



Grain Transportation Report

A weekly publication of the Agricultural Marketing Service www.ams.usda.gov/GTR

October 27, 2022

WEEKLY HIGHLIGHTS

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Barge Rates on the Rise Again

For the week of October 25, the St. Louis barge spot rate (*GTR* table 9) increased almost 22 percent from last week to \$88.46 per ton. However, this rate is lower than the all-time peak of \$105.85 per ton for the week of October 11. Because of low water levels on the Mississippi River System (MRS), barge companies have little capacity in the spot market as they struggle to meet current commitments. Future rates are also higher than normal: the current low barge availability, combined with new export sales of soybeans (*GTR* table 14), have spurred demand for barges in November, December, and early next year. The St. Louis 1-month-rate (for November) reached \$58.61 per ton, 384 percent higher than last year and 439 percent higher than the 5-year average. The St. Louis 3-month-rate (for January) reached \$33.99 per ton, 265 percent higher than last year and 270 percent higher than the 5-year average. In the near term, barge challenges and draft restrictions are likely to continue. However, by mid-November, the slightly above-normal rain forecast may begin to provide relief and help stabilize some portions of the MRS.

USDA To Discontinue Dataset on Rail Deliveries to Port

After the November 10 *GTR*, USDA will discontinue publication of its rail deliveries to port (rail-to-port) data (*GTR* table 3 and *GTR* fig. 2). Railroads, grain elevators, and ports have voluntarily provided the data weekly for over 40 years. However, over time, a number of reporting entities have stopped providing data, and others have indicated a desire to cease reporting in the near future. Thus, USDA will no longer be able to provide these data. This week's *GTR* feature article discusses two data sources that closely approximate the discontinued data: grain inspections from USDA's Federal Grain Inspection Service (available in the *GTR* and on USDA's AgTransport) and grain shuttle turn data from the Surface Transportation Board (available on AgTransport).

White House Launches Initiatives To Combat Fuel Prices

For the week ending October 24, the U.S average diesel fuel price continued to rise for the third week in a row. At \$5.341 per gallon, the price was up 2 cents from the previous week and up \$1.628 from the same week a year ago (*GTR* fig. 13). To neutralize rising fuel prices, the White House announced three key initiatives. First, the Department of Energy (DOE) will release 15 million barrels of oil from the Strategic Petroleum Reserve (SPR) for December delivery. This action fulfills the President's intention in March of releasing up to 180 million barrels of SPR crude oil for sale. As further movement against high prices, the Administration intends to repurchase crude oil for the SPR when prices are at or below \$67-\$72 per barrel. The repurchase should increase certainty around future crude oil demand and spur production today. Finally, the President is calling on companies to pass on lower energy costs to consumers immediately.

FMCSA Ends Hours-of-Service Waiver for Feed and Fuel

The Federal Motor Carrier Safety Administration (FMCSA) has canceled its waiver on hours-of-service (HOS) requirements for trucks transporting feed, fuel, propane, and ethanol. After the waiver was first issued in 2020 to help address the national COVID-19 emergency, FMCSA extended the waiver more than 10 times, sometimes modifying it. Based on comments received during the most recent extension period through October 15, FMCSA decided to let the waiver expire.

Snapshots by Sector

Export Sales

For the week ending October 13, **unshipped balances** of wheat, corn, and soybeans for marketing year 2022/23 totaled 39.43 million metric tons (mmt), down 24 percent from the same time last year and up 1 percent from last week. Net **corn export sales** for marketing year 2022/23 were 0.408 mmt, up significantly from last week. Net **soybean export sales** were 2.336 mmt, up significantly from last week. Net weekly **wheat export sales** were 0.163 mmt, down 23 percent from last week.

Rail

U.S. Class I railroads originated 25,843 grain carloads during the week ending October 15. This was a 10-percent increase from the previous week, 3 percent more than last year, and 8 percent more than the 3-year average.

Average November shuttle **secondary railcar bids/offers** (per car) were \$1,589 above tariff for the week ending October 20. This was \$111 less than last week and \$1,304 more than this week last year.

Barge

For the week ending October 22, **barged grain movements** totaled 525,722 tons. This was 18 percent fewer than the previous week and 9 percent fewer than the same period last year.

For the week ending October 22, 365 grain barges **moved down river**—49 fewer barges than last week. There were 851 grain barges **unloaded** in the New Orleans region, 19 percent more than last week.

Ocean

For the week ending October 20, 28 **oceangoing grain vessels** were loaded in the Gulf—33 percent fewer than the same period last year. Within the next 10 days (starting October 21), 37 vessels were expected to be loaded—28 percent fewer than the same period last year.

As of October 20, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$63.25. This was 1 percent less than the previous week. The rate from the Pacific Northwest to Japan was \$37.00 per mt, unchanged from the previous week.

Feature Article/Calendar

Using Inspections Data and Service Metrics To Analyze Grain Rail Exports

Railroads, grain elevators, and ports have voluntarily provided data used to publish the rail-to-port information (*GTR* table 3 and fig. 2) in the weekly *Grain Transportation Report* (*GTR*). Recently, a number of these reporting entities have stopped providing the data or signaled they would cease reporting in the near future. Therefore, after the November 10 *GTR* issue, these data will no longer be provided.

While recognizing there are differences between datasets, this article spotlights the value of alternatives to the rail-to-port data: USDA's Federal Grain Inspection Service's (FGIS) grain inspections data (*GTR* table 16) and the Surface Transportation Board's (STB) rail service metrics (<u>AgTransport.usda.gov</u>). As provided either in the *GTR* or in AgTransport, both of these sources enable valuable understanding of the weekly volumes and performance of grain rail export markets.

FGIS Inspections Data on Rail Export Volumes

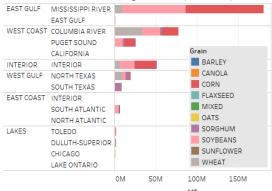
Timeliness. One valuable aspect of weekly data is their *timely* export information. In contrast to other export data (e.g., Census) that can be delayed by a month or more, FGIS inspections data are released weekly on the Monday before the *GTR*'s Thursday release. Beginning November 14, a copy of the FGIS inspections data will be published on our open data site, <u>AgTransport</u>, as soon as possible (i.e., on Mondays), before regular publication each Thursday in the *GTR*. The Monday release should further enhance stakeholder access to a more timely grain export dataset.

Coverage and granularity. The FGIS inspections dataset provides historical coverage on grain exports by commodity and region since 1983, allowing stakeholders to perform insightful analysis over several decades. The inspections data cover all grain export regions of the United States. The data also provide export volumes at a fairly granular geographic level. For example, in the Pacific Northwest (PNW), exports out of the Columbia River can be

distinguished from exports from Puget Sound. Figure 1 shows an example of the broader regions and subregions captured in the inspections data over the past 3 years. The example also highlights the richness of export data at the commodity level.

Representativeness. The FGIS inspections data are not official trade data and do not necessarily include all grain volumes that are exported. For instance, only shippers exporting more than 15,000 metric tons of grain per year from a single facility are mandated to weigh their shipments and have FGIS certify their quality. Shipments to Mexico and Canada by rail or truck are also not required to be inspected. Nonetheless, because the certified grade can improve sales domestically and abroad, many exporters voluntarily use FGIS inspections services. Indeed, FGIS inspections data are a close proxy for official trade numbers from the U.S. Census Bureau (Census)—between 2017 and 2021, inspections of corn, soybeans, and wheat represented 96 percent of Census exports.

