USDA United States Department of Agriculture

Grain Transportation Report

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

December 29, 2022

Contact Us

Contents

Article/ Calendar
Grain Transportation Indicators
Rail
Barge
Truck
Exports
Ocean
Brazil
Mexico
Grain Truck/Ocean Rate Advisory
Datasets
Specialists
Subscription Information

The next release is January 5, 2022

WEEKLY HIGHLIGHTS

FMC Probes Shipping Lines' Compliance With Anti-Retaliation Law

The Federal Maritime Commission (FMC) has asked the top 20 U.S.-calling shipping lines to detail their compliance with new prohibitions on retaliation, in effect since June. Established by the Ocean Shipping Reform Act of 2022 (OSRA), the prohibitions apply to common carriers, marine terminal operators, and ocean transportation intermediaries. OSRA clarified that it is illegal for ocean carriers to discriminate or retaliate against a shipper for filing a complaint or challenging a charge. FMC's Vessel-Operating Common Carrier Audit Team will specifically focus on how companies are training personnel at all levels to act legally and to maintain awareness of the consequences of breaking the law.

Diesel Price Drops for 7th Consecutive Week

For the week ending December 26, the U.S. average **diesel fuel price** fell 5.9 cents from the previous week to $4.537 per gallon, 92.2 cents above the same week last year. Since November 7, the diesel price has declined 79.6 cents per gallon. Lower diesel prices are due to increased refinery output, as well as the combined decreases in crude oil prices and wholesale and retail margins. In the Midwest, the diesel price dropped 7.5 cents per gallon to $4.402, 92.3 cents above the same week last year.

Fuel Tax Set To Rise in Three Midwestern States

On January 1, 2023, fuel tax increases will take effect in Illinois, Michigan, and Nebraska. Originally set for July 1, a fuel tax increase in Illinois was postponed for 6 months to help offset rising inflation and high fuel prices nationwide. With the rate increase in place, Illinois' excise taxes on gasoline and diesel will rise 3.1 cents to 42.3 cents and 49.8 cents, respectively. Likewise, on January 1, the Michigan diesel tax rate will rise 1.4 cents to 28.6 cents. Also, on January 1, the Nebraska diesel tax rate will rise 4.2 cents to 29 cents, and that rate will remain in effect until June 30, 2023.

Louisiana DOT Funds Construction of Transloading Park

The Louisiana Department of Transportation and Development recently awarded a $1.5 million grant to New Orleans Public Belt Railroad (NOPB) to construct a transloading park in New Orleans. The NOPB—a Class III railroad—connects with the six Class I railroads that serve the Port of New Orleans (Port NOLA). The new facility will offer drayage carriers another way to access interstate and intrastate highways. Marking the first joint infrastructure venture between Port NOLA and NOPB, the transloading park will facilitate transfer of products between truck and rail. The project is also anticipated to expand options for cost-effective shipping and provide access to new markets. Construction is expected to begin in summer 2023, and engineering and design work is already taking place.

North Dakota Issues HOS Waiver for Fuel

On December 19, the Governor of North Dakota issued an hours-of-service (HOS) waiver for the transport of fuel, including diesel and propane. The order is intended to help meet the increased demand created by severe winter storms and cold temperatures and help ensure adequate availability of fuels to farmers, ranchers, and agribusinesses. The waiver is effective through January 18, 2023.

Snapshots by Sector

Export Sales

For the week ending December 15, **unshipped balances** of wheat, corn, and soybeans for marketing year (MY) 2022/23 totaled 34.16 million metric tons (mmt), down 25 percent from the same time last year and down 4 percent from last week. Net **corn export sales** for MY 2022/23 were 0.637 mmt, down 34 percent from last week. Net **soybean export sales** were 0.736 mmt, down 75 percent from last week. Net weekly **wheat export sales** were 0.334 mmt, down 29 percent from last week.

Rail

U.S. Class I railroads originated 22,860 **grain carloads** during the week ending December 17. This was a 4-percent decrease from the previous week, 5 percent fewer than last year, and 3 percent lower than the 3-year average.

Average January shuttle **secondary railcar bids/offers** (per car) were $1,233 above tariff for the week ending December 22. This was $283 more than last week and $496 lower than this week last year.

Barge

For the week ending December 24, **barged grain movements** totaled 626,254 tons. This was 21 percent lower than the previous week and flat compared to the same period last year.

For the week ending December 24, 416 grain barges **moved down river**—104 fewer than last week. There were 882 grain barges **unloaded** in the New Orleans region, 11 percent fewer than last week.

Ocean

For the week ending December 22, 31 **oceangoing grain vessels** were loaded in the Gulf—11 percent more than the same period last year. Within the next 10 days (starting December 23), 38 vessels were expected to be loaded—27 percent fewer than the same period last year.

As of December 22, no bulk ocean freight rates were available because of the public holiday.

Preferred citation: U.S. Department of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* December 29, 2022.
Web: http://dx.doi.org/10.9752/TS056.12-29-2022

Feature Article/Calendar

Dear Readers,

We commend your tenacity and resilience in keeping supply chains running as smoothly as possible in another eventful year. Some challenges from 2021 persisted into 2022, and new ones emerged, such as historically low water levels, persistently poor rail service, and record-high fuel prices. In the highly competitive, ever-evolving business of U.S. grain, we know that insightful, timely, and reliable information is key to your decisions. Through the *Grain Transportation Report* (*GTR*) and our other products, we strive to provide the information you need. Throughout the year, our weekly feature articles covered such topics as quarterly transportation costs, rail and barge issues, and the relevant takeaways of the Ocean Shipping Reform Act, enacted in June. This year, *GTR* staff also wrapped up several USDA-funded cooperative research projects, exploring such topics as the relative advantages and disadvantages of U.S. and Ukrainian corn exports in major markets and the impacts of weather extremes on corn and soybean basis. USDA also advocated for agricultural shippers on a number of rail issues before the Surface Transportation Board (STB). USDA submitted a total of eight letters and comments to STB, including a letter from the Secretary of Agriculture that spurred an STB hearing on urgent rail service issues.

Synopsis of Agricultural Transportation in 2022

- **Year-to-year grain inspections fell.** Total year-to-date (YTD) grain inspections for export fell below 2021's near-record level. As of December 22, YTD inspections were around 125.5 million metric tons (mmt)—a decrease from the same time last year, with corn and wheat falling 20 percent and 13 percent, respectively. However, soybean inspections increased 7 percent. Corn and wheat inspected for export to Asia have fallen compared to last year. Soybeans inspected for export to Asia, Latin America, and Europe have risen significantly from last year, with heightened demand in these regions. Second- and third-quarter 2022 soybean inspections increased tremendously, mainly reflecting higher shipments to Asia, Africa, and Europe.

- **Barge rates soared.** Showing tremendous resilience, the barge industry faced many obstacles this year. Low water levels in the Mississippi River System (MSR) not seen since the 1980s led to barge-groundings; short supplies of barges; 17- to 28-percent reductions in draft size; and 24- to 30-percent drops in tonnage per barge. For the first three quarters of the year, the southbound weekly grain tonnage through the MSR was slightly above the 3-year average. In the fourth quarter, low-water restrictions caused weekly southbound grain to fall significantly below the 3-year average. During the week of October 11, in response to low water issues, barge spot freight rates reached an all-time high of $105.85 per ton in St. Louis. On October 18, the water gauge at Memphis, TN, reached an all-time low of -10.79 feet. Since then, barge spot freight rates have fallen over 50 percent, but still exceed the rates of last year and the 3-year average. For the week ending December 24, YTD barged grain shipments were 32.3 million tons—11 percent lower than last year and 6 percent lower than the 3-year average.

- **Grain rail shippers faced poor service.** Particularly problematic early in the year, rail service was at its worst in the second quarter, but still remains an issue for grain shippers. At the end of June, the number of unfilled grain car orders (around 17,200) reached its highest level ever recorded. Despite showing improvements over the summer, some grain service metrics, such as the unfilled grain car orders, remain at problematic levels. As of the week ending December 21, unfilled grain car orders (around 16,400) were again near their all-time high. In addition to costly delays, these service issues may have contributed to lower than usual grain rail volumes. As of the week ending December 17, YTD grain carloads were 5 percent below 2021 YTD carloads and 4 percent below the prior 3-year YTD average. Rail service issues were also reflected in costs to shippers of obtaining car service. Bids for rail car service in 2022 were around $600 per car more than average—and substantially higher in some months. For example, bids for May service were around $1,100 per car higher than average, while bids for October and November service were nearly $1,000 per car higher than average.

