USDA United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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Contents

The next release is December 22, 2022

WEEKLY HIGHLIGHTS

Diesel Price Drops 21.3 Cents—Largest Decline Since 2008

For a 5th week in a row, diesel prices continued to decline. For the week ending December 12, the U.S. average **diesel fuel price** fell 21.3 cents from the previous week to $4.754 per gallon—110.5 cents above the same week last year. This week's decline marks the largest since October 13, 2008, when the diesel price dropped 21.6 cents near the start of the global financial crisis. Also, this week, the diesel price was the lowest since October 3, when it was $4.836 per gallon. In the grain-producing Midwest, the diesel price dropped 25.6 cents to $4.651 per gallon, the lowest price this year since March 7.

FMC Introduces Interim Procedures for Processing Charge Complaints

On December 1, the Federal Maritime Commission (FMC) announced its interim procedures to review, investigate, and adjudicate shippers' complaints of unfair charges by common carriers. According to FMC, "U.S. shippers have responded positively to the new opportunity." FMC has received more than 175 filings since June when the Ocean Shipping Reform Act of 2022 (OSRA) was enacted. (OSRA mandated the new procedures.) Per the interim procedures, when a charge complaint is deemed "perfected" with sufficient information, FMC staff promptly investigates it. In cases where charges are found not to comply with the law, FMC will order a refund or waiver. FMC may then also initiate a separate civil penalty proceeding with its Administrative Law Judge. For cases in which an initial charge complaint is not referred to FMC's Office of Enforcement, the interim procedures outline several other possible recourses for shippers.

UP Uncaps Demurrage Fees at Seven Inland Terminals

Starting November 28, Union Pacific Railroad (UP) removed its 14-day-storage caps on demurrage fees—essentially, storage fees—at seven inland terminals: Council Bluffs (Iowa), Dallas, Denver, Houston, Memphis, Salt Lake City, and St. Louis. According to the *Journal of Commerce*, UP's action was in response to a decline in containers piling up in Southern California amid a sharply falling port volumes. The fees were originally capped when shippers were incurring penalties of more than $10,000 through no fault of their own, but rather, because their containers were made inaccessible (buried deep in stacks). As backlogs at the West Coast ports and inland terminals have subsided, UP lifted the caps as it anticipates "the more fluid activity" will continue.

ATRI Releases 2022 *Top Industry Issues* Report

The American Transportation Research Institute (ATRI) has released its 18th annual *Top Industry Issues* report, which identifies the trucking industry's most pressing concerns. Survey participants included more than 4,200 trucking industry stakeholders, including motor carriers, truck drivers, industry suppliers, driver trainers, and law enforcement. This year, the top five concerns (in descending order) were fuel prices, the driver shortage, truck parking, driver compensation, and the economy. As the top industry concern, fuel price displaced the driver shortage, which had held the top spot for 5 years in a row. Among driver respondents (47 percent of the survey sample), truck parking, fuel prices, and driver compensation were the top three concerns. Among motor carriers (39 percent of the survey sample), the driver shortage, driver retention, and fuel prices were the top three concerns. The full report is available here.

Snapshots by Sector

Export Sales

For the week ending December 1, **unshipped balances** of wheat, corn, and soybeans for marketing year (MY) 2022/23 totaled 33.96 million metric tons (mmt), down 26 percent from the same time last year and down 2 percent from last week. Net **corn export sales** for MY 2022/23 were 0.692 mmt, up 15 percent from last week. Net **soybean export sales** were 1.716 mmt, up significantly from last week. Net weekly **wheat export sales** were 0.190 mmt, up 22 percent from last week.

Rail

U.S. Class I railroads originated 26,212 **grain carloads** during the week ending December 3. This was a 29-percent increase from the previous week, 7 percent fewer than last year, and 3 percent more than the 3-year average.

Average December shuttle **secondary railcar** bids/offers (per car) were $542 above tariff for the week ending December 8. This was $123 less than last week and $608 lower than this week last year.

Barge

For the week ending December 10, **barged grain movements** totaled 769,090 tons. This was 5 percent less than the previous week and 8 percent less than the same period last year.

For the week ending December 10, 520 grain barges **moved down river**—1 less barge than last week. There were 719 grain barges **unloaded** in the New Orleans region, 19 percent fewer than last week.

Ocean

For the week ending December 8, 28 **oceangoing grain vessels** were loaded in the Gulf—7 percent fewer than the same period last year. Within the next 10 days (starting December 9), 51 vessels were expected to be loaded—20 percent fewer than the same period last year.

As of December 8, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $57.25 less than half a percent higher than last week. The rate from the Pacific Northwest to Japan was $32.00 per mt, 1 percent less than last week.

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Feature Article/Calendar

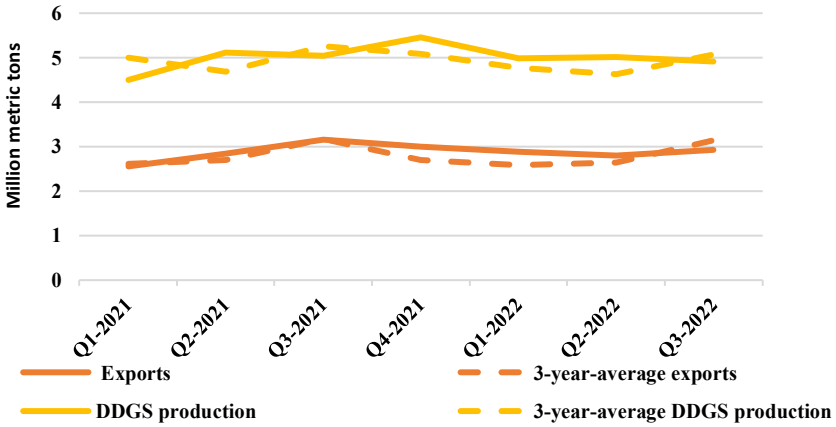
Update on Exports and Transportation of DDGS Through Third Quarter 2022

After falling in the first half of the year, distillers' dried grains with solubles (DDGS) exports—a key driver of transportation demand—rose in the third quarter. With that rise, total year-to-date (YTD) DDGS exports (as of September 30) were the largest since 2018.[1] However, compared to the same period last year, YTD *containerized* DDGS exports had declined because of reduced purchases from top importers. Although U.S. containerized DDGS exports destined to Canada continued to grow strongly, they declined to China. This article reviews YTD DDGS export volumes and the resulting impacts on transportation demand.