Figure 1: Top regions, subregions, and commodities, FGIS inspections (2019-22)



Source: USDA, Agricultural Marketing Service analysis of inspections data from the Federal Grain Inspection Service.

Although the inspections data do not indicate the mode of transport, rail is the primary mode for delivering grain to a number of export regions. That is, although total inspections are hard to disentangle from barge and truck movements, the inspections data allow narrowing the focus to specific regions. Some of these regions capture very rail-specific information.

For example, PNW and the Texas Gulf are both served primarily by rail. Several insights can be gleaned from comparing monthly tonnages in the public carload waybill sample (waybill); monthly Census exports available from USDA's Foreign Agricultural Service (FAS); and monthly tonnages of FGIS inspections, all between 2015 and 2020. The comparisons provide a sense of how much rail accounts for shipments to the region, as well as how

accurately inspections data reflect rail and other modes.¹ In PNW, on average, FGIS inspections and rail carloads from the waybill data were 99 percent and 96 percent of the FAS export numbers, respectively. Although a small share of the rail volumes were likely domestic deliveries to the PNW region, the large majority were rail deliveries to ports for export. Similarly, in the Texas Gulf, average monthly inspections and rail carloads were 101 percent and 99 percent of the FAS export numbers, respectively.² That is, the inspections data in these regions were tied tightly to rail deliveries. In contrast, inspections in the Mississippi Gulf would not likely correlate with rail deliveries, because barge deliveries dominate grain exports out of that region.

Destination information. The FGIS inspections data identify the destination countries of the port exports. Combined with the rail-centric regional selections (as in the preceding examples) and leveraging the inspections data's commodity-level information, the destination data can focalize the factors driving rail demand. For instance, in PNW and the Texas Gulf, widely varying market shares among the top five destinations imply key differences in the factors driving the demand for rail to these ports (table 1).

The destination variable in the inspections data also means cross-border rail shipments to Mexico can be identified. Inspections data reflecting cross-border shipments can be obtained by drilling down to shipments destined for Mexico that originated in the "Interior" port region.³ A data field for the "carrier type" can be used to identify cross-border shipments by rail. A similar analysis to that of

Table 1: Shares of top five destination countries for PNW and Texas Gulf grain inspection (2018-22)

| PNW | | Texas Gulf | |
|-------------|--------|------------|--------|
| CHINA | 36.92% | NIGERIA | 21.67% |
| JAPAN | 22.48% | MEXICO | 12.64% |
| KOREA REP | 12.62% | EGYPT | 6.19% |
| PHILIPPINES | 8.21% | COLOMBIA | 5.73% |
| TAIWAN | 6.22% | CHINA | 5.56% |
| TOTAL | 86.44% | TOTAL | 51.78% |

Source: USDA, Agricultural Marketing Service analysis of inspections data from the Federal Grain Inspections Service.

PNW and Texas Gulf above, comparing Census and FGIS data, shows that FGIS inspections capture 92 percent of the cross-border exports to Mexico in the Census data, on average.

STB Metrics on Rail Performance of Grain Movements

Beginning in March 2017, STB expanded and made permanent the collection of a wide variety of <u>rail service metrics</u>, including train speeds by commodity, terminal dwell times by location, origin dwell times by commodity, and carloads by commodity. On <u>AgTransport</u>, USDA publishes these data, along with <u>visualizations</u> built from the data. STB's monthly data on grain shuttle train performance offer regional insight into grain movements.

More specifically, three Class I railroads—BNSF Railway (BNSF), Canadian Pacific Railway, and Union Pacific Railroad (UP)—report their average train round trips (or "turns") and planned trips (turns) per month for grain shuttles. Each railroad provides these numbers for its system and for key regions. For instance, BNSF provides average and planned turns for California, the Gulf, Mexico, PNW, and West Texas. UP does so for Arkansas/Texas, California/Arizona, the Gulf, Mexico, and PNW.

The grain shuttle turn data include only a subset of railroads—those that operate grain unit trains in shuttle service—but they show monthly railroad-specific information and corridors, such as California. Rail disruptions have been widespread in 2022, and the data offer a regional glimpse into service. For example, grain shuttle turns for BNSF and UP to California averaged 2.1 per month in April 2022, down from 2.6 in 2021 and 2.8 in 2020—a 25-percent drop in capacity in 2022 compared to 2020.

Conclusion

The FGIS grain inspections data provide a wide perspective on national grain exports at a detailed level for specific commodities, ports, and destination countries involved in U.S. grain rail transportation. Together, the FGIS inspections data and STB rail service metrics provide valuable insights into grain markets, with coverage of both national and regional grain rail transportation demand and performance. For access to the full dataset of FGIS inspections data contained in the *GTR* as well as other related data, please visit <u>AgTransport.usda.gov</u>.

Jesse.Gastelle@usda.gov, PeterA.Caffarelli@usda.gov

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¹ The <u>carload waybill sample</u> is published annually by STB. Agricultural export volumes were pulled from <u>FAS's Global Agricultural Trade System platform.</u>

² For a number of reasons, the inspections data may be higher or lower than the Census data in a particular month. Reasons include differences in how the dates of the inspection and shipment are recorded, as well as the fact that the weekly inspections data do not match cleanly to monthly data.

³ Interior shipments include inspections conducted somewhere other than at an ocean port. Interior shipments typically include land-based shipments to Mexico and Canada, as well as container shipments abroad.

Grain Transportation Indicators

Table 1 **Grain transport cost indicators**¹

| <u> </u> | Truck | Ra | il | Barge | Oc | Ocean | | |
|---------------------|-------|-------------|---------|-------|------|---------|--|--|
| For the week ending | | Non-Shuttle | Shuttle | | Gulf | Pacific | | |
| 10/26/22 | 358 | 332 | 323 | 1148 | 283 | 262 | | |
| 10/19/22 | 358 | 332 | 352 | 1077 | 285 | 262 | | |

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.

Source: USDA, Agricultural Marketing Service.

Table 2

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

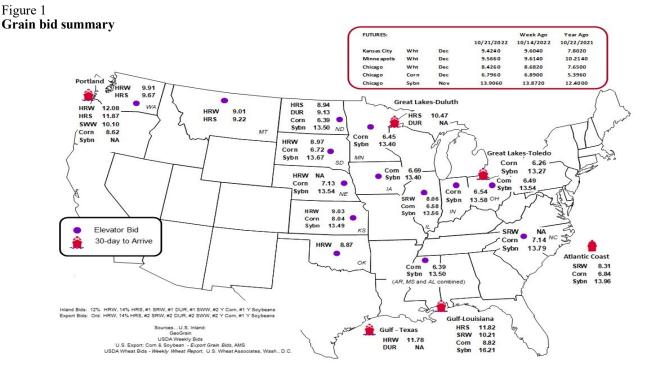
| Market Opus | Market opuate. C.S. origins to export position price spreads (wousher) | | | | | |
|-------------|--|------------|------------|--|--|--|
| Commodity | Origin-destination | 10/21/2022 | 10/14/2022 | | | |
| Corn | IL-Gulf | -2.24 | -2.25 | | | |
| Corn | NE-Gulf | -1.69 | -1.82 | | | |
| Soybean | IA-Gulf | -2.81 | -2.82 | | | |
| HRW | KS-Gulf | -2.75 | -2.88 | | | |
| HRS | ND-Portland | -2.93 | -3.46 | | | |

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.

ket supply and demand. The map may be used to monitor market and time differentials.