- **Ocean freight rates fluctuated throughout the year.** Many global and domestic factors spawned volatile ocean freight rates for shipping bulk commodities, including grain. Various contributing factors included weak cargo demand from a China strained by COVID-19, low vessel demand due to extreme weather in China and Europe, economic uncertainty from the Russian-Ukraine war, and rampant worldwide inflation. As of December 15, the rate for shipping a metric ton of grain to Japan was $57.00 from the U.S. Gulf and $32 from the Pacific Northwest. These rates were lower than the first available rates at the beginning of the year and the same period a year ago. YTD as of December 22, 1,431 grain vessels were loaded in the U.S. Gulf, versus 1,627 vessels in 2021. Through first quarter 2023, ocean freight rates are expected to stay moderate because of low trading activity occasioned by such holidays as global New Year celebrations and the Chinese Lunar year.

- **Fuel prices set record increases in 2022**. From February to March, directly after Russia's attack on Ukraine, the average U.S. diesel price rose $1.073, the largest month-to-month rise on record. From January to June, the average diesel price rose 55 percent, fell from July through September, rose in October and November, and then, fell for 6 straight weeks from November 14 through December 26. Yet, despite this volatility, from January to November 2022, the average diesel price was 39 percent above the prior 3-year average. According to the U.S. Energy Information Administration's December *Short Term Energy Outlook*, the 2023 retail diesel price is expected to average $4.48 per gallon, 13 percent below the expected full-year 2022 average of $5.05 per gallon. The estimated drop is due to high refinery utilization and lower distillate refinery margins. Despite falling an estimated 19 percent from 2022 to 2023, distillate refinery margins are still expected to double 2021 levels.

Happy New Year

We hope our insights and analysis facilitated well-informed transportation and marketing decisions in 2022, and we look forward to continuing to serve you in 2023. Many thanks to all industry and government representatives whose tireless work provides the necessary information and data to produce this report. We wish all our readers and contributors a safe, healthy, and prosperous New Year!

Sincerely,

The GTR Team

Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
12/28/22	304	337	314	514	n/a	n/a
12/21/22	308	337	297	520	255	227

[1]Indicator: 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)

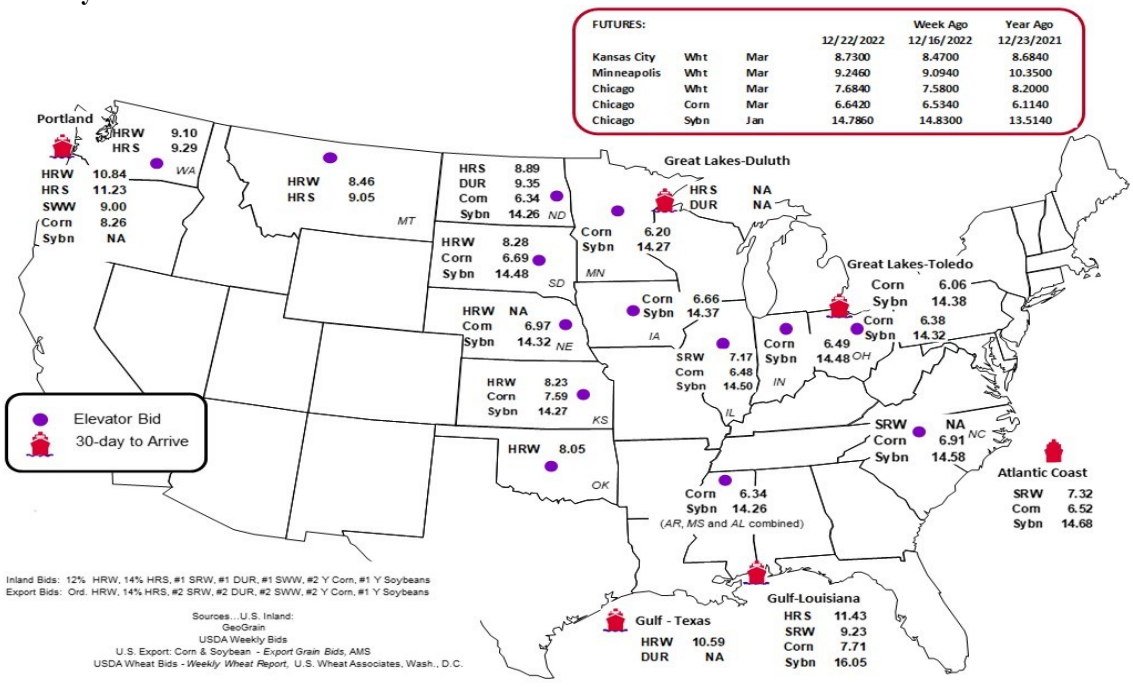
Commodity	Origin–destination	12/22/2022	12/16/2022
Corn	IL–Gulf	-1.23	-1.27
Corn	NE–Gulf	-0.74	-0.81
Soybean	IA–Gulf	-1.68	-1.68
HRW	KS–Gulf	-2.36	-2.38
HRS	ND–Portland	-2.34	-2.28

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

Note: Because of the holiday, data on 12/23 were not available. Therefore, available data on 12/22 are reported.



Rail Transportation

Table 3

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

For the week ending:	East		West			U.S. total	Canada	
12/17/2022	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	2,320	3,398	10,604	1,186	5,352	22,860	5,977	5,690
This week last year	2,073	2,427	12,433	1,523	5,616	24,072	4,063	4,061
2022 YTD	90,102	125,366	553,583	63,586	287,839	1,120,476	205,697	205,681
2021 YTD	90,600	116,988	590,261	62,246	308,279	1,168,374	203,608	235,215
2022 YTD as % of 2021 YTD	99	107	94	102	93	96	101	87
Last 4 weeks as % of 2021*	106	137	85	82	90	92	170	147
Last 4 weeks as % of 3-yr. avg.**	113	126	86	100	94	95	137	115
Total 2021	93,935	120,586	609,890	64,818	318,002	1,207,231	209,611	242,533

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

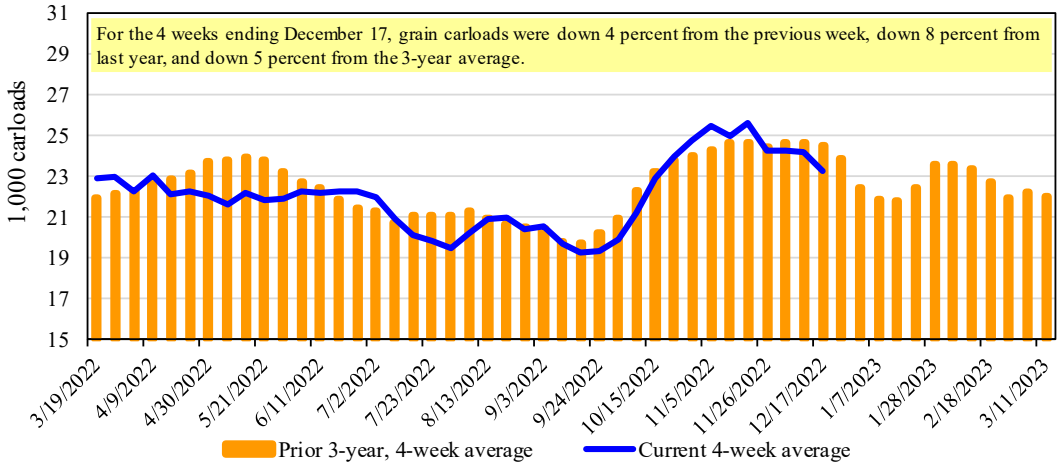
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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

Source: Association of American Railroads.