Total DDGS Production and Exports

In the first three quarters of 2022, as ethanol production declined, so, too, did production of ethanol's co-product, DDGS. From fourth quarter 2021 to first quarter 2022 DDGS production declined 9 percent, held steady from first to second quarter 2022, and fell 3 percent from second to third quarter 2022. In line with declining production, total DDGS exports also fell 4 percent from fourth quarter 2021 to first quarter 2022 and fell 3 percent from first quarter to second quarter 2022. From second to third quarter 2022, total DDGS exports rose 5 percent with increased imports from Mexico, Turkey, and Ireland. YTD total DDGS exports were up slightly from the same period last year (fig. 1).

Figure 1 : Quarterly U.S. DDGS exports



Note: Q = quarter; DDGS = distillers' dried grains with solubles

Source: USDA, Foreign Agricultural Service.

YTD, the top five importers—Mexico, Vietnam, South Korea, Canada, and Indonesia—had received 59 percent of total U.S. DDGS exports. After showing strong growth in DDGS imports in 2021, China's total DDGS imports from the United States declined 54 percent from fourth quarter 2021 to first quarter 2022. After continuing to slip in the second quarter and increasing slightly in the third quarter, China's YTD DDGS imports from the United States lagged 55 percent behind the same time last year. Canada's DDGS imports from the United States rose 11 percent from fourth quarter 2021 to first quarter 2022. Despite continuing to fall through third quarter 2022, Canada's import share accounted for 9 percent of YTD U.S. DDGS exports—3 percentage points higher than the same 2021 period. Canada's YTD total imports were 35 percent higher than the same period for 2021.

Impact of DDGS exports on port activity. In the first three quarters of 2022, 65 percent of all U.S. DDGS exports left through four gateways: New Orleans, LA (34 percent share); Los Angeles, CA (15 percent); Pembina, ND (8 percent) and El, Paso, TX (7 percent). From Los Angeles, DDGS exports to Korea, Vietnam, and Indonesia accounted for 74 percent of the DDGS activity at the port. From New Orleans, exports to Turkey, Mexico, Vietnam, Columbia, and Ireland accounted for 51 percent of DDGS port activity. From Pembina, exports to Canada accounted for 76 percent of DDGS port activity, and all of El Paso's DDGS activity was due to exports to Mexico.

Containerized DDGS Export Volumes

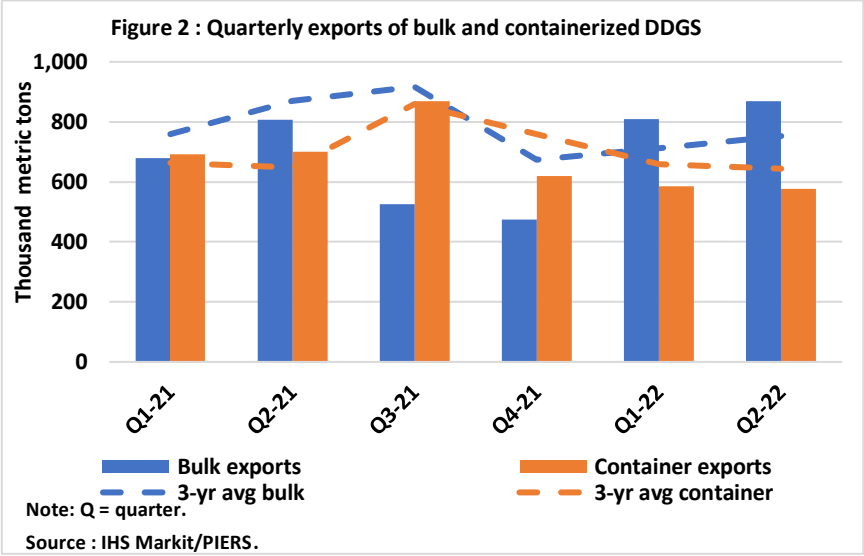
As the second-largest containerized grain commodity exported by the United States (after soybeans), YTD containerized DDGS accounted for 25 percent of that market. Down 6 percent from fourth quarter 2021 to first quarter 2022 and down 2 percent from first to second quarter 2022, U.S. containerized DDGS exports in the first half of 2022 fell 16 percent from the same period last year. First and second quarter 2022 containerized DDGS exports were down 11 percent and 10 percent, respectively, from the 3-year average. These drops were due to decreased exports to Vietnam, Indonesia, Korea, and China. Despite their declining purchases, Vietnam, Indonesia, and Korea still accounted for 68 percent of total U.S. containerized DDGS exports in the first half of 2022. As the

[1] For the purposes of this article, "year to date"/"YTD" is through September 30, 2022, for *total* DDGS exports and through June 30, 2022, for *containerized* exports.

top ports of exit in the first half of 2022, Los Angeles and Long Beach, CA, handled 24 percent and 28 percent, respectively, of all containerized DDGS exports. From first to second quarter 2022, the Port of Los Angeles's share of all containerized DDGS exports dropped 1 percent, and the Port of Long Beach's share dropped 3 percent.

Sharp drops in containerized DDGS exports to China. Despite China's anti-dumping and countervailing duties on U.S. DDGS, China's DDGS imports rose in 2021 because of low domestic DDGS production.[2]

After accounting for 10 percent of U.S. containerized grain exports in 2021, China's containerized DDGS imports from the United States dropped 57 percent from fourth quarter 2021 to first quarter 2022. Continuing their steep decline, China's DDGS imports fell 88 percent from first to second quarter 2022 (from over 43,000 tons to just over 5,000). The drop could be due to higher domestic production of feed in marketing year (MY) 2021/22 than in MY 2020/21.



Bulk vs. Containerized Market Shares

Exports of DDGS can shift relatively easily between bulk and containerized ocean shipping.[3] In the first two quarters of 2022, bulk accounted for 59 percent of total U.S. waterborne DDGS exports, while containers accounted for 41 percent.[4] After dropping in the last half of 2021, the bulk share of DDGS exports increased in the first half of 2022. The bulk share rose from 43 percent in fourth quarter 2021 to 58 percent in first quarter 2022, and rose again to 60 percent in second quarter 2022.

Changes in shipping costs, which significantly impact demand, may partly explain these shifts from containerized to bulk DDGS exports in the first half of 2022. From fourth quarter 2021 to first quarter 2022, bulk shipping rates fell 13 percent, offering a more meaningful incentive to shippers than container rates' relatively modest 3-percent decline. However, freight rates do not tell the whole story: as described above, from first to second quarter 2022, the share of container exports dropped 2 percent (despite a container-rate decrease of 1 percent), while the share of bulk DDGS exports rose 2 percent (despite a bulk-rate increase of *13 percent*) (fig. 2). This shift from container to bulk shipping could reflect the drop in containerized shipments to key importers. It may also be useful to observe that—though down 1 percent in second quarter 2022—container rates were still up 6 percent from the same period last year.