Rail Transportation

Table 3

Rail deliveries to port (carloads)¹

| tan denvenes to port (carroa | (us) | | | | ulf Total Week ending Mexico³ 12,390 10/15/2022 1,797 12,587 10/8/2022 2,348 | | |
|---|-------------|------------|-----------|------------|--|--------------------|---------------------|
| | Mississippi | | Pacific | Atlantic & | | | Cross-border |
| For the week ending | Gulf | Texas Gulf | Northwest | East Gulf | Total | Week ending | Mexico ³ |
| 10/19/2022 ^p | 2,396 | 323 | 8,566 | 1,105 | 12,390 | 10/15/2022 | 1,797 |
| 10/12/2022 ^r | 1,878 | 654 | 9,304 | 751 | 12,587 | 10/8/2022 | 2,348 |
| 2022 YTD ^r | 47,892 | 32,429 | 205,588 | 18,022 | 303,931 | 2022 YTD | 111,488 |
| 2021 YTD ^r | 39,928 | 54,148 | 229,956 | 13,472 | 337,504 | 2021 YTD | 116,437 |
| 2022 YTD as % of 2021 YTD | 120 | 60 | 89 | 134 | 90 | % of 2021 YTD | 96 |
| Last 4 weeks as % of 2021 ² | 207 | 29 | 79 | 80 | 80 | Last 4wks. % 2021 | 91 |
| Last 4 weeks as % of 4-year avg. ² | 169 | 37 | 104 | 89 | 99 | Last 4wks. % 4 yr. | 93 |
| Total 2021 | 53,554 | 68,335 | 305,865 | 21,913 | 449,667 | Total 2021 | 145,883 |
| Total 2020 | 45,177 | 63,348 | 296,060 | 24,202 | 428,787 | Total 2020 | 126,407 |

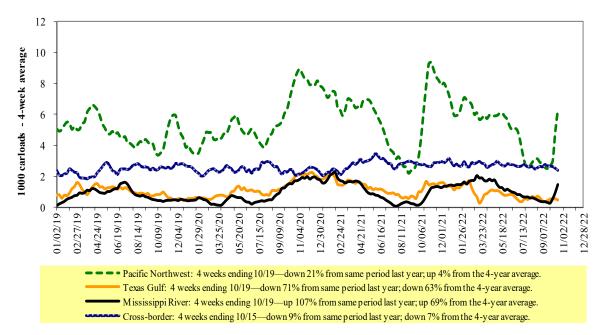
¹Data is incomplete as it is voluntarily provided.

YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

Source: USDA, Agricultural Marketing Service.

Railroads originate approximately 24 percent of U.S. grain shipments. Trends in these loadings are indicative of market conditions and expectations.

Figure 2 Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

² Compared with same 4-weeks in 2021 and prior 4-year average.

³ Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads to reflect switching between Kansas City Southern de Mexico (KCSM) and Grupo Mexico.

Table 4

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

| For the week ending: | Ea | ast | | West | | U.S. total | Car | nada |
|-----------------------------------|--------|---------|---------|--------|---------|------------|---------|---------|
| 10/15/2022 | CSXT | NS | BNSF | KCS | UP | U.S. total | CN | CP |
| This week | 2,024 | 2,529 | 13,243 | 1,568 | 6,479 | 25,843 | 6,684 | 6,105 |
| This week last year | 2,177 | 2,186 | 12,916 | 1,567 | 6,247 | 25,093 | 4,811 | 4,785 |
| 2022 YTD | 70,568 | 97,277 | 446,563 | 51,454 | 234,891 | 900,753 | 149,028 | 150,547 |
| 2021 YTD | 71,968 | 97,014 | 472,661 | 49,242 | 250,778 | 941,663 | 167,517 | 194,026 |
| 2022 YTD as % of 2021 YTD | 98 | 100 | 94 | 104 | 94 | 96 | 89 | 78 |
| Last 4 weeks as % of 2021* | 93 | 103 | 96 | 98 | 89 | 94 | 126 | 120 |
| Last 4 weeks as % of 3-yr. avg.** | 87 | 98 | 99 | 110 | 98 | 98 | 123 | 112 |
| Total 2021 | 93,935 | 120,570 | 609,890 | 64,818 | 318,002 | 1,207,215 | 209,988 | 242,533 |

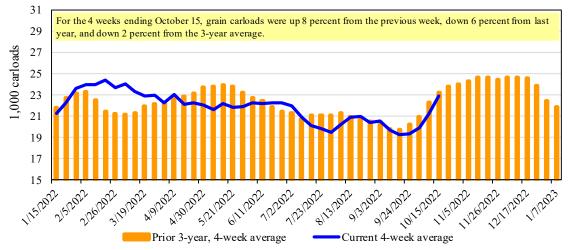
^{*}The past 4 weeks of this year as a percent of the same 4 weeks last year.

Note: NS = Norfolk Southern; KCS = Kansas City Southern; UP = Union Pacific; CN = Canadian National; CP = Canadian Pacific.

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 5

Railcar auction offerings¹ (\$/car)²

| Fo | or the week ending: | Delivery period | | | | | | | |
|-------------------|----------------------|------------------------|--------|----------|--------|----------|--------|--------|--------|
| | 10/20/2022 | Nov-22 | Nov-21 | Dec-22 | Dec-21 | Jan-23 | Jan-22 | Feb-23 | Feb-22 |
| BNSF ³ | COT grain units | no bids | 46 | no bids | 0 | 52 | 0 | 44 | 0 |
| | COT grain single-car | 341 | 106 | 344 | 2 | 316 | 12 | 225 | 1 |
| UP ⁴ | GCAS/Region 1 | no offer | n/a | no offer | n/a | no offer | n/a | n/a | n/a |
| | GCAS/Region 2 | no offer | n/a | no offer | n/a | no offer | n/a | n/a | n/a |

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

Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

Source: USDA, Agricultural Marketing Service.

^{**}The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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

³BNSF - COT = BNSF Railway Certificate of Transportation; north grain and south grain bids were combined effective the week ending 6/24/06.

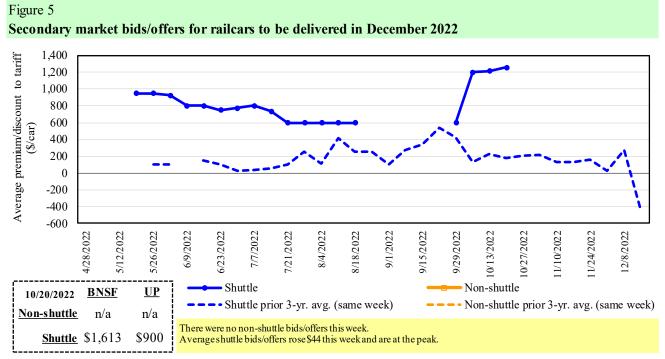
⁴UP - GCAS = Union Pacific Railroad Grain Car Allocation System.