Figure 2

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 4

Railcar auction offerings[1] ($/car)[2]

For the week ending:		Delivery period							
12/22/2022		Feb-23	Feb-22	Mar-23	Mar-22	Apr-23	Apr-22	May-23	May-22
BNSF[3]	COT grain units	n/a	40	n/a	0	n/a	0	n/a	n/a
	COT grain single-car	n/a	35	n/a	0	n/a	0	n/a	n/a
UP[4]	GCAS/Region 1	n/a	no offer	n/a	no offer	n/a	n/a	n/a	n/a
	GCAS/Region 2	n/a	no offer	n/a	no offer	n/a	n/a	n/a	n/a

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

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

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

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

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

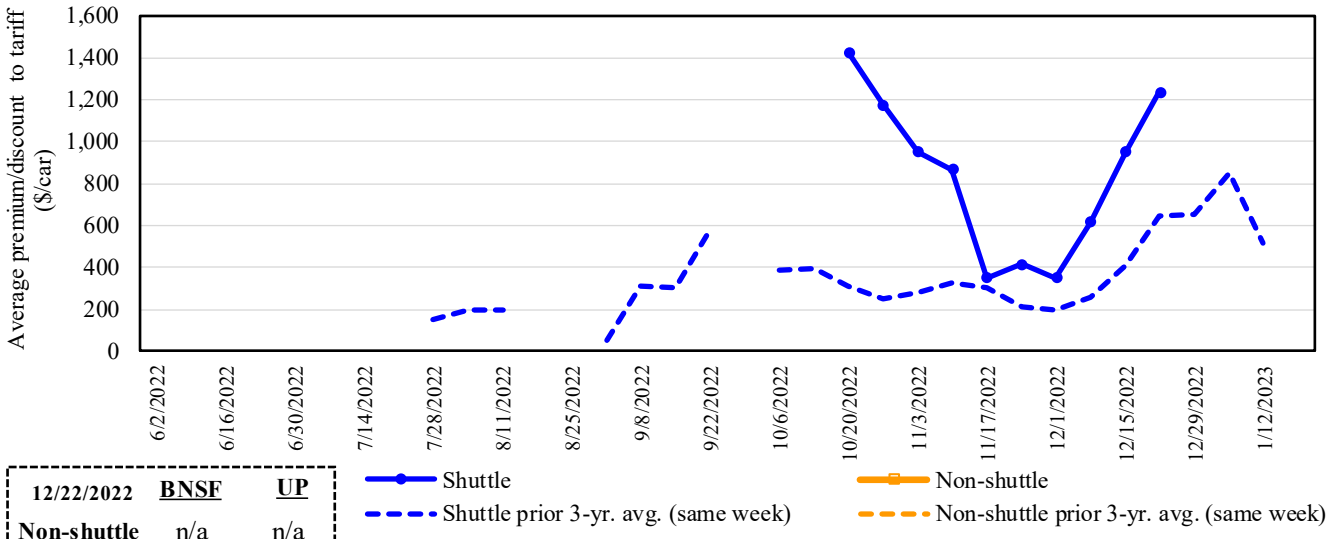
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

Source: USDA, Agricultural Marketing Service.

The **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 January 2023



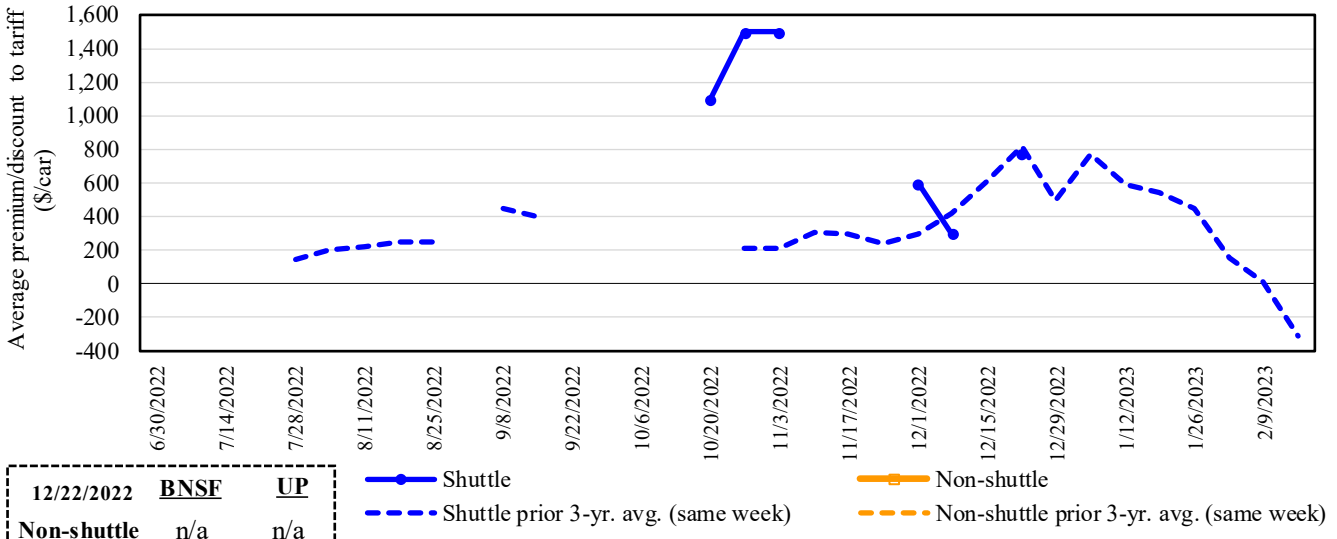
12/22/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$1,267	$1,200

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $283 this week and are $192 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.

Figure 4

Secondary market bids/offers for railcars to be delivered in February 2023



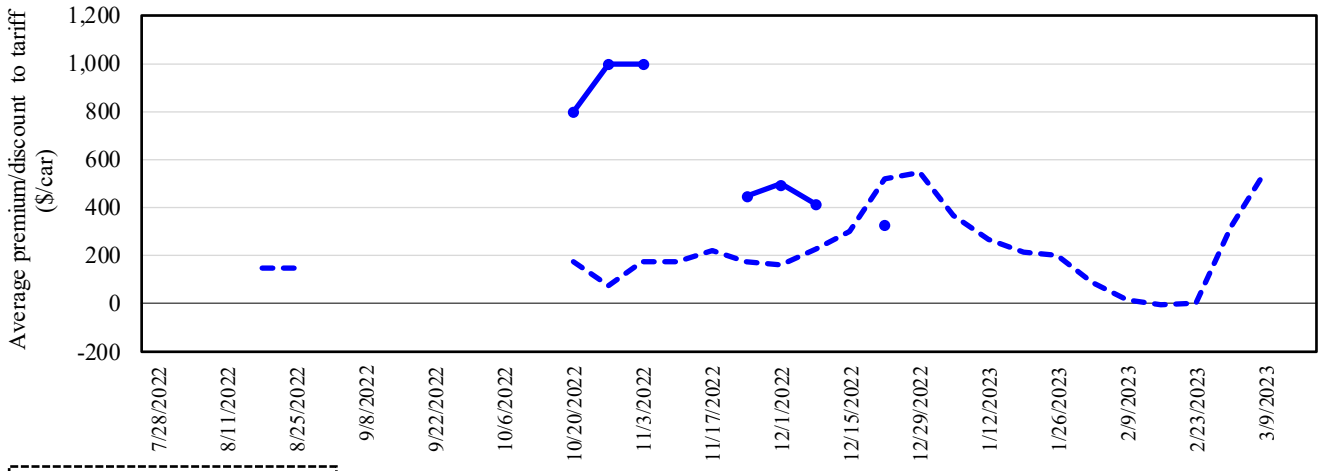
12/22/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$775	n/a

There were no non-shuttle bids/offers this week.
There were no shuttle bids/offers last week. Average non-shuttle bids/offers this week are $725 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.

Figure 5

Secondary market bids/offers for railcars to be delivered in March 2023



12/22/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$333	n/a

There were no non-shuttle bids/offers this week.
There were no shuttle bids/offers last week. Average non-shuttle bids/offers this week are $667 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.

Table 5

Weekly secondary railcar market ($/car)[1]

	For the week ending: 12/22/2022	Delivery period					
		Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23
Non-shuttle	**BNSF-GF**	**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
	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
Shuttle	**BNSF-GF**	**1,267**	**775**	**333**	**n/a**	**(150)**	**n/a**
	Change from last week	467	n/a	n/a	n/a	0	n/a
	Change from same week 2021	(233)	(225)	(367)	n/a	(150)	n/a
	UP-Pool	**1,200**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	100	n/a	n/a	n/a	n/a	n/a
	Change from same week 2021	(758)	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.