Conclusion

Year to date, demand for U.S. DDGS exports and transportation was largely driven by the top five importers—Mexico, Vietnam, South Korea, Indonesia, and Canada. Despite declining ethanol and DDGS production, total DDGS exports remained strong. Future demand for DDGS will be determined by changes in these factors: U.S. ethanol production, demand for U.S. DDGS from key importers, and China's policy measures.

Kranti.Mulik@usda.gov

[2] China's duties on U.S. DDGS were due to expire in January 2022. However, on January 11, 2022, China's Ministry of Commerce announced it would review the expiration at the request of the Chinese industry and keep the measures in place during a 1-year review period, expected to be completed by January 12, 2023.

[3] Several factors—such as container availability, freight rates, and shipment volume—determine the economic viability of bulk versus container shipping. The growth in DDGS exports and changes in destination markets may also require the market to shift between bulk and containerized shipments. For example, some emerging destinations require mostly bulk shipments of DDGS, whereas others can accept only containers.

[4] These statistics are based on PIERS/IHS Markit data, which do not include cross-border movements.

Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
12/14/22	319	337	289	509	256	227
12/07/22	333	337	294	488	255	229

[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.
Source: USDA, Agricultural Marketing Service.

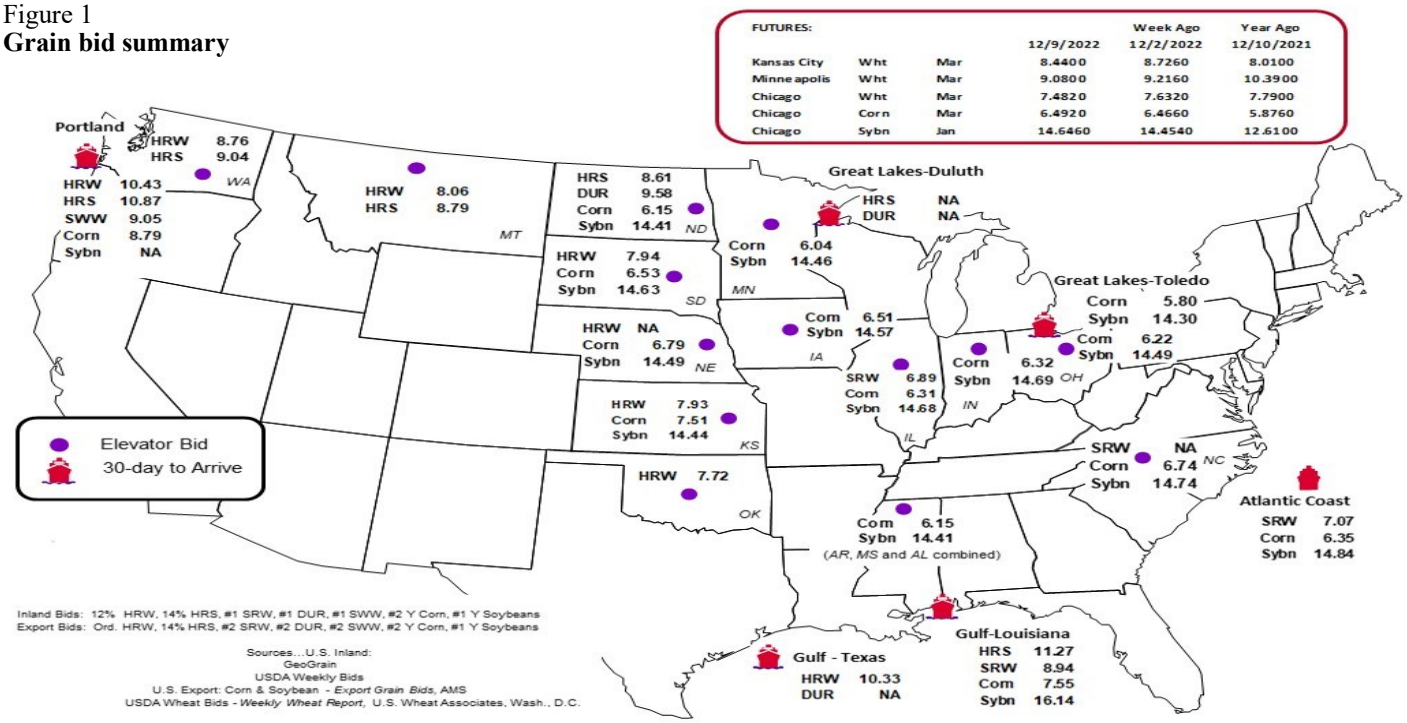
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	12/9/2022	12/2/2022
Corn	IL–Gulf	-1.24	-1.24
Corn	NE–Gulf	-0.76	-0.73
Soybean	IA–Gulf	-1.57	-1.55
HRW	KS–Gulf	-2.40	-2.51
HRS	ND–Portland	-2.26	-2.49

Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.
Source: USDA, Agricultural Marketing Service.

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

Figure 1
Grain bid summary



Rail Transportation

Table 3

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

For the week ending:	East		West			U.S. total	Canada	
12/3/2022	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	2,456	3,351	12,300	1,630	6,475	26,212	6,452	5,636
This week last year	2,307	2,453	13,836	1,821	7,813	28,230	3,378	4,315
2022 YTD	85,436	118,828	531,359	61,213	276,974	1,073,810	193,292	193,704
2021 YTD	86,287	111,903	565,229	59,242	296,768	1,119,429	195,245	227,036
2022 YTD as % of 2021 YTD	99	106	94	103	93	96	99	85
Last 4 weeks as % of 2021*	105	146	88	103	90	95	173	132
Last 4 weeks as % of 3-yr. avg.**	109	121	92	115	97	98	143	113
Total 2021	93,935	120,676	609,890	64,818	318,002	1,207,321	209,711	242,533