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 4 Secondary market bids/offers for railcars to be delivered in November 2022 2,500 Average premium/discount to tariff 2,000 1,500 1,000 500 0 -500

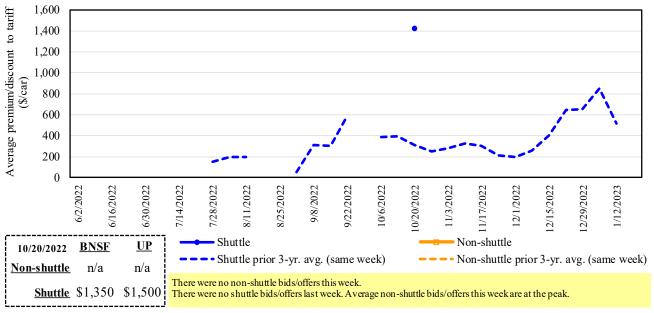
7/7/2022 7/21/2022 8/4/2022 3/31/2022 4/14/2022 4/28/2022 5/12/2022 5/26/2022 6/9/2022 6/23/2022 8/18/2022 9/1/2022 9/15/2022 9/29/2022 0/13/2022 10/27/2022 1/10/2022 Shuttle Non-shuttle **BNSF** <u>UP</u> 10/20/2022 - Shuttle prior 3-yr. avg. (same week) --- Non-shuttle prior 3-yr. avg. (same week) Non-shuttle n/a n/a There were no non-shuttle bids/offers this week. **Shuttle** \$1,678 \$1,500 Average shuttle bids/offers fell \$111 this week and are \$419 below the peak.

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.



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

Figure 6
Secondary market bids/offers for railcars to be delivered in January 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.

Table 6

Weekly secondary railcar market (\$/car)¹

| | For the week ending: | | | De | livery period | | |
|-------------|----------------------------|--------|--------|--------|---------------|--------|--------|
| | 10/20/2022 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 |
| | BNSF-GF | n/a | n/a | n/a | n/a | n/a | n/a |
| <u>ء</u> | Change from last week | n/a | n/a | n/a | n/a | n/a | n/a |
| hutt | Change from same week 2021 | n/a | n/a | n/a | n/a | n/a | n/a |
| Non-shuttle | UP-Pool | n/a | n/a | n/a | n/a | n/a | n/a |
| ~ | Change from last week | n/a | n/a | n/a | n/a | n/a | n/a |
| | Change from same week 2021 | n/a | n/a | n/a | n/a | n/a | n/a |
| | BNSF-GF | 1,678 | 1,613 | 1,350 | 1,200 | 800 | n/a |
| | Change from last week | (22) | 263 | n/a | n/a | n/a | n/a |
| Shuttle | Change from same week 2021 | 1,391 | 1,413 | 1,100 | n/a | n/a | n/a |
| Shu | UP-Pool | 1,500 | 900 | 1,500 | 1,000 | n/a | n/a |
| | Change from last week | n/a | (175) | n/a | n/a | n/a | n/a |
| | Change from same week 2021 | 1,217 | n/a | n/a | n/a | n/a | n/a |

¹Average 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.

Data from James B. Joiner Co., Tradewest Brokerage Co.

Source: USDA, Agricultural Marketing Service.

The **tariff rail rate** is the base price of freight rail service. Together with **fuel surcharges** and any **auction and secondary rail** values, the tariff rail rate constitutes the full cost of shipping by rail. Typically, auction and secondary rail values are a small fraction of the full cost of shipping by rail relative to the tariff rate. However, during times of high rail demand or short supply, high auction and secondary rail values can exceed the cost of the tariff rate plus fuel surcharge.

Table 7

Tariff rail rates for unit and shuttle train shipments¹

| | | | | Fuel | | | Percen |
|-------------------|----------------------------|---------------------------------|--------------|------------|-------------------|----------------------|--------|
| | | | Tariff | surcharge_ | Tariff plus surch | | change |
| October 2022 | Origin region ³ | Destination region ³ | rate/car | per car | metric ton | bus hel ² | Y/Y |
| <u>Unit train</u> | **** 1 *** | a. r | A2.60 | ** | 000.66 | #1.00 | |
| Wheat | Wichita, KS | St. Louis, MO | \$3,695 | \$299 | \$39.66 | \$1.08 | 4 |
| | Grand Forks, ND | Duluth-Superior, MN | \$3,858 | \$134 | \$39.64 | \$1.08 | ç |
| | Wichita, KS | Los Angeles, CA | \$7,490 | \$689 | \$81.22 | \$2.21 | 12 |
| | Wichita, KS | New Orleans, LA | \$4,600 | \$525 | \$50.89 | \$1.39 | 8 |
| | Sioux Falls, SD | Galveston-Houston, TX | \$7,226 | \$565 | \$77.37 | \$2.11 | 1 |
| | Colby, KS | Galveston-Houston, TX | \$4,850 | \$575 | \$53.88 | \$1.47 | , |
| | Amarillo, TX | Los Angeles, CA | \$5,121 | \$801 | \$58.80 | \$1.60 | 8 |
| Corn | Champaign-Urbana, IL | New Orleans, LA | \$4,000 | \$594 | \$45.62 | \$1.16 | 8 |
| | Toledo, OH | Raleigh, NC | \$8,551 | \$654 | \$91.41 | \$2.32 | 13 |
| | Des Moines, IA | Davenport, IA | \$2,655 | \$126 | \$27.61 | \$0.70 | Ģ |
| | Indianapolis, IN | Atlanta, GA | \$6,593 | \$491 | \$70.35 | \$1.79 | 14 |
| | Indianapolis, IN | Knoxville, TN | \$5,564 | \$318 | \$58.41 | \$1.48 | 12 |
| | Des Moines, IA | Little Rock, AR | \$4,250 | \$369 | \$45.87 | \$1.17 | 1 |
| | Des Moines, IA | Los Angeles, CA | \$6,130 | \$1,076 | \$71.55 | \$1.82 | 13 |
| Soybeans | Minneapolis, MN | New Orleans, LA | \$4,431 | \$917 | \$53.11 | \$1.45 | 3 |
| | Toledo, OH | Huntsville, AL | \$7,037 | \$466 | \$74.51 | \$2.03 | 12 |
| | Indianapolis, IN | Raleigh, NC | \$7,843 | \$663 | \$84.47 | \$2.30 | 1: |
| | Indianapolis, IN | Huntsville, AL | \$5,689 | \$315 | \$59.62 | \$1.62 | 12 |
| | Champaign-Urbana, IL | New Orleans, LA | \$4,865 | \$594 | \$54.21 | \$1.48 | Ģ |
| Shuttle train | | | | | | | |
| Wheat | Great Falls, MT | Portland, OR | \$4,393 | \$396 | \$47.56 | \$1.29 | 14 |
| | Wichita, KS | Galveston-Houston, TX | \$4,311 | \$308 | \$45.87 | \$1.25 | |
| | Chicago, IL | Albany, NY | \$7,090 | \$617 | \$76.54 | \$2.08 | 16 |
| | Grand Forks, ND | Portland, OR | \$6,051 | \$684 | \$66.88 | \$1.82 | 1.5 |
| | Grand Forks, ND | Galveston-Houston, TX | \$5,399 | \$712 | \$60.69 | \$1.65 | 7 |
| | Colby, KS | Portland, OR | \$5,923 | \$943 | \$68.19 | \$1.86 | (|
| Corn | Minneapolis, MN | Portland, OR | \$5,660 | \$833 | \$64.48 | \$1.64 | 2 |
| | Sioux Falls, SD | Tacoma, WA | \$5,620 | \$763 | \$63.38 | \$1.61 | 20 |
| | Champaign-Urbana, IL | New Orleans, LA | \$4,170 | \$594 | \$47.30 | \$1.20 | 14 |
| | Lincoln, NE | Galveston-Houston, TX | \$4,360 | \$445 | \$47.71 | \$1.21 | 18 |
| | Des Moines, IA | Amarillo, TX | \$4,670 | \$464 | \$50.99 | \$1.30 | 11 |
| | Minneapolis, MN | Tacoma, WA | \$5,660 | \$826 | \$64.41 | \$1.64 | 2 |
| | Council Bluffs, IA | Stockton, CA | \$5,580 | \$855 | \$63.90 | \$1.62 | 2 |
| Soybeans | Sioux Falls, SD | Tacoma, WA | \$6,350 | \$763 | \$70.63 | \$1.92 | 18 |
| | Minneapolis, MN | Portland, OR | \$6,400 | \$833 | \$71.83 | \$1.95 | 19 |
| | Fargo, ND | Tacoma, WA | \$6,250 | \$678 | \$68.80 | \$1.87 | 16 |
| | Council Bluffs, IA | New Orleans, LA | \$5,095 | \$684 | \$57.39 | \$1.56 | 10 |
| | Toledo, OH | Huntsville, AL | \$5,277 | \$466 | \$57.03 | \$1.55 | 16 |
| | Grand Island, NE | Portland, OR | \$5,730 | \$966 | \$66.49 | \$1.81 | 16 |