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 6

Tariff rail rates for unit and shuttle train shipments[1]

December 2022	Origin region[3]	Destination region[3]	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per: metric ton	Tariff plus surcharge per: bushel[2]	Percent change Y/Y[4]
Unit train							
Wheat	Wichita, KS	St. Louis, MO	$3,695	$319	$39.86	$1.08	4
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$149	$39.79	$1.08	10
	Wichita, KS	Los Angeles, CA	$7,490	$765	$81.98	$2.23	13
	Wichita, KS	New Orleans, LA	$4,600	$561	$51.25	$1.39	7
	Sioux Falls, SD	Galveston-Houston, TX	$7,226	$628	$77.99	$2.12	12
	Colby, KS	Galveston-Houston, TX	$4,850	$614	$54.26	$1.48	7
	Amarillo, TX	Los Angeles, CA	$5,121	$855	$59.34	$1.62	7
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$634	$46.02	$1.17	7
	Toledo, OH	Raleigh, NC	$8,551	$697	$91.83	$2.33	14
	Des Moines, IA	Davenport, IA	$2,655	$134	$27.70	$0.70	8
	Indianapolis, IN	Atlanta, GA	$6,593	$523	$70.67	$1.80	14
	Indianapolis, IN	Knoxville, TN	$5,564	$339	$58.62	$1.49	12
	Des Moines, IA	Little Rock, AR	$4,250	$394	$46.12	$1.17	10
	Des Moines, IA	Los Angeles, CA	$6,130	$1,148	$72.28	$1.84	12
Soybeans	Minneapolis, MN	New Orleans, LA	$5,431	$984	$63.71	$1.73	59
	Toledo, OH	Huntsville, AL	$7,037	$497	$74.81	$2.04	12
	Indianapolis, IN	Raleigh, NC	$7,843	$706	$84.90	$2.31	15
	Indianapolis, IN	Huntsville, AL	$5,689	$335	$59.82	$1.63	12
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$634	$54.61	$1.49	8
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$440	$47.99	$1.31	15
	Wichita, KS	Galveston-Houston, TX	$4,311	$343	$46.21	$1.26	5
	Chicago, IL	Albany, NY	$7,090	$658	$76.94	$2.09	16
	Grand Forks, ND	Portland, OR	$6,051	$760	$67.64	$1.84	16
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$792	$61.47	$1.67	8
	Colby, KS	Portland, OR	$5,923	$1,007	$68.82	$1.87	6
Corn	Minneapolis, MN	Portland, OR	$5,660	$926	$65.40	$1.66	22
	Sioux Falls, SD	Tacoma, WA	$5,620	$848	$64.23	$1.63	21
	Champaign-Urbana, IL	New Orleans, LA	$4,170	$634	$47.70	$1.21	13
	Lincoln, NE	Galveston-Houston, TX	$4,360	$494	$48.20	$1.22	19
	Des Moines, IA	Amarillo, TX	$4,670	$496	$51.30	$1.30	10
	Minneapolis, MN	Tacoma, WA	$5,660	$918	$65.32	$1.66	22
	Council Bluffs, IA	Stockton, CA	$5,580	$950	$64.84	$1.65	23
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$848	$71.47	$1.95	19
	Minneapolis, MN	Portland, OR	$6,400	$926	$72.75	$1.98	20
	Fargo, ND	Tacoma, WA	$6,250	$754	$69.55	$1.89	18
	Council Bluffs, IA	New Orleans, LA	$5,095	$731	$57.85	$1.57	9
	Toledo, OH	Huntsville, AL	$5,277	$497	$57.33	$1.56	17
	Grand Island, NE	Portland, OR	$5,730	$1,031	$67.14	$1.83	15

[1]A 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.

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

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

[4]Percentage 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							
Commodity	Origin state	Destination region	Tariff rate per car[1]	Fuel surcharge per car[2]	Tariff rate plus fuel surcharge per: metric ton[3]	Tariff rate plus fuel surcharge per: bushel[3]	Percent change[4] 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

[1]Rates 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.

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

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

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

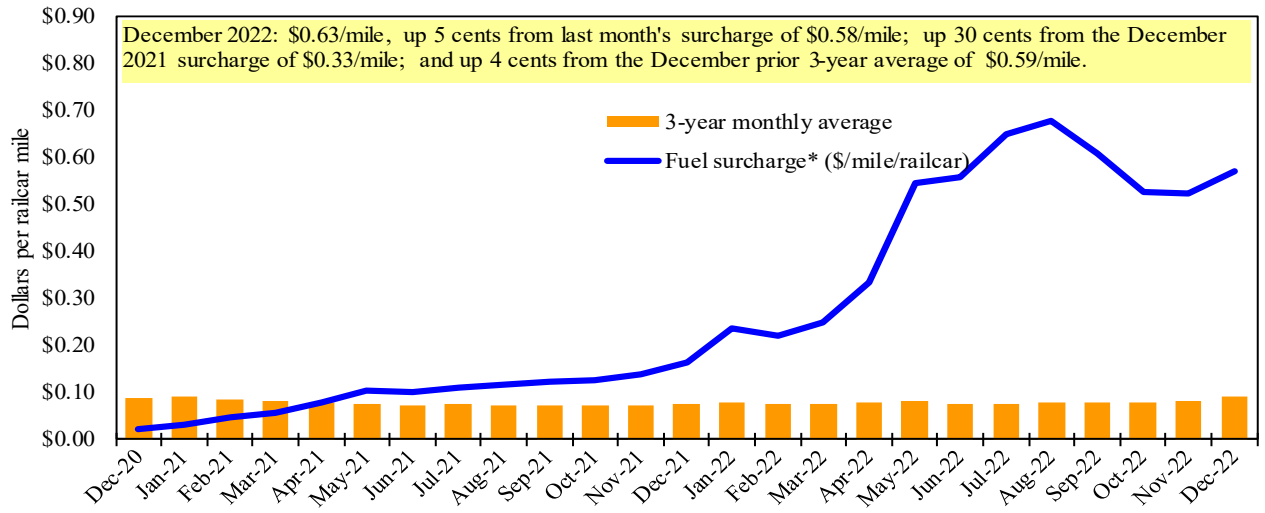
[5] As of January 1, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

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 average[1]



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

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

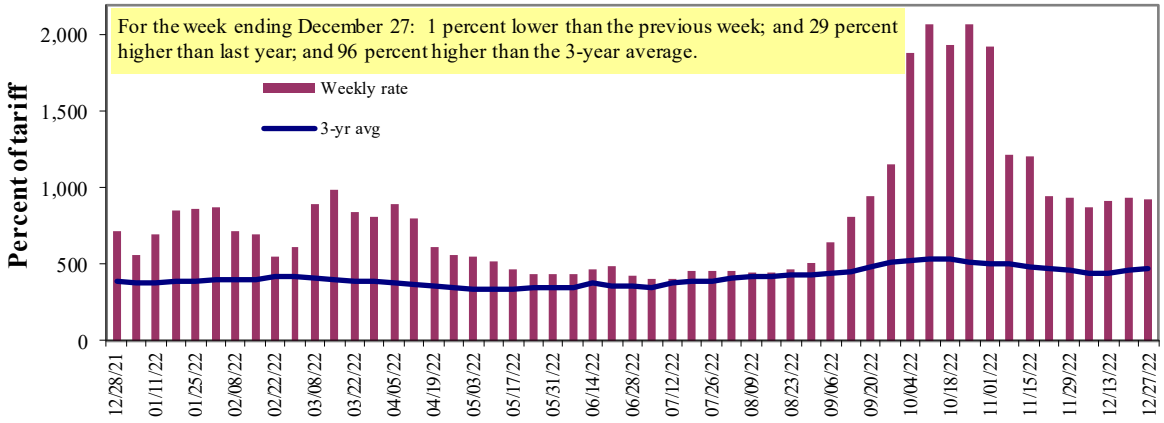
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

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]



[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average of the 3-year average.
*Source: USDA, Agricultural Marketing Service.