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

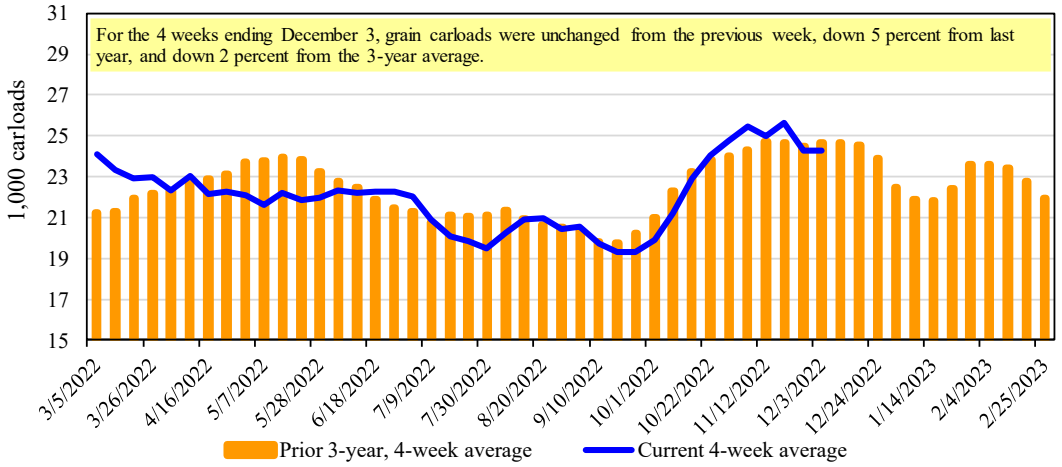
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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							
12/8/2022		Dec-22	Dec-21	Jan-23	Jan-22	Feb-23	Feb-22	Mar-23	Mar-22
BNSF[3]	COT grain units	no bids	no bids	45	4	22	0	21	0
	COT grain single-car	no bids	no bids	507	64	434	5	235	5
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	no offer	no offer	no offer	no offer	no offer	no offer	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.

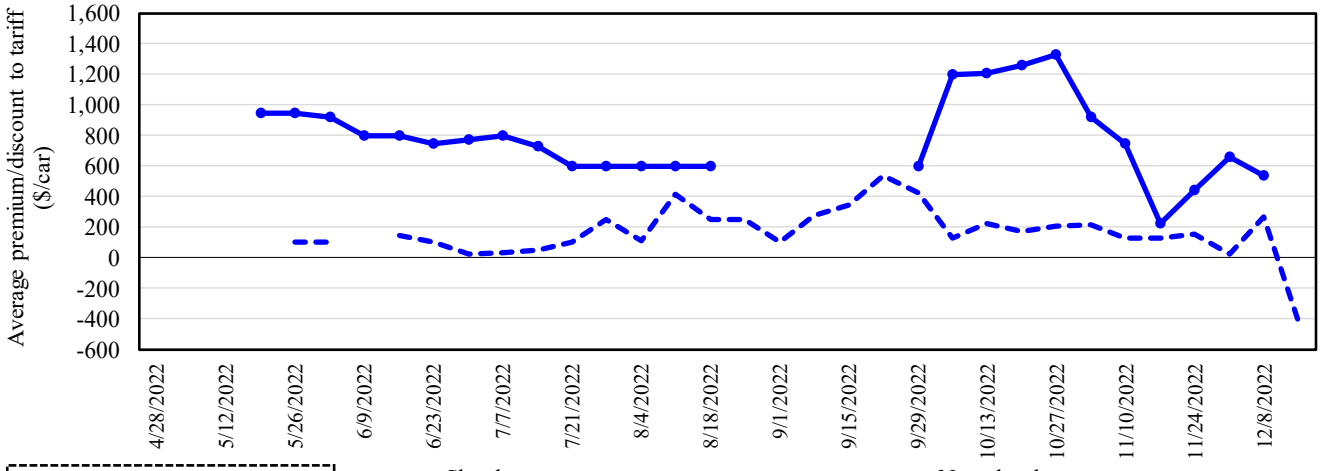
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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 December 2022

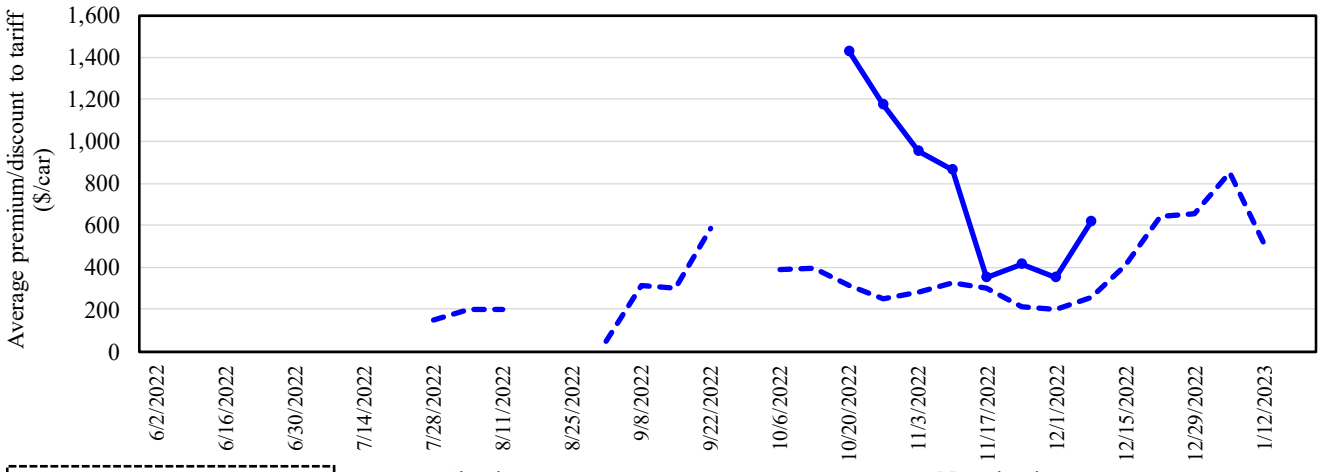


12/8/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$525	$558

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $123 this week and are $790 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 January 2023