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

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

⁷⁵⁻¹²⁰ cars that meet railroad efficiency requirements.

²Approximate load per car = 111 short tons (100.7 metric tons): com 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.

Table 8
Tariff rail rates for U.S. bulk grain shipments to Mexico

| | : December | r 2021 | | Fuel | Tari | ff rate plus | Percent |
|-----------|------------|----------------------|----------------------|----------------------|-------------------------|---------------------|---------------------|
| | Origin | | Tariff rate | surcharge | fuel surc | harge per: | change ⁴ |
| Commodity | state | Destination region | per car ¹ | per car ² | metric ton ³ | bushel ³ | Y/Y |
| Wheat | MT | Chihuahua, CI | \$7,699 | \$0 | \$78.67 | \$2.14 | 4 |
| | OK | Cuautitlan, 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 | Torreon, 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 | Torreon, 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 | Torreon, CU | \$7,225 | \$438 | \$78.29 | \$1.99 | 6 |

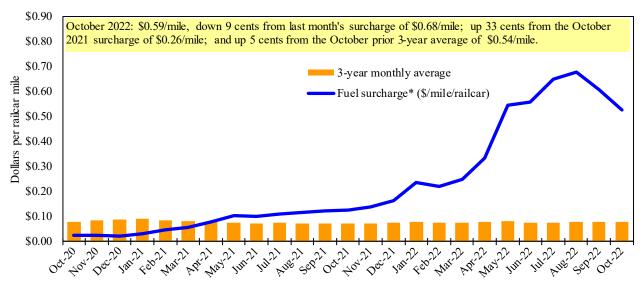
¹Rates are based upon published tariff rates for high-capacity shuttle trains. Shuttle trains are available for qualified

As we incorporate the change, Table 8 updates will be delayed.

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

Figure 7

Railroad fuel surcharges, North American weighted average¹



¹ Weighted 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.

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 surchage; Y/Y = year over year.

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

^{*} Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

^{**}CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1, 2015.

Barge Transportation

Figure 8

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.

Table 9

Weekly barge freight rates: Southbound only

| | | | mooding only | | | | | |
|-------------------|------------------------------------|-----------------|---------------------|----------------------------|----------------|-----------------|-----------------|-------------------|
| | | Twin Cities | Mid- Mississippi | Lower Illinois River | St. Louis | Cincinnati | Lower Ohio | Cairo- Memphis |
| Rate ¹ | 10/25/2022 10/18/2022 | 1683 1369 | 2033 1850 | 2067 1938 | 2217 1819 | 2478 2119 | 2478 2119 | 1878 1978 |
| \$/ton | 10/25/2022 10/18/2022 | 104.18 84.74 | 108.16 98.42 | 95.91 89.92 | 88.46 72.58 | 116.22 99.38 | 100.11 85.61 | 58.97 62.11 |
| Curren | t week % chang | e from the s | same week: | | | | | |
| | Last year 3-year avg. ² | 206 223 | 232 277 | 252 300 | 286 359 | 274 388 | 274 388 | 227 299 |
| Rate ¹ | November January | 1386 | 1622 | 1550 1027 | 1469 852 | 1572 881 | 1572 881 | 1400 783 |

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 9 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.

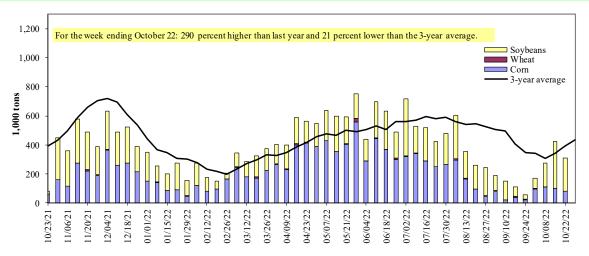




^{*}Source: USDA, Agricultural Marketing Service.

Figure 10

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 10 **Barge grain movements (1,000 tons)**

| For the week ending 10/22/2022 | Corn | Wheat | Soybeans | Other | Total |
|--|--------|-------|----------|-------|--------|
| Mississippi River | | | | | _ |
| Rock Island, IL (L15) | 0 | 0 | 110 | 0 | 110 |
| Winfield, MO (L25) | 50 | 0 | 184 | 0 | 234 |
| Alton, IL (L26) | 53 | 0 | 173 | 0 | 226 |
| Granite City, IL (L27) | 80 | 0 | 232 | 3 | 315 |
| Illinois River (La Grange) | 22 | 0 | 84 | 0 | 106 |
| Ohio River (Olmsted) | 53 | 0 | 133 | 0 | 185 |
| Arkansas River (L1) | 0 | 1 | 24 | 0 | 25 |
| Weekly total - 2022 | 133 | 1 | 388 | 3 | 526 |
| Weekly total - 2021 | 282 | 10 | 275 | 10 | 577 |
| 2022 YTD ¹ | 14,021 | 1,499 | 10,240 | 209 | 25,969 |
| 2021 YTD ¹ | 20,186 | 1,480 | 7,264 | 240 | 29,169 |
| 2022 as % of 2021 YTD | 69 | 101 | 141 | 87 | 89 |
| Last 4 weeks as % of 2021 ² | 60 | 48 | 115 | 127 | 86 |
| Total 2021 | 23,516 | 1,634 | 11,325 | 297 | 36,772 |

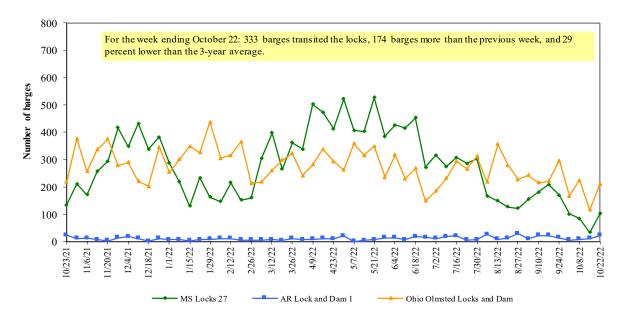
¹ Weekly total, YTD (year-to-date), and calendar year total include MI/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye. Total may not add exactly due to rounding.