Table 8

Weekly barge freight rates: Southbound only

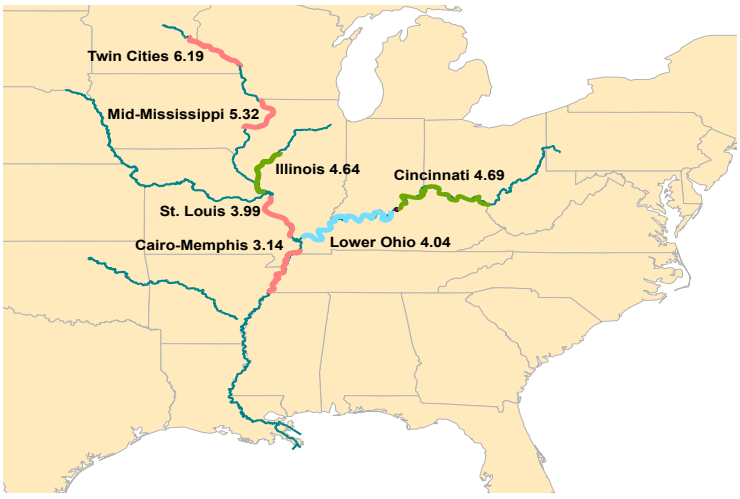
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	12/27/2022	0	0	925	825	796	796	621
	12/20/2022	-	835	936	843	809	809	650
$/ton	12/27/2022	0.00	0.00	42.92	32.92	37.33	32.16	19.50
	12/20/2022	-	44.42	43.43	33.64	37.94	32.68	20.41
Current week % change from the same week:								
	Last year	-	-	29	26	24	24	5
	3-year avg. [2]	-	-	96	113	90	90	81
Rate[1]	January	-	-	898	704	718	718	573
	March	-	675	630	515	575	575	468

[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-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

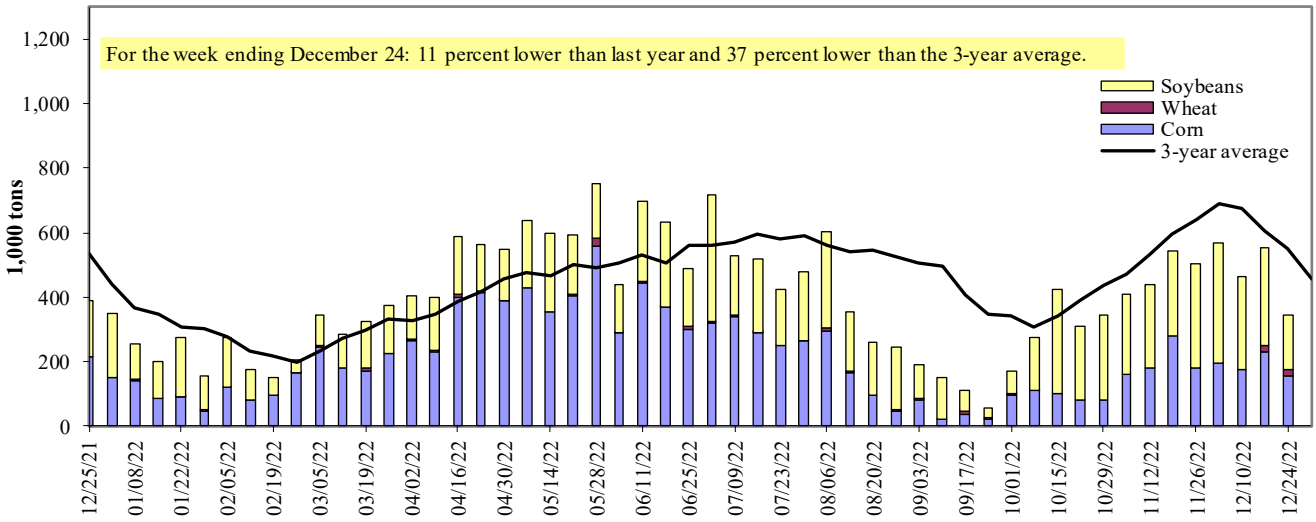
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 9

Barge movements on the Mississippi River[1] (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

Barge grain movements (1,000 tons)

For the week ending 12/24/2022	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	38	0	62	0	100
Alton, IL (L26)	156	2	175	0	332
Granite City, IL (L27)	156	21	167	0	343
Illinois River (La Grange)	123	2	113	0	237
Ohio River (Olmsted)	89	0	181	2	272
Arkansas River (L1)	0	6	6	0	11
Weekly total - 2022	245	26	353	2	626
Weekly total - 2021	333	8	271	12	625
2022 YTD[1]	16,286	1,583	14,226	231	32,325
2021 YTD[1]	23,284	1,618	10,954	290	36,145
2022 as % of 2021 YTD	70	98	130	80	89
Last 4 weeks as % of 2021[2]	70	109	122	9	95
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.

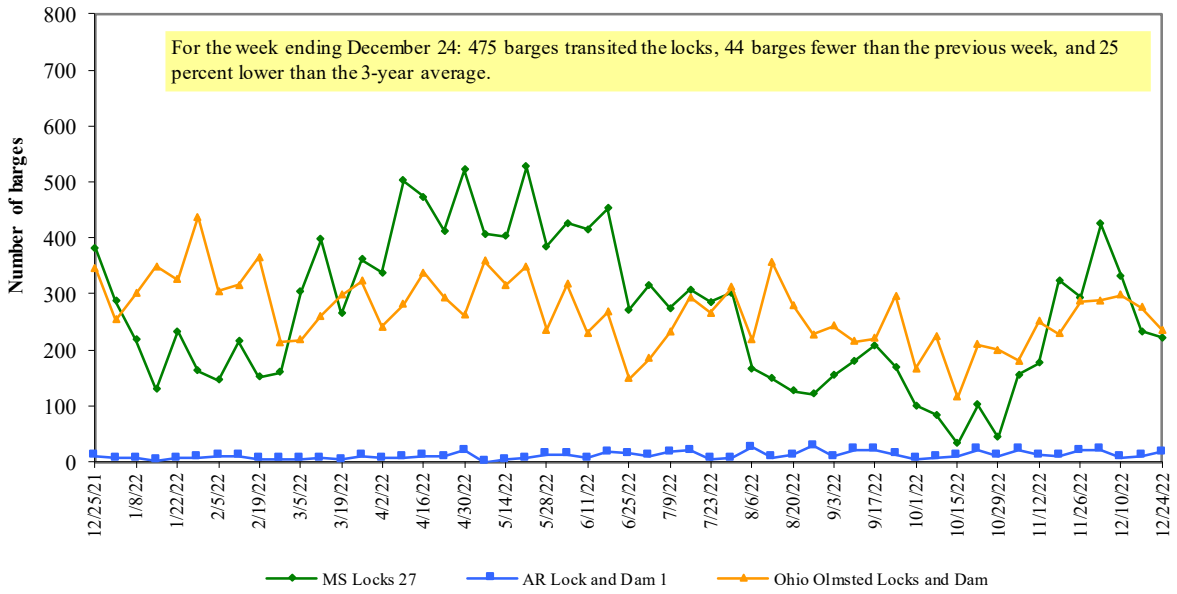
[2] As a percent of same period in 2021.

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

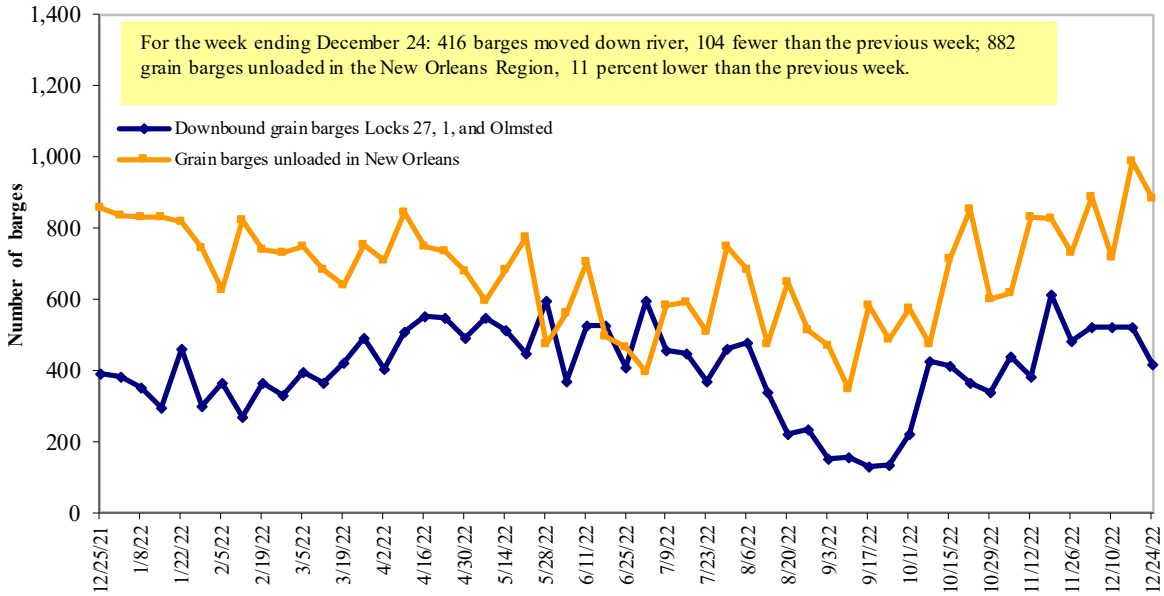


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

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 12/26/2022 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.808	-0.039	1.206
	New England	5.146	-0.111	1.523
	Central Atlantic	5.286	-0.030	1.507
	Lower Atlantic	4.604	-0.033	1.116
II	Midwest	4.402	-0.075	0.923
III	Gulf Coast	4.164	-0.041	0.834
IV	Rocky Mountain	4.745	-0.115	1.041
V	West Coast	5.068	-0.070	0.697
	West Coast less California	4.766	-0.111	0.849
	California	5.415	-0.022	0.644
Total	United States	4.537	-0.059	0.922