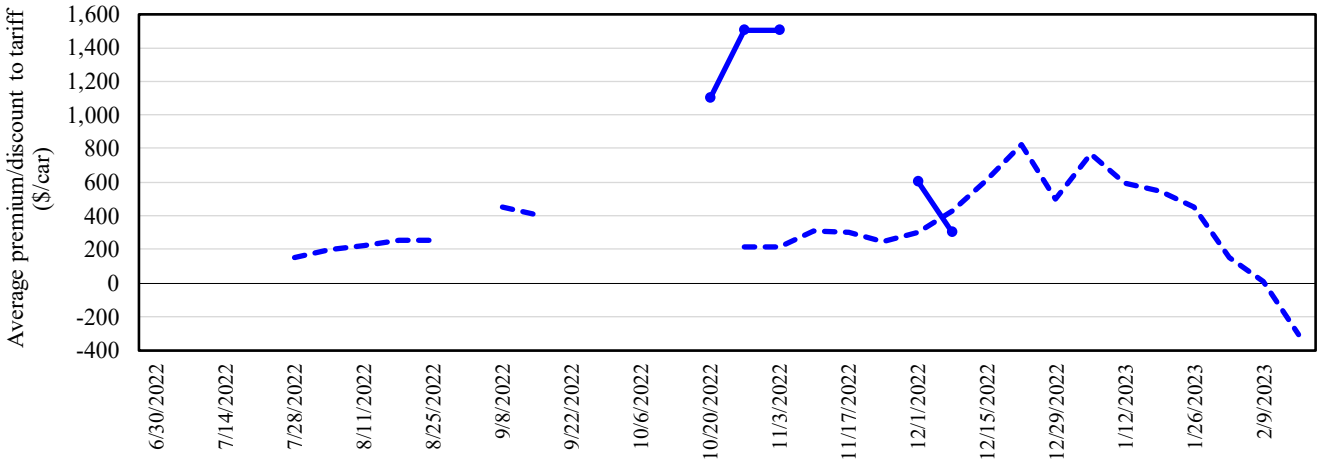
12/8/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$617	n/a

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $267 this week and are $808 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 February 2023



12/8/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$300	n/a

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $300 this week and are $1,200 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:	Delivery period					
	12/8/2022	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-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**	**525**	**617**	**300**	**233**	**n/a**	**(150)**
	Change from last week	212	267	(300)	(67)	n/a	0
	Change from same week 2021	(725)	(200)	(200)	33	n/a	n/a
	UP-Pool	**558**	**n/a**	**n/a**	**600**	**n/a**	**n/a**
	Change from last week	(459)	n/a	n/a	(100)	n/a	n/a
	Change from same week 2021	(492)	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							
					Tariff rate plus fuel surcharge per:		Percent change[4]
Commodity	Origin state	Destination region	Tariff rate per car[1]	Fuel surcharge 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

[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.

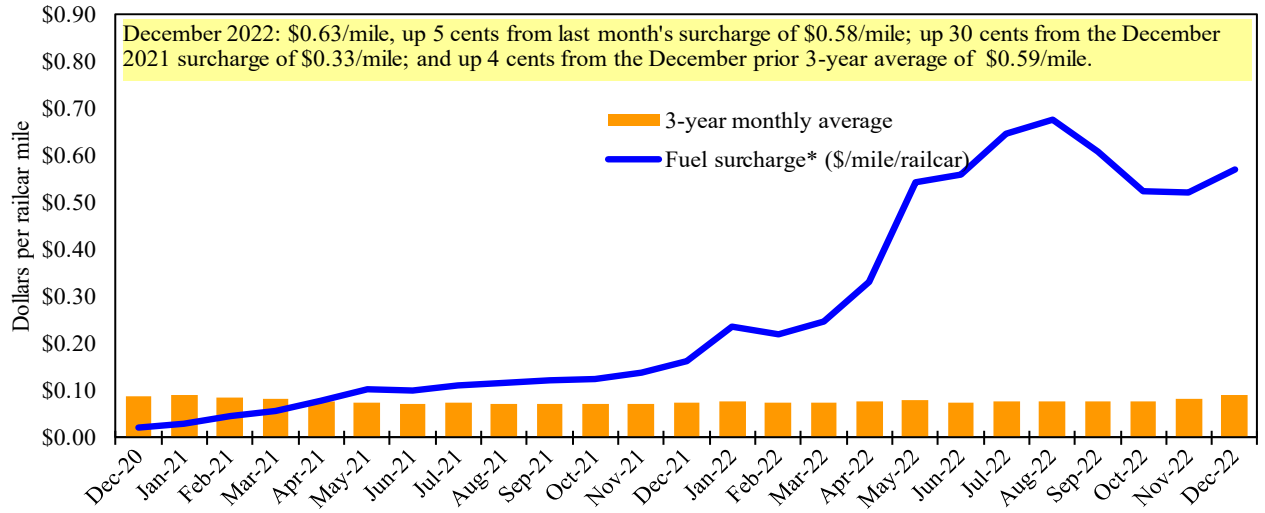
[5] As of January 1, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

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.

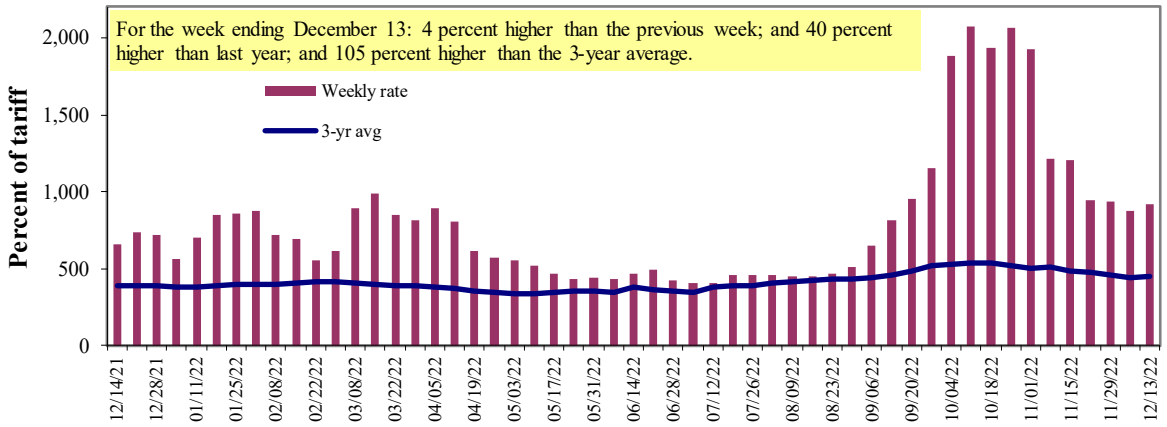
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

