | 260 | 34 | 13,455 | 12,445 | 108 | 52 | 61 | 31,283 |
| Total | 483 | 593 | 81 | 29,773 | 37,012 | 80 | 61 | 62 | 66,116 |
| Texas Gulf | | | | | | | | | |
| Wheat | 0 | 28 | 0 | 1,291 | 1,741 | 74 | 60 | 24 | 3,421 |
| Corn | 0 | 21 | 0 | 144 | 419 | 34 | 80 | 67 | 648 |
| Soybeans | 0 | 0 | n/a | 52 | 2 | n/a | n/a | n/a | 685 |
| Total | 0 | 50 | 0 | 1,487 | 2,161 | 69 | 64 | 29 | 4,754 |
| Interior | | | | | | | | | |
| Wheat | 44 | 35 | 127 | 1,317 | 1,560 | 84 | 58 | 67 | 2,912 |
| Corn | 134 | 138 | 97 | 4,997 | 5,144 | 97 | 76 | 77 | 8,961 |
| Soybeans | 72 | 52 | 138 | 3,245 | 3,879 | 84 | 68 | 75 | 7,109 |
| Total | 251 | 225 | 111 | 9,559 | 10,583 | 90 | 70 | 74 | 18,982 |
| Great Lakes | | | | | | | | | |
| Wheat | 11 | 12 | 94 | 171 | 111 | 153 | n/a | 100 | 395 |
| Corn | 0 | 0 | n/a | 23 | 118 | 19 | 0 | 0 | 158 |
| Soybeans | 0 | 0 | n/a | 31 | 234 | 13 | 0 | 0 | 760 |
| Total | 11 | 12 | 94 | 224 | 463 | 48 | 40 | 48 | 1,312 |
| Atlantic | | | | | | | | | |
| Wheat | 3 | 1 | n/a | 62 | 38 | 165 | 615 | 387 | 169 |
| Corn | 0 | 0 | n/a | 78 | 197 | 40 | 7 | 20 | 309 |
| Soybeans | 3 | 4 | 65 | 1,209 | 1,546 | 78 | 18 | 39 | 2,867 |
| Total | 5 | 4 | 122 | 1,349 | 1,780 | 76 | 18 | 42 | 3,345 |
| U.S. total from ports* | | | | | | | | | |
| Wheat | 266 | 441 | 60 | 10,073 | 10,519 | 96 | 108 | 75 | 20,786 |
| Corn | 357 | 343 | 104 | 23,725 | 36,442 | 65 | 47 | 45 | 50,471 |
| Soybeans | 164 | 317 | 52 | 21,514 | 22,600 | 95 | 50 | 61 | 56,882 |
| Total | 788 | 1,101 | 72 | 55,311 | 69,560 | 80 | 58 | 55 | 128,139 |

*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: USDA, Federal Grain Inspection Service; YTD= year-to-date; n/a = not applicable or no change.

Figure 13

U.S. grain inspected for export (wheat, corn, and soybeans)