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.

² As a percent of same period in 2021.

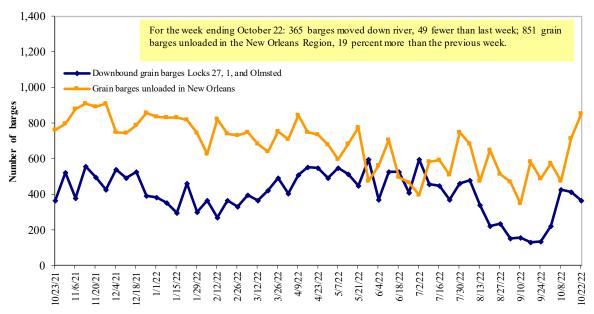
Figure 11
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 12 **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.

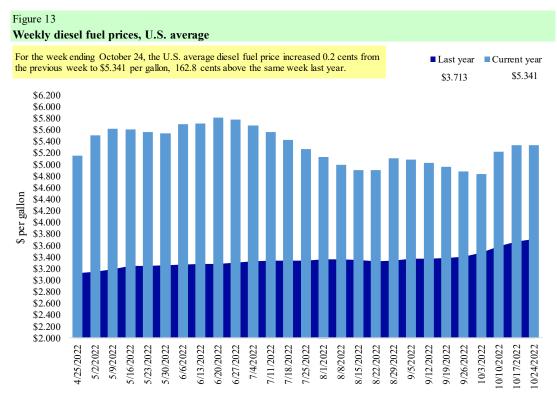
Table 11 Retail on-highway diesel prices, week ending 10/24/2022 (U.S. \$/gallon)

| | | | Change | e from |
|--------|----------------------------|-------|----------|----------|
| Region | Location | Price | Week ago | Year ago |
| I | East Coast | 5.379 | 0.029 | 1.675 |
| | New England | 5.773 | 0.178 | 2.147 |
| | Central Atlantic | 5.821 | 0.093 | 1.972 |
| | Lower Atlantic | 5.182 | -0.008 | 1.561 |
| II | Midwest | 5.369 | 0.023 | 1.737 |
| III | Gulf Coast | 4.987 | -0.031 | 1.504 |
| IV | Rocky Mountain | 5.338 | 0.070 | 1.559 |
| V | West Coast | 5.876 | -0.121 | 1.598 |
| | West Coast less California | 5.479 | -0.093 | 1.588 |
| | California | 6.331 | -0.168 | 1.731 |
| Total | United States | 5.341 | 0.002 | 1.628 |

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

Note: On June 13, 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.



Note: On June 13, 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 12
U.S. export balances and cumulative exports (1,000 metric tons)

| | | -, | | ·~ <i>)</i> | | | | | |
|--|-------|-------|-------|-------------|-----|-----------|------------------|--------|---------|
| Whe at | | | | | | Corn | Soybe ans | Total | |
| For the week ending | HRW | SRW | HRS | SWW | DUR | All wheat | | | |
| Export balances ¹ | | | | | | | | | |
| 10/13/2022 | 704 | 454 | 909 | 602 | 62 | 2,730 | 10,755 | 25,951 | 39,436 |
| This week year ago | 1,641 | 639 | 1,001 | 643 | 42 | 3,966 | 24,438 | 23,432 | 51,836 |
| Cumulative exports-marketing year ² | | | | | | | | | |
| 2022/23 YTD | 2,496 | 1,628 | 2,418 | 1,941 | 78 | 8,560 | 3,077 | 4,573 | 16,210 |
| 2021/22 YTD | 3,167 | 1,207 | 2,337 | 1,599 | 61 | 8,372 | 4,456 | 5,639 | 18,467 |
| YTD 2022/23 as % of 2021/22 | 79 | 135 | 103 | 121 | 126 | 102 | 69 | 81 | 88 |
| Last 4 wks. as % of same period 2021/22 | 47 | 82 | 97 | 111 | 198 | 77 | 45 | 110 | 77 |
| 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.

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 13 **Top 5 importers**¹ **of U.S. corn**

| For the week ending 10/13/2022 | Total com | mitments ² | % change | Exports ³ |
|-------------------------------------|------------|-----------------------|--------------|----------------------|
| | 2022/23 | 2021/22 | current MY | 3-yr. avg. |
| | current MY | last MY | from last MY | 2019-21 |
| | | 1,000 mt - | | |
| Mexico | 5594.4 | 7,453 | (25) | 15,227 |
| China | 3396 | 11,926 | (72) | 12,616 |
| Japan | 1254 | 2,182 | (43) | 10,273 |
| Columbia | 313 | 1,202 | (74) | 4,398 |
| Korea | 14 | 72 | (80) | 2,563 |
| Top 5 importers | 10,571 | 22,835 | (54) | 45,077 |
| Total U.S. corn export sales | 13,831 | 28,894 | (52) | 56,665 |
| % of projected exports | 25% | 46% | | |
| Change from prior week ² | 408 | 1,273 | | |
| Top 5 importers' share of U.S. corn | | | | |
| export sales | 76% | 79% | | 80% |
| USDA forecast October 2022 | 54,707 | 62,875 | (13) | |
| Corn use for ethanol USDA forecast, | | | | |
| October 2022 | 133,985 | 135,331 | (1) | |

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

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

Source: USDA, Foreign Agricultural Service.

 $^{^{2}% \}left(-\frac{1}{2}\right) =-\frac{1}{2}\left(-\frac{1}{2}\right)$

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 (carry over plus accumulated export); yr. = year; avg. = average.

Table 14 Top 5 importers¹ of U.S. soybeans

| For the week ending 10/13/2022 | Total commitments ² | | % change | Exports ³ |
|--------------------------------------|--------------------------------|---------|--------------|----------------------|
| | 2022/23 | 2021/22 | current MY | 3-yr. avg. |
| | current MY | last MY | from last MY | 2019-21 |
| | | | | - 1,000 mt - |
| China | 16,630 | 14,964 | 11 | 27,283 |
| Mexico | 2,108 | 1,967 | 7 | 4,929 |
| Egypt | 655 | 788 | (17) | 3,553 |
| Japan | 674 | 694 | (3) | 2,266 |
| Indonesia | 295 | 345 | (14) | 2,116 |
| Top 5 importers | 20,361 | 18,757 | 9 | 40,147 |
| Total U.S. soybean export sales | 30,524 | 29,070 | 5 | 54,231 |
| % of projected exports | 55% | 49% | | |
| _change from prior week ² | 2,336 | 2,751 | | |
| Top 5 importers' share of U.S. | | | | |
| soybean export sales | 67% | 65% | | 74% |
| USDA forecast, October 2022 | 55,722 | 58,801 | (5) | |

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

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

Source: USDA, Foreign Agricultural Service.