**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

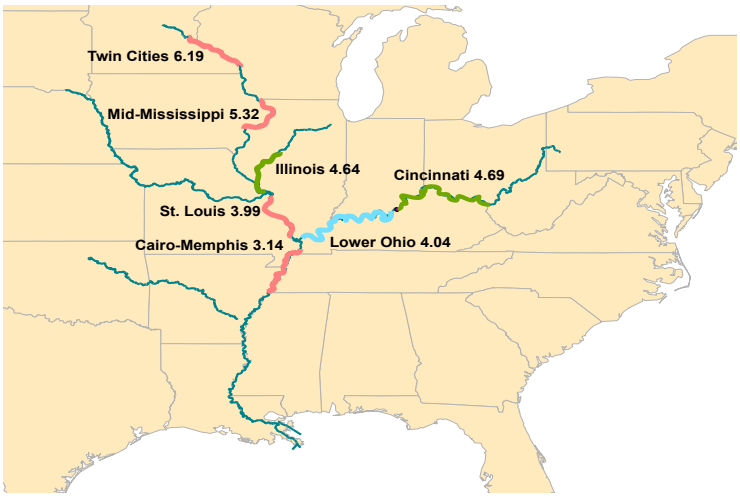
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	12/13/2022	-	825	916	852	831	831	695
	12/6/2022	-	830	878	806	811	811	708
$/ton	12/13/2022	-	43.89	42.50	33.99	38.97	33.57	21.82
	12/6/2022	-	44.16	40.74	32.16	38.04	32.76	22.23
Current week % change from the same week:								
	Last year	-	23	40	34	29	29	28
	3-year avg. [2]	-	82	105	146	102	102	120
Rate[1]	January	-	-	874	721	722	722	634
	March	-	704	652	553	609	609	522

[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

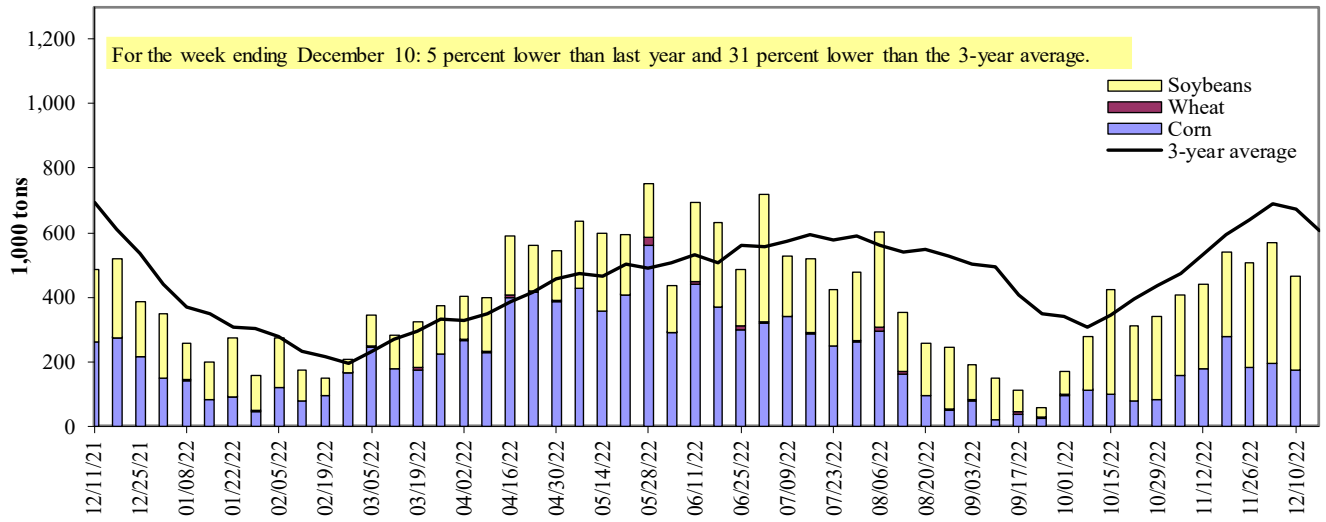
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 12/10/2022	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	9	0	41	0	50
Winfield, MO (L25)	93	0	178	0	271
Alton, IL (L26)	176	0	294	0	470
Granite City, IL (L27)	175	0	290	2	466
Illinois River (La Grange)	103	0	96	0	198
Ohio River (Olmsted)	81	16	188	0	285
Arkansas River (L1)	0	3	15	0	18
Weekly total - 2022	256	19	493	2	769
Weekly total - 2021	393	11	433	0	837
2022 YTD[1]	15,732	1,525	13,422	229	30,908
2021 YTD[1]	22,560	1,569	10,292	278	34,698
2022 as % of 2021 YTD	70	97	130	82	89
Last 4 weeks as % of 2021[2]	78	51	121	5	99
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.

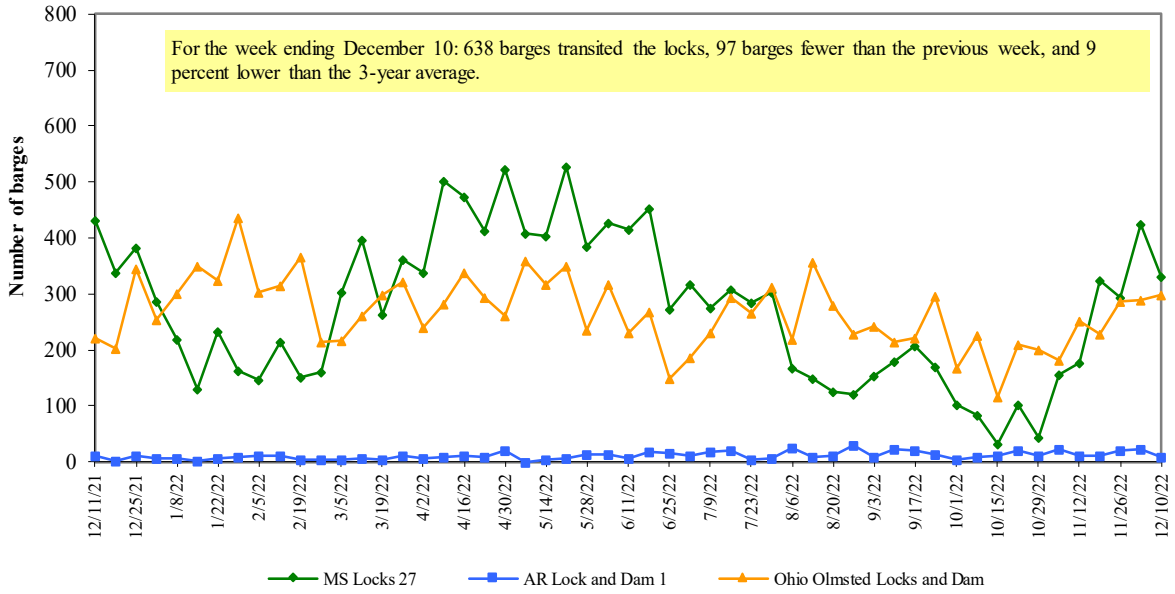
[2] As a percent of same period in 2021.