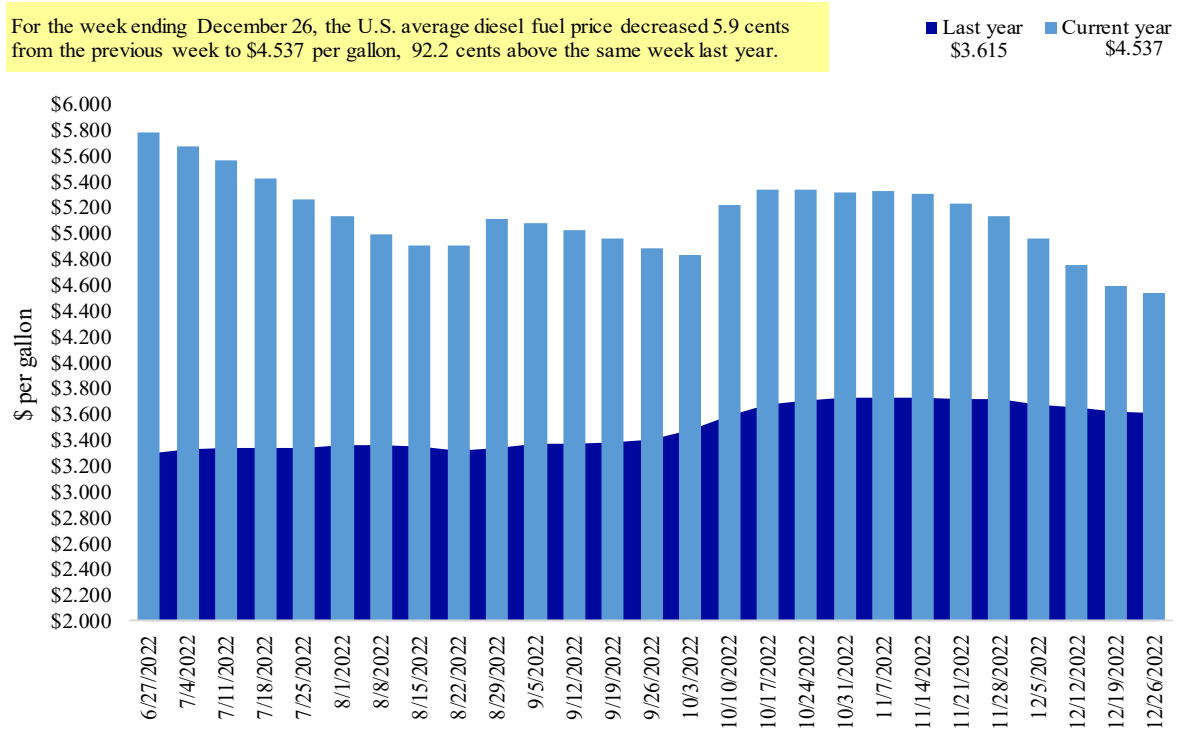
[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

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.

Figure 12

Weekly diesel fuel prices, U.S. average



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 11

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

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
12/15/2022	946	596	1,356	1,190	113	4,201	12,417	17,545	34,163
This week year ago	2,213	727	1,263	893	36	5,132	26,748	13,648	45,528
Cumulative exports-marketing year[2]									
2022/23 YTD	3,008	1,714	3,030	2,362	129	10,244	8,223	24,928	43,395
2021/22 YTD	3,978	1,555	2,914	1,958	97	10,503	12,746	27,147	50,396
YTD 2022/23 as % of 2021/22	76	110	104	121	133	98	65	92	86
Last 4 wks. as % of same period 2021/22	40	78	107	126	290	79	47	132	76
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 importers[1] of U.S. corn

For the week ending 12/15/2022	Total commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
		1,000 mt -		
Mexico	10054.4	11,761	(15)	15,227
China	3726	12,215	(69)	12,616
Japan	1613	3,494	(54)	10,273
Columbia	320	2,286	(86)	4,398
Korea	20	78	(74)	2,563
Top 5 importers	**15,733**	**29,834**	(47)	**45,077**
Total U.S. corn export sales	**20,640**	**39,494**	(48)	**56,665**
% of projected exports	39%	63%		
Change from prior week[2]	**637**	**983**		
Top 5 importers' share of U.S. corn export sales	76%	76%		80%
USDA forecast December 2022	**52,799**	**62,875**	(16)	
Corn use for ethanol USDA forecast, December 2022	**133,985**	**135,281**	(1)	

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

[2]Cumulative 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.

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

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

Source: USDA, Foreign Agricultural Service.

Table 13

Top 5 importers[1] of U.S. soybeans

For the week ending 12/15/2022	Total commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
				- 1,000 mt -
China	25,245	22,998	10	27,283
Mexico	3,178	2,772	15	4,929
Egypt	746	1,845	(60)	3,553
Japan	1,350	1,166	16	2,266
Indonesia	625	703	(11)	2,116
Top 5 importers	**31,144**	**29,484**	6	**40,147**
Total U.S. soybean export sales	**42,473**	**40,795**	4	**54,231**
% of projected exports	76%	69%		
change from prior week[2]	**736**	**747**		
Top 5 importers' share of U.S. soybean export sales	73%	72%		**74%**
USDA forecast, December 2022	**55,722**	**58,801**	(5)	

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

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

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

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

Source: USDA, Foreign Agricultural Service.

Table 14

Top 10 importers[1] of all U.S. wheat

For the week ending 12/15/2022	Total Commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
	1,000 mt -			- 1,000 mt -
Mexico	2,386	2,787	(14)	3,566
Philippines	1,715	2,384	(28)	2,985
Japan	1,580	1,871	(16)	2,453
China	616	848	(27)	1,537
Nigeria	663	1,595	(58)	1,528
Korea	1,004	975	3	1,459
Taiwan	547	602	(9)	1,106
Indonesia	299	66	355	711
Thailand	557	436	28	703
Colombia	407	490	(17)	621
Top 10 importers	**9,774**	**12,053**	(19)	**16,669**
Total U.S. wheat export sales	**14,445**	**15,635**	(8)	**22,763**
% of projected exports	68%	72%		
change from prior week[2]	**334**	**425**		
Top 10 importers' share of U.S. wheat export sales	68%	77%		73%
USDA forecast, December 2022	**21,117**	**21,798**	(3)	

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

[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.

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 12/22/22	Previous week*	Current week as % of previous	2022 YTD*	2021 YTD*	2022 YTD as % of 2021 YTD	Last 4-weeks as % of:		2021 total*
							Last year	Prior 3-yr. avg.	
Pacific Northwest									
Wheat	110	215	51	9,824	13,200	74	136	74	13,243
Corn	202	199	102	9,547	13,271	72	71	99	13,420
Soybeans	287	498	58	14,034	14,179	99	95	106	14,540
Total	**599**	**912**	**66**	**33,405**	**40,650**	**82**	**95**	**96**	**41,203**
Mississippi Gulf									
Wheat	28	8	343	4,045	3,147	129	69	54	3,202
Corn	394	417	95	30,262	38,240	79	87	93	38,498
Soybeans	1,169	1,217	96	30,035	26,373	114	96	93	27,159
Total	**1,591**	**1,642**	**97**	**64,342**	**67,759**	**95**	**93**	**92**	**68,858**
Texas Gulf									
Wheat	41	62	66	3,401	3,870	88	101	117	3,888
Corn	0	47	0	648	627	103	97	130	627
Soybeans	35	53	66	631	1,610	39	509	84	1,611
Total	**75**	**161**	**47**	**4,681**	**6,107**	**77**	**142**	**103**	**6,126**
Interior									
Wheat	73	35	207	2,825	2,940	96	106	96	2,973
Corn	240	140	171	8,780	9,979	88	84	100	10,157
Soybeans	159	159	100	6,914	6,435	107	97	103	6,525
Total	**472**	**334**	**141**	**18,519**	**19,354**	**96**	**92**	**101**	**19,656**
Great Lakes									
Wheat	44	0	n/a	383	536	71	53	40	536
Corn	0	10	0	158	145	109	32	37	145
Soybeans	0	45	0	759	592	128	422	170	592
Total	**44**	**55**	**80**	**1,300**	**1,273**	**102**	**134**	**88**	**1,273**
Atlantic									
Wheat	0	0	n/a	168	128	131	0	0	128
Corn	5	0	n/a	302	85	356	349	n/a	85
Soybeans	134	95	141	2,786	2,168	129	106	134	2,184
Total	**138**	**95**	**146**	**3,256**	**2,380**	**137**	**107**	**137**	**2,397**
U.S. total from ports*									
Wheat	295	320	92	20,646	23,820	87	110	77	23,969
Corn	842	812	104	49,697	62,346	80	82	97	62,932
Soybeans	1,782	2,066	86	55,159	51,357	107	99	99	52,612
Total	**2,919**	**3,199**	**91**	**125,502**	**137,523**	**91**	**95**	**96**	**139,512**