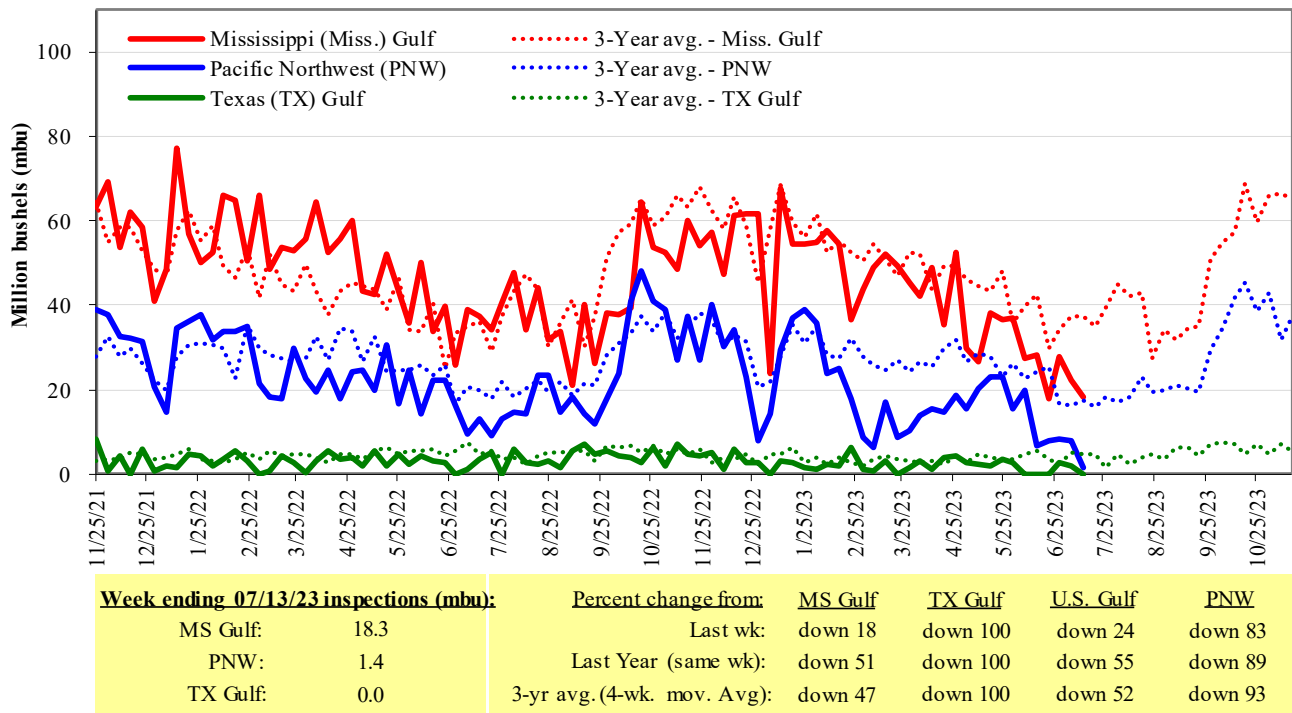


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 14

U.S. Grain inspections: U.S. Gulf and PNW¹ (wheat, corn, and soybeans)



Source: USDA, Federal Grain Inspection Service.

Ocean Transportation

Table 16

Weekly port region grain ocean vessel activity (number of vessels)

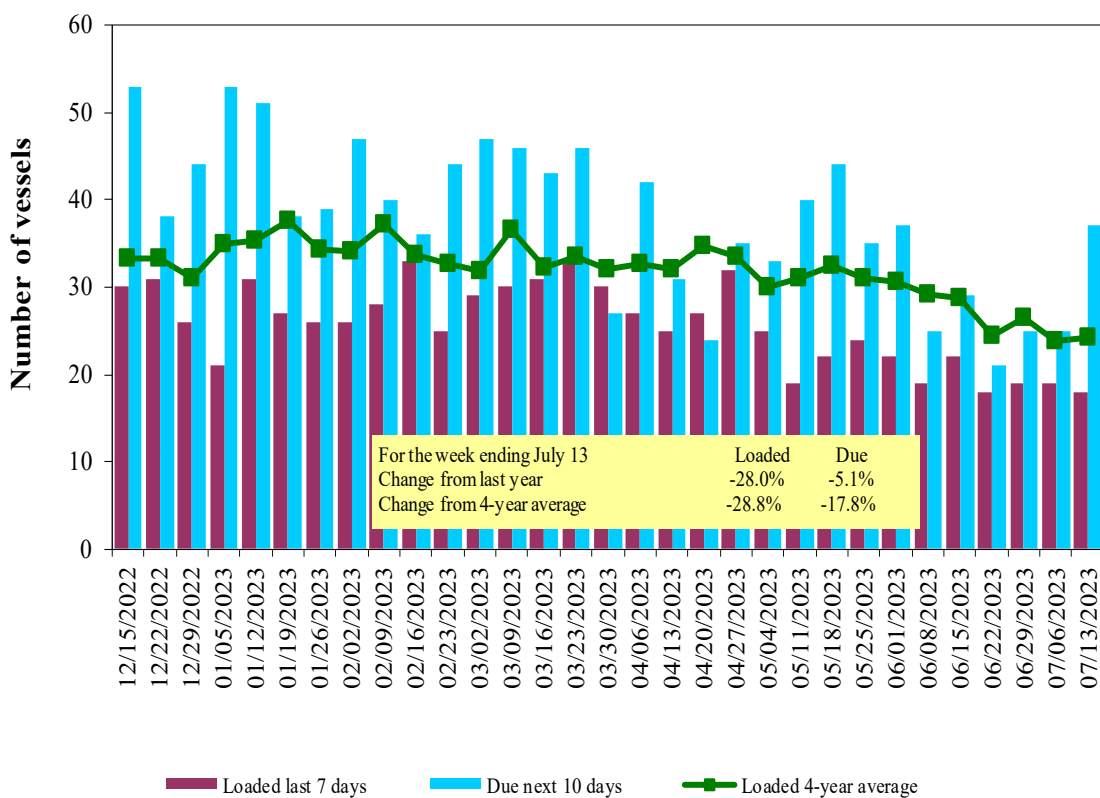
| Date | Gulf | | | Pacific Northwest |
|--------------|-----------|-----------|-----------|-------------------|
| | In port | Loaded | Due next | In port |
| | | 7-days | 10-days | |
| 7/13/2023 | 20 | 18 | 37 | 5 |
| 7/6/2023 | 22 | 19 | 25 | 4 |
| 2022 range | (14...61) | (18...39) | (28...62) | (5...23) |
| 2022 average | 30 | 28 | 44 | 13 |