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 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

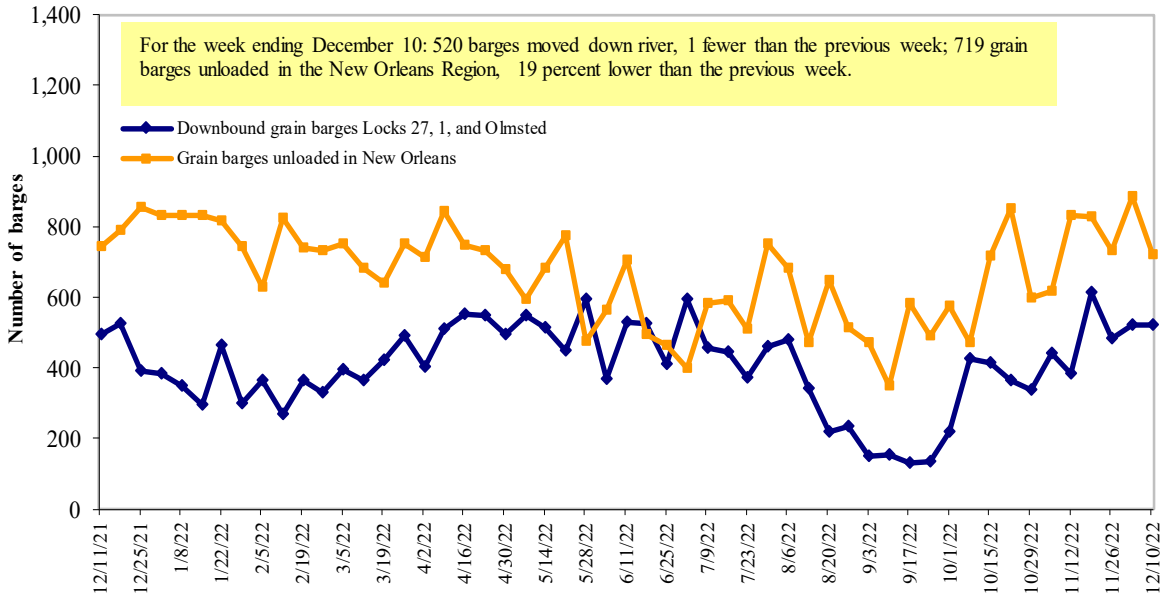


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

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

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	5.007	-0.184	1.374
	New England	5.483	-0.151	1.840
	Central Atlantic	5.505	-0.224	1.694
	Lower Atlantic	4.779	-0.174	1.258
II	Midwest	4.651	-0.256	1.139
III	Gulf Coast	4.344	-0.180	0.972
IV	Rocky Mountain	5.027	-0.223	1.269
V	West Coast	5.287	-0.215	0.889
	West Coast less California	5.048	-0.179	1.078
	California	5.562	-0.254	0.787
Total	United States	4.754	-0.213	1.105

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

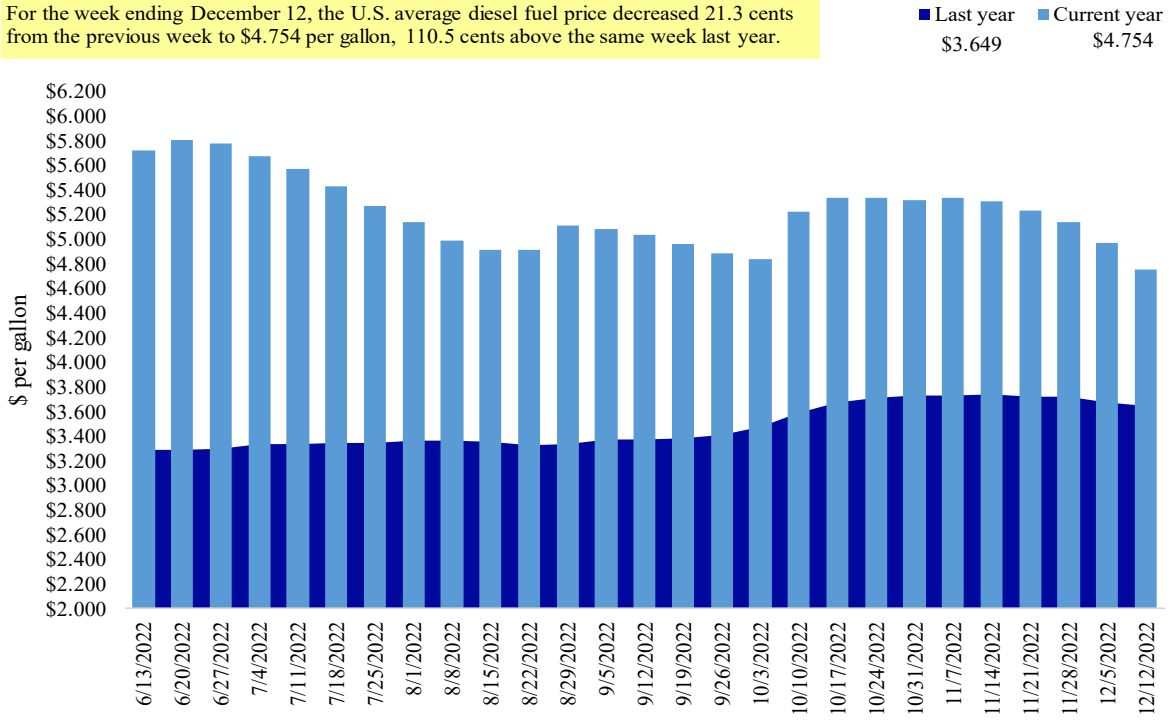
Note: On June 13, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

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

Figure 12

Weekly diesel fuel prices, U.S. average

For the week ending December 12, the U.S. average diesel fuel price decreased 21.3 cents from the previous week to $4.754 per gallon, 110.5 cents above the same week last year.



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]									
12/1/2022	869	551	1,303	1,076	92	3,889	12,371	17,701	33,961
This week year ago	1,963	633	1,123	766	36	4,521	26,011	15,301	45,833
Cumulative exports-marketing year[2]									
2022/23 YTD	2,846	1,690	2,853	2,234	129	9,752	6,673	21,173	37,599
2021/22 YTD	3,807	1,503	2,780	1,852	97	10,038	10,551	23,439	44,029
YTD 2022/23 as % of 2021/22	75	112	103	121	133	97	63	90	85
Last 4 wks. as % of same period 2021/22	45	84	118	141	251	86	46	126	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.