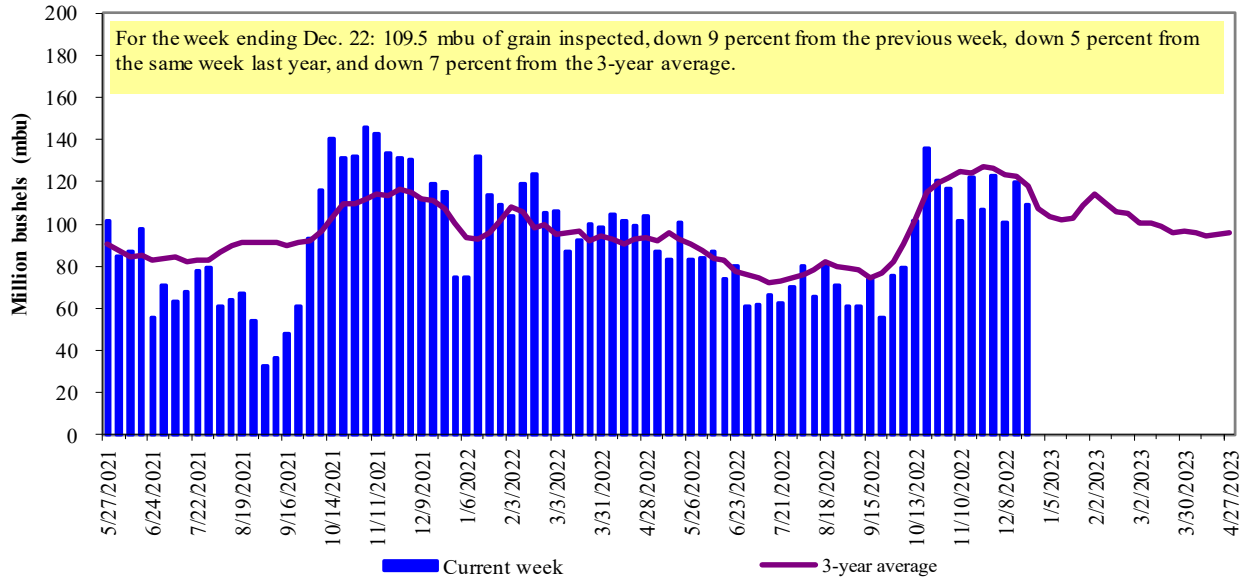
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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 13

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

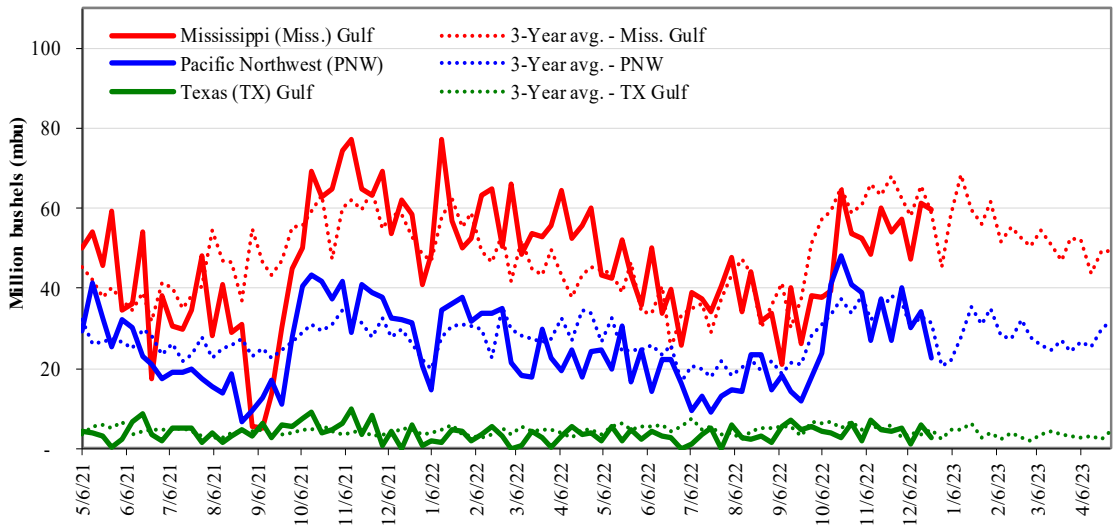


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 14

U.S. Grain inspections: U.S. Gulf and PNW[1] (wheat, corn, and soybeans)



Week ending 12/22/22 inspections (mbu):	
MS Gulf:	59.5
PNW:	22.5
TX Gulf:	2.8

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 3	down 54	down 8	down 34
Last Year (same wk):	up 2	down 52	down 3	down 28
3-yr avg. (4-wk. mov. Avg):	down 3	down 24	down 4	down 31

Source: USDA, Federal Grain Inspection Service.

Table 16

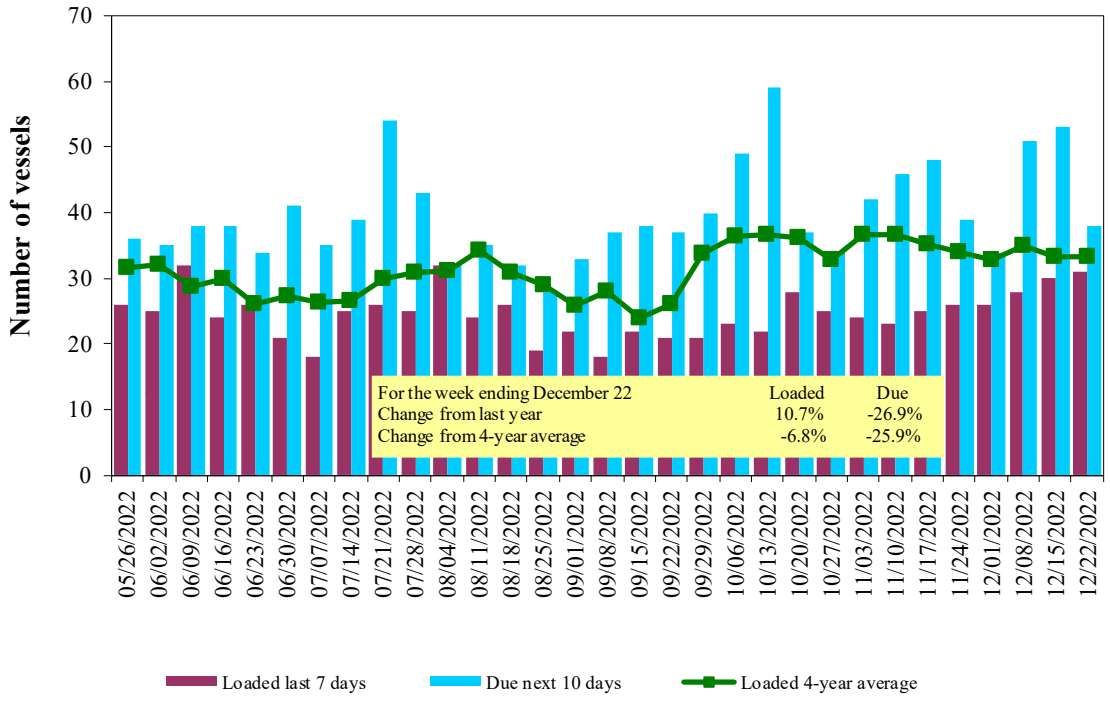
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
12/22/2022	33	31	38	7
12/15/2022	35	30	53	12
2021 range	(10…57)	(5...48)	(15...69)	(4…27)
2021 average	34	32	49	15

Note: The data is voluntarily collected and may not be complete.
Source: USDA, Agricultural Marketing Service.