Note: The data is voluntarily collected and may not be complete.

Source: USDA, Agricultural Marketing Service.

Figure 15

U.S. Gulf¹ vessel loading activity

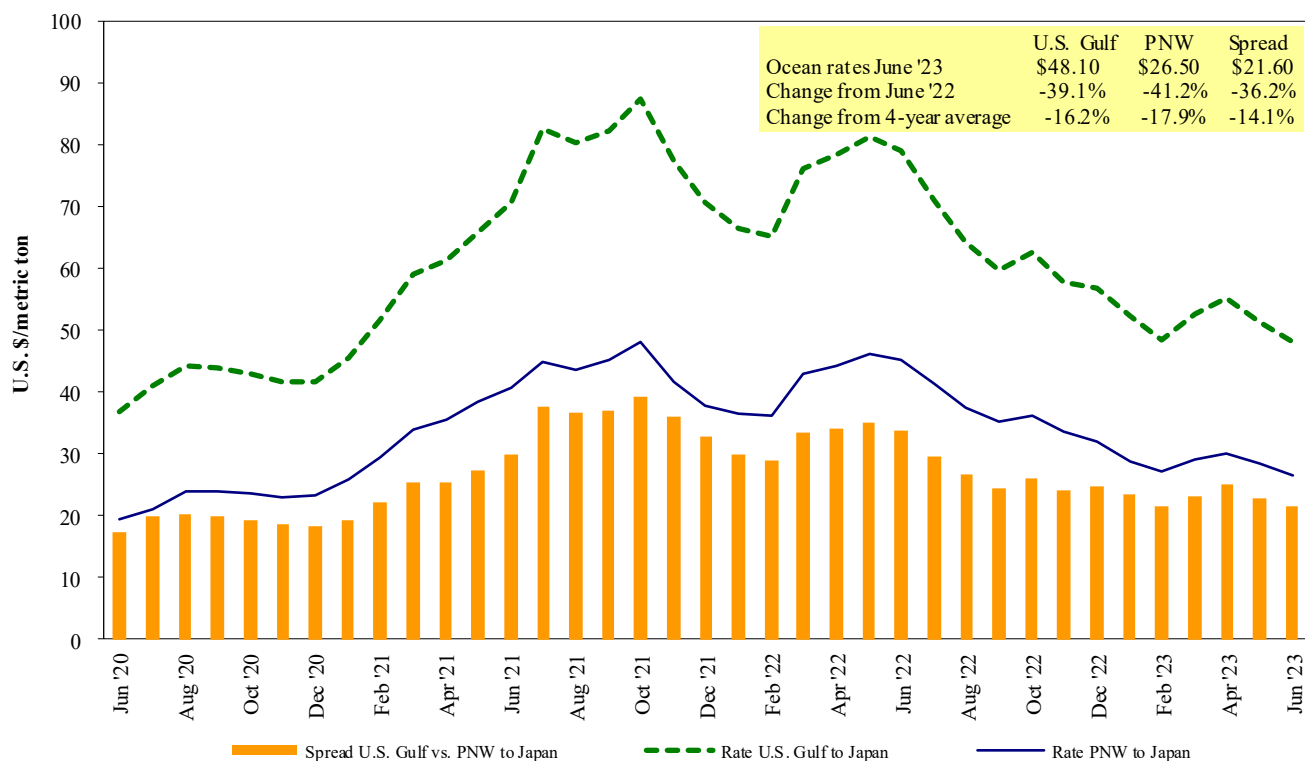


¹U.S. Gulf includes Mississippi, Texas, and East Gulf.

Source: USDA, Agricultural Marketing Service.

Figure 16

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 17

Ocean freight rates for selected shipments, week ending 07/15/2023

| Export region | Import region | Grain types | Loading date | Volume loads (metric tons) | Freight rate (US\$/metric ton) |
|---------------|---------------|--------------|---------------------|----------------------------|--------------------------------|
| U.S. Gulf | Japan | Heavy grain | May 2, 2023 | 50,000 | 56.70 |
| U.S. Gulf | Japan | Heavy grain | May 1, 2023 | 50,000 | 54.80 |
| U.S. Gulf | Japan | Heavy grain | Nov 1/10, 2022 | 50,000 | 79.25 |
| U.S. Gulf | S. China | Corn | Aug 1/10, 2022 | 68,000 | 71.00 |
| U.S. Gulf | Kenya | Sorghum | Feb 15/25, 2023 | 22,820 | 63.30* |
| U.S. Gulf | Jamaica | Wheat | Jun 20/30, 2023 | 4,400 | 63.00 op 66.00 |
| PNW | Indonesia | Soybean Meal | Jul 21/31, 2023 | 35,000 | 106.00* |
| PNW | N. China | Heavy grain | Apr 21/27, 2023 | 63,000 | 28.00 |
| PNW | N. China | Heavy grain | May 1/4, 2023 | 66,000 | 29.00 |
| Brazil | S. Korea | Heavy grain | Jun 15/Jul 15, 2023 | 68,000 | 45.15 |
| Brazil | S. Korea | Soybean Meal | Jun 1, 2023 | 60,000 | 53.75 |
| Brazil | China | Heavy grain | Jul 1/31, 2023 | 63,000 | 41.50 |
| Brazil | China | Heavy grain | May 5/10, 2023 | 65,000 | 36.50 |
| Brazil | N. China | Heavy grain | Apr 21/30, 2023 | 66,000 | 40.60 |
| Brazil | Vietnam | Heavy grain | Apr 11/29, 2023 | 66,000 | 37.00 |
| Australia | Vietnam | Heavy grain | Feb 24/Apr 9, 2023 | 60,000 | 20.80 |