[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 12/01/2022	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	9399.4	10,214	(8)	15,227
China	3707	12,207	(70)	12,616
Japan	1491	3,093	(52)	10,273
Columbia	318	2,140	(85)	4,398
Korea	20	72	(73)	2,563
Top 5 importers	**14,934**	**27,725**	(46)	**45,077**
Total U.S. corn export sales	**19,044**	**36,563**	(48)	**56,665**
% of projected exports	36%	58%		
Change from prior week[2]	**692**	**1,132**		
Top 5 importers' share of U.S. corn export sales	78%	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 12/1/2022	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	23,442	21,282	10	27,283
Mexico	3,113	2,599	20	4,929
Egypt	746	1,683	(56)	3,553
Japan	1,194	1,069	12	2,266
Indonesia	581	614	(5)	2,116
Top 5 importers	**29,075**	**27,246**	7	**40,147**
Total U.S. soybean export sales	**38,874**	**38,740**	0	**54,231**
% of projected exports	70%	66%		
change from prior week[2]	**1,716**	**1,573**		
Top 5 importers' share of U.S. soybean export sales	75%	70%		**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 12/1/2022	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	2,331	2,582	(10)	3,566
Philippines	1,686	2,206	(24)	2,985
Japan	1,450	1,578	(8)	2,453
China	681	848	(20)	1,537
Nigeria	630	1,568	(60)	1,528
Korea	887	865	2	1,459
Taiwan	504	601	(16)	1,106
Indonesia	299	66	355	711
Thailand	502	436	15	703
Colombia	406	473	(14)	621
Top 10 importers	**9,376**	**11,222**	(16)	**16,669**
Total U.S. wheat export sales	**13,641**	**14,559**	(6)	**22,763**
% of projected exports	65%	67%		
change from prior week[2]	**190**	**240**		
Top 10 importers' share of U.S. wheat export sales	69%	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 12/08/22	Previous week*	Current week as % of previous	2022 YTD*	2021 YTD*	2022 YTD as % of 2021 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2021 total*
Pacific Northwest									
Wheat	111	226	49	9,499	13,003	73	90	66	13,243
Corn	57	135	42	9,145	12,815	71	43	52	13,420
Soybeans	646	716	90	13,249	13,130	101	97	115	14,540
Total	**814**	**1,078**	**76**	**31,894**	**38,948**	**82**	**90**	**97**	**41,203**
Mississippi Gulf									
Wheat	26	5	468	4,009	3,095	130	60	41	3,202
Corn	280	452	62	29,451	37,254	79	64	69	38,498
Soybeans	967	1,070	90	27,649	24,203	114	97	96	27,159
Total	**1,273**	**1,527**	**83**	**61,109**	**64,553**	**95**	**88**	**87**	**68,858**
Texas Gulf									
Wheat	35	66	53	3,299	3,750	88	189	161	3,888
Corn	0	8	0	602	592	102	14	19	627
Soybeans	0	60	0	544	1,609	34	58	57	1,611
Total	**35**	**134**	**26**	**4,445**	**5,951**	**75**	**91**	**90**	**6,126**
Interior									
Wheat	57	53	108	2,716	2,825	96	105	113	2,973
Corn	153	215	71	8,387	9,560	88	75	86	10,157
Soybeans	156	129	121	6,572	6,120	107	91	96	6,525
Total	**365**	**396**	**92**	**17,675**	**18,506**	**96**	**84**	**93**	**19,656**
Great Lakes									
Wheat	1	10	15	339	466	73	148	47	536
Corn	0	0	n/a	148	121	122	0	0	145
Soybeans	31	78	40	699	552	127	143	144	592
Total	**32**	**88**	**37**	**1,186**	**1,140**	**104**	**138**	**95**	**1,273**
Atlantic									
Wheat	0	0	n/a	168	128	131	0	0	128
Corn	7	0	n/a	297	81	365	n/a	n/a	85
Soybeans	136	74	183	2,557	1,971	130	108	133	2,184
Total	**143**	**74**	**193**	**3,022**	**2,181**	**139**	**110**	**132**	**2,397**
U.S. total from ports*									
Wheat	230	360	64	20,030	23,267	86	103	77	23,969
Corn	496	810	61	48,030	60,424	79	64	71	62,932
Soybeans	1,937	2,127	91	51,270	47,587	108	97	102	52,612
Total	**2,663**	**3,297**	**81**	**119,330**	**131,278**	**91**	**89**	**92**	**139,512**

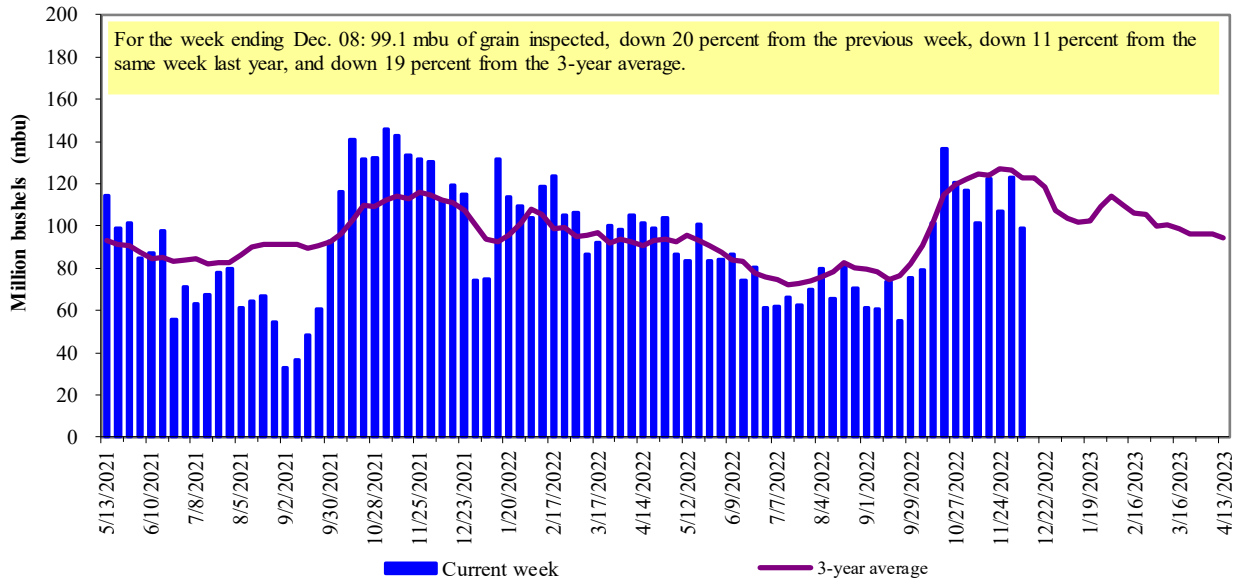
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