Table 15 Top 10 importers¹ of all U.S. wheat

| For the week ending 10/13/2022 | Total Comm | itments ² | % change | Exports ³ |
|-------------------------------------|------------|----------------------|--------------|----------------------|
| _ | 2022/23 | 2021/22 | current MY | 3-yr. avg. |
| | current MY | last MY | from last MY | 2019-21 |
| | | 1,000 mt - | | - 1,000 mt - |
| Mexico | 2,020 | 2,113 | (4) | 3,566 |
| Philippines | 1,494 | 1,880 | (20) | 2,985 |
| Japan | 1,170 | 1,271 | (8) | 2,453 |
| China | 616 | 848 | (27) | 1,537 |
| Nigeria | 584 | 1,406 | (58) | 1,528 |
| Korea | 626 | 749 | (16) | 1,459 |
| Taiwan | 417 | 500 | (17) | 1,106 |
| Indonesia | 236 | 59 | 299 | 711 |
| Thailand | 344 | 371 | (7) | 703 |
| Colombia | 405 | 364 | 11 | 621 |
| Top 10 importers | 7,913 | 9,560 | (17) | 16,669 |
| Total U.S. wheat export sales | 11,290 | 12,338 | (8) | 22,763 |
| % of projected exports | 53% | 57% | | |
| change from prior week ² | 163 | 362 | | |
| Top 10 importers' share of U.S. | | _ | | |
| wheat export sales | 70% | 77% | | 73% |
| USDA forecast, October 2022 | 21,117 | 21,798 | (3) | |

Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2020/21; Marketing year (MY) = Jun 1 - May 31.

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

Source: USDA, Foreign Agricultural Service.

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 previous week's outstanding sales and/or accumulated sales.

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

² Cumulative 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

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

Table 16

Grain inspections for export by U.S. port region (1.000 metric tons)

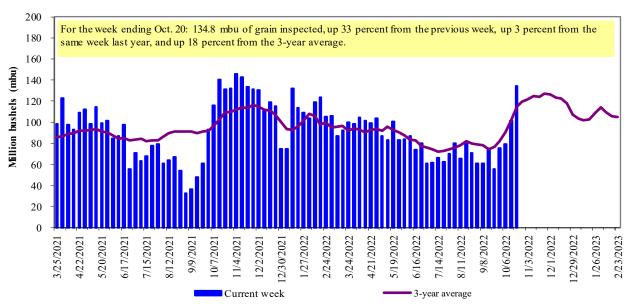
| | For the week ending | Previous | Current week | | | 2022 YTD as | Last 4-wo | eeks as % of: | |
|-----------------------|---------------------|----------|------------------|-----------|-----------|---------------|-----------|------------------|-------------|
| Port regions | 10/20/22 | week* | as % of previous | 2022 YTD* | 2021 YTD* | % of 2021 YTD | Last year | Prior 3-yr. avg. | 2021 total* |
| Pacific Northwest | | | | | | | | | |
| Wheat | 29 | 105 | 28 | 8,587 | 12,134 | 71 | 142 | 97 | 13,243 |
| Corn | 0 | 0 | n/a | 8,952 | 12,369 | 72 | 38 | 0 | 13,420 |
| Soybeans | 1,283 | 1,000 | 128 | 7,783 | 7,457 | 104 | 74 | 104 | 14,540 |
| Total | 1,312 | 1,104 | 119 | 25,322 | 31,959 | 79 | 85 | 101 | 41,203 |
| Mississippi Gulf | | | | | | | | | |
| Wheat | 32 | 80 | 40 | 3,914 | 2,742 | 143 | 85 | 109 | 3,202 |
| Corn | 340 | 320 | 106 | 27,632 | 33,983 | 81 | 56 | 67 | 38,498 |
| Soybeans | 1,345 | 642 | 210 | 19,509 | 15,343 | 127 | 98 | 80 | 27,159 |
| Total | 1,717 | 1,042 | 165 | 51,055 | 52,069 | 98 | 80 | 77 | 68,858 |
| Texas Gulf | | | | | | | | | |
| Wheat | 25 | 46 | 54 | 2,941 | 3,417 | 86 | 105 | 83 | 3,888 |
| Corn | 0 | 0 | n/a | 565 | 506 | 112 | 20 | 30 | 627 |
| Soybeans | 53 | 56 | 94 | 111 | 1,014 | 11 | 30 | 41 | 1,611 |
| Total | 78 | 102 | 76 | 3,616 | 4,937 | 73 | 63 | 65 | 6,126 |
| Interior | | | | | | | | | |
| Wheat | 32 | 14 | 226 | 2,408 | 2,497 | 96 | 99 | 88 | 2,973 |
| Corn | 114 | 129 | 88 | 7,160 | 7,958 | 90 | 71 | 85 | 10,157 |
| Soybeans | 238 | 185 | 129 | 5,426 | 4,844 | 112 | 99 | 99 | 6,525 |
| Total | 384 | 328 | 117 | 14,994 | 15,299 | 98 | 84 | 91 | 19,656 |
| Great Lakes | | | | | | | | | |
| Wheat | 14 | 0 | n/a | 282 | 371 | 76 | 30 | 17 | 536 |
| Corn | 0 | 0 | n/a | 148 | 94 | 158 | n/a | n/a | 145 |
| Soybeans | 27 | 78 | 34 | 366 | 195 | 188 | 99 | 138 | 592 |
| Total | 41 | 79 | 52 | 796 | 660 | 121 | 83 | 81 | 1,273 |
| Atlantic | | | | | | | | | |
| Wheat | 0 | 1 | n/a | 168 | 125 | 135 | n/a | n/a | 128 |
| Corn | 8 | 2 | 413 | 276 | 67 | 410 | 83 | 133 | 85 |
| Soybeans | 96 | 65 | 148 | 1,764 | 1,279 | 138 | 87 | 92 | 2,184 |
| Total | 104 | 67 | 154 | 2,208 | 1,471 | 150 | 102 | 113 | 2,397 |
| U.S. total from ports | * | | | | | | | | |
| Wheat | 132 | 246 | 54 | 18,300 | 21,286 | 86 | 117 | 93 | 23,969 |
| Corn | 462 | 452 | 102 | 44,732 | 54,977 | 81 | 60 | 71 | 62,932 |
| Soybeans | 3,041 | 2,026 | 150 | 34,959 | 30,133 | 116 | 84 | 89 | 52,612 |
| Total | 3,635 | 2,724 | 133 | 97,991 | 106,396 | 92 | 82 | 85 | 139,512 |

^{*}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.

The United States exports approximately one-quarter of the grain it produces. On average, this includes nearly 45 percent of U.S.-grown wheat, 50 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 55 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2019.

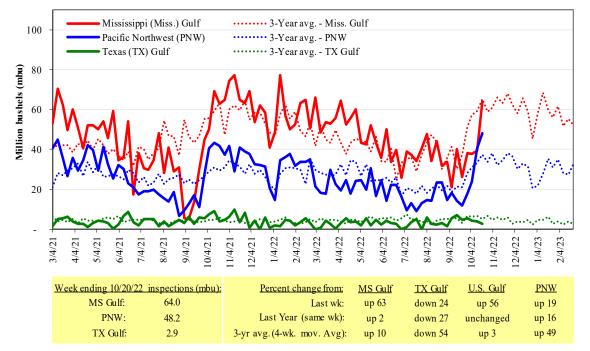
Figure 14
U.S. grain inspected for export (wheat, corn, and soybeans)



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

Source: USDA, Federal Grain Inspection Service.