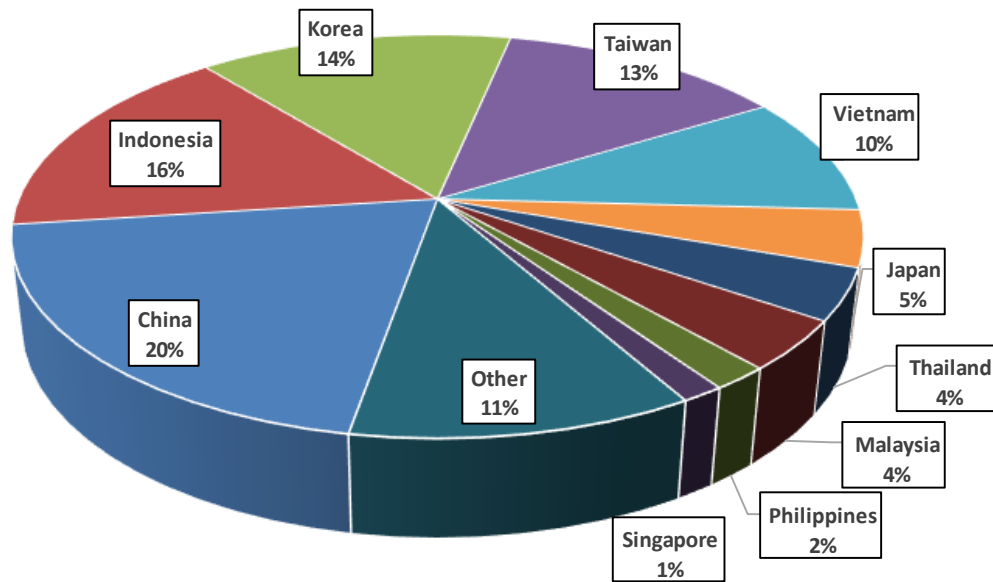
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated; op = option.

Source: Maritime Research, Inc.

In 2020, containers were used to transport 10 percent of total U.S. waterborne grain exports. Approximately 66 percent of U.S. waterborne grain exports in 2020 went to Asia, of which 14 percent were moved in containers. Approximately 95 percent of U.S. waterborne containerized grain exports were destined for Asia.

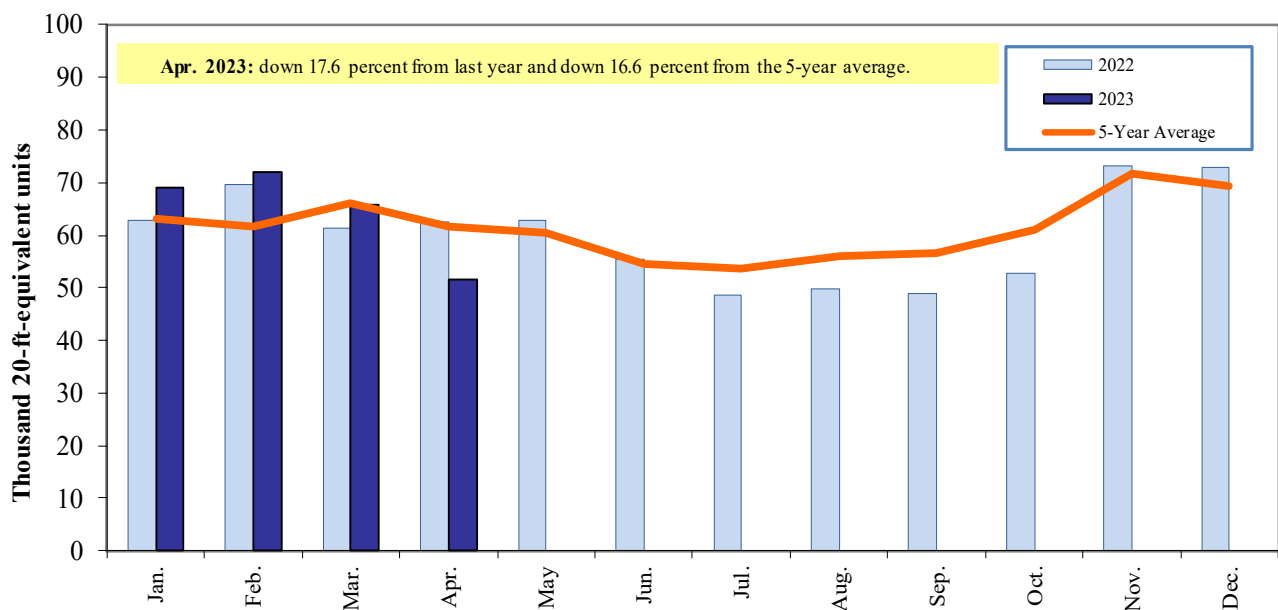
Figure 17
Top 10 destination markets for U.S. containerized grain exports, Jan-Apr 2023



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

Figure 18
Monthly shipments of U.S. containerized grain exports



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

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