Figure 15

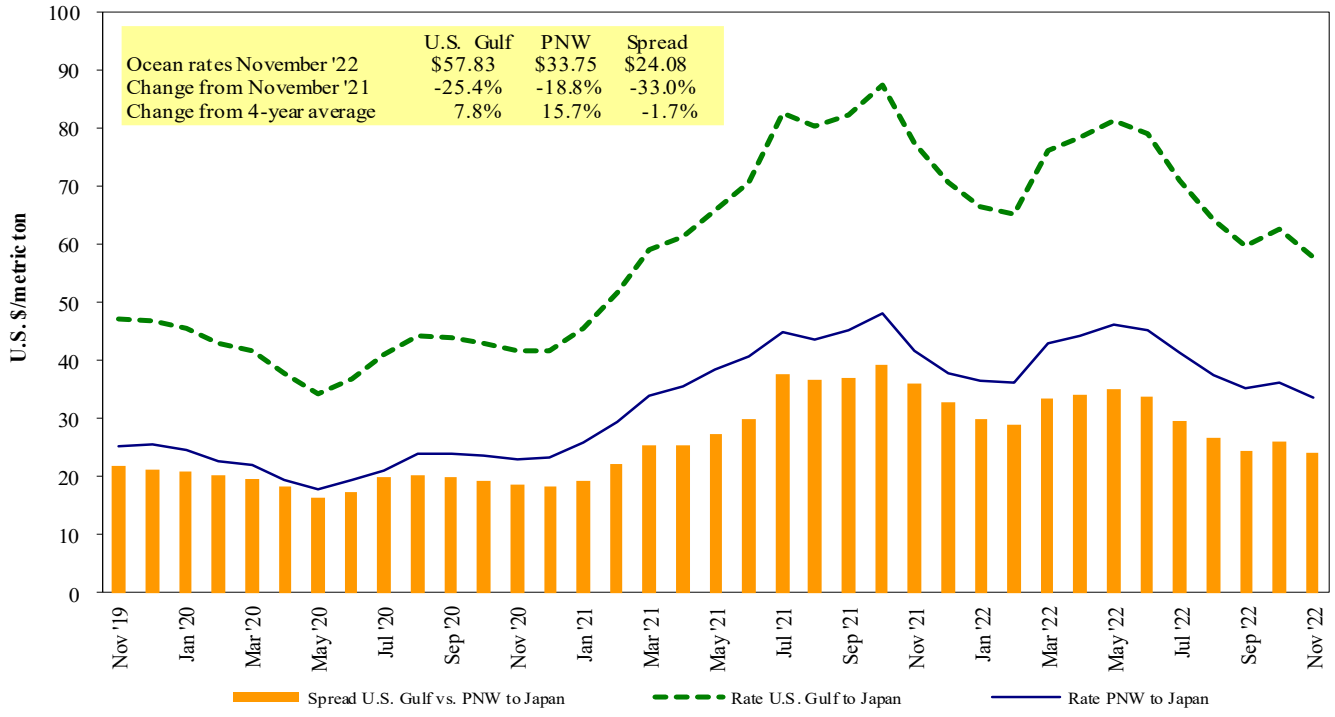
U.S. Gulf[1] vessel loading activity



[1]U.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 12/24/2022

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (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

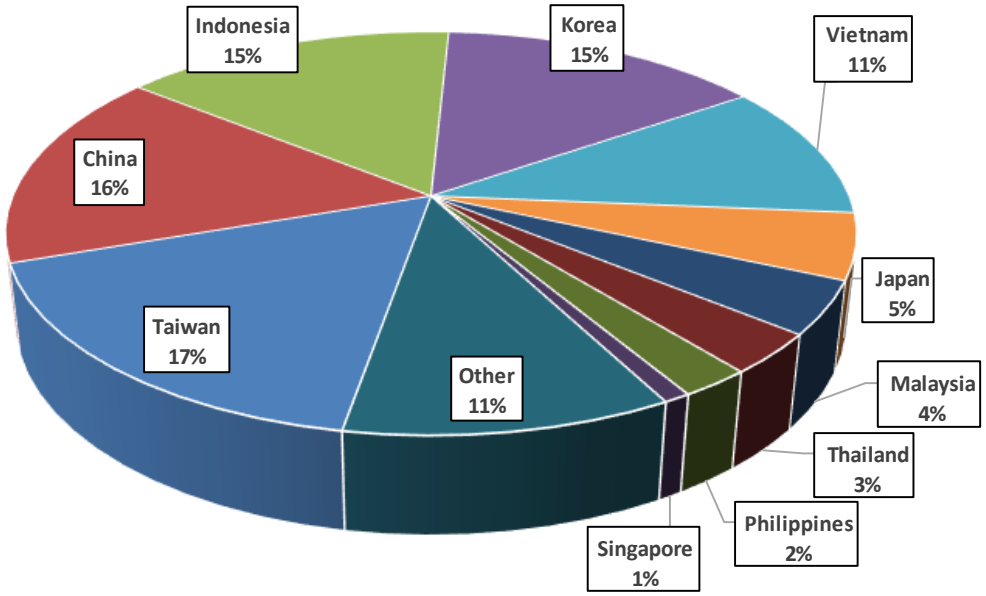
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

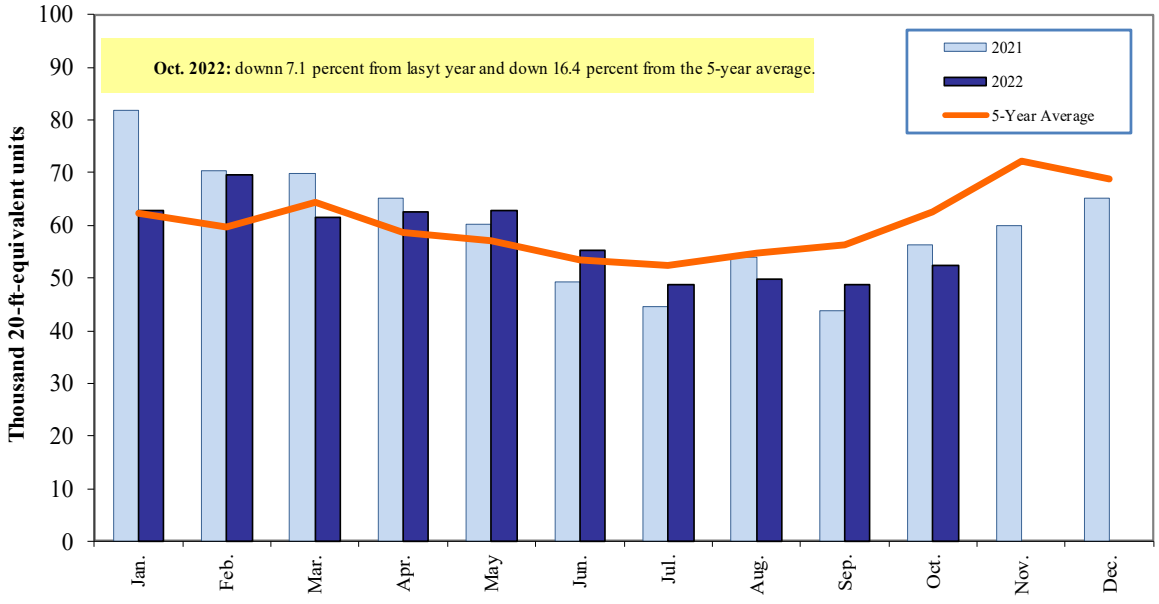
Figure 17
Top 10 destination markets for U.S. containerized grain exports, Jan-Oct 2022



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.

Contacts and Links

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

Subscription Information: Please sign up to receive regular email announcements of the latest *GTR* issue by entering your email address **here** and selecting your preference to receive Transportation Research and Analysis. For any other information, you may contact us at **GTRContactUs@usda.gov**

Preferred citation: U.S. Department of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* December 29, 2022. Web: **http://dx.doi.org/10.9752/TS056.12-29-2022**