Figure 15
U.S. Grain inspections: U.S. Gulf and PNW¹ (wheat, corn, and soybeans)



Source: USDA, Federal Grain Inspection Service.

Ocean Transportation

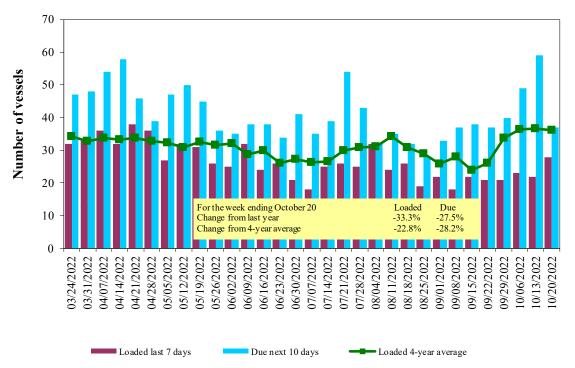
Table 17
Weekly port region grain ocean vessel activity (number of vessels)

| <u> </u> | | · (| , | Pacific |
|--------------|---------|--------|----------|-----------|
| | | Gulf | | Northwest |
| | | Loaded | Due next | |
| Date | In port | 7-days | 10-days | In port |
| 10/20/2022 | 40 | 28 | 37 | 20 |
| 10/13/2022 | 36 | 22 | 59 | 21 |
| 2021 range | (1057) | (548) | (1569) | (427) |
| 2021 average | 34 | 32 | 49 | 15 |

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

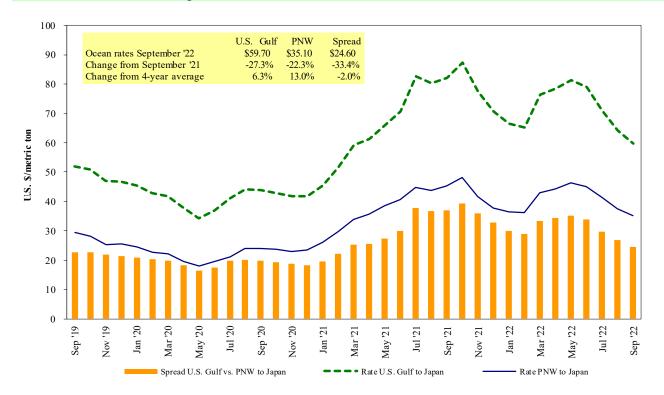
Source: USDA, Agricultural Marketing Service.

Figure 16
U.S. Gulf¹ vessel loading activity



¹U.S. Gulf includes Mississippi, Texas, and East Gulf Source: USDA, Agricultural Marketing Service.

Figure 17 **Grain vessel rates, U.S. to Japan**



Note: PNW = Pacific Northwest. Source: O'Neil Commodity Consulting.

Table 18

Ocean freight rates for selected shipments, week ending 10/22/2022

| Export | Import | Grain | Loading | Volume loads | Freight rate |
|-----------|----------|--------------|-----------------|---------------|-------------------|
| region | region | types | date | (metric tons) | (US\$/metric ton) |
| U.S. Gulf | Japan | Heavy grain | Nov 1/10, 2022 | 50,000 | 79.25 |
| U.S. Gulf | Japan | Heavy grain | Jul 20/30, 2022 | 50,000 | 81.50 |
| U.S. Gulf | Japan | Heavy grain | Jun 1/10, 2022 | 50,000 | 89.65 |
| U.S. Gulf | Japan | Heavy grain | May 1/20, 2022 | 50,000 | 78.90 |
| U.S. Gulf | S. China | Corn | Aug 1/10, 2022 | 68,000 | 71.00 |
| U.S. Gulf | Djibouti | Sorghum | Oct 5/15, 2022 | 13,920 | 94.08* |
| U.S. Gulf | Djibouti | Wheat | Nov 5/15, 2022 | 22,500 | 102.88* |
| U.S. Gulf | Honduras | Soybean Meal | Feb 18/28, 2022 | 7,820 | 57.15* |
| U.S. Gulf | S. Korea | Heavy grain | Jun 1/Jul, 2022 | 55,000 | 82.75 |
| U.S. Gulf | Sudan | Sorghum | Mar 1/10, 2022 | 35,790 | 149.97* |
| PNW | Yemen | Wheat | Jul 10/20, 2022 | 27,000 | 169.50* |
| Brazil | N. China | Heavy grain | Mar 18/27, 2022 | 64,000 | 56.85 |
| Argentina | Taiwan | Corn | May 1/Jun, 2022 | 65,000 | 85.00 |

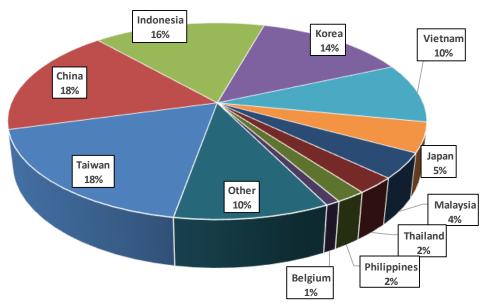
^{*50} percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Jul 2022



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '10020', '10020', '10030', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '2303', '2304', and '230990'.

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

Figure 19
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', '11020', '110220', '110290', '12010', '120190', '120190', '120810', '230210', '230330', '2304', and '230990'.

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

Contacts and Links

| Coordinators Surajudeen (Deen) Olowolayemo Maria Williams Bernadette Winston | surajudeen.olowolayemo@usda.gov maria.williams@usda.gov bernadette.winston@usda.gov | (202) 720 - 0119 (202) 690 - 4430 (202) 690 - 0487 |
|---|---|--|
| Grain Transportation Indicators Surajudeen (Deen) Olowolayemo | surajudeen.olowolayemo@usda.gov | (202) 720 - 0119 |
| Rail Transportation Jesse Gastelle Peter Caffarelli Bernadette Winston Rich Henderson | jesse.gastelle@usda.gov petera.caffarelli@usda.gov bernadette.winston@usda.gov richard.henderson2@usda.gov | (202) 690 - 1144 (202) 690 - 3244 (202) 690 - 0487 (919) 855 - 7801 |
| Barge Transportation April Taylor Rich Henderson | april.taylor@usda.gov richard.henderson2@usda.gov | (202) 720 - 7880 (919) 855 - 7801 |
| Truck Transportation April Taylor Kranti Mulik | april.taylor@usda.gov kranti.mulik@usda.gov | (202) 720 - 7880 (202) 756 - 2577 |
| Grain Exports Kranti Mulik Bernadette Winston | kranti.mulik@usda.gov bernadette.winston@usda.gov | (202) 756 - 2577 (202) 690 - 0487 |
| Ocean Transportation Surajudeen (Deen) Olowolayemo (Freight rates and vessels) April Taylor (Container movements) | surajudeen.olowolayemo@usda.gov april.taylor@usda.gov | (202) 720 - 0119 (202) 720 - 7880 |
| Editor Maria Williams | maria.williams@usda.gov | (202) 690-4430 |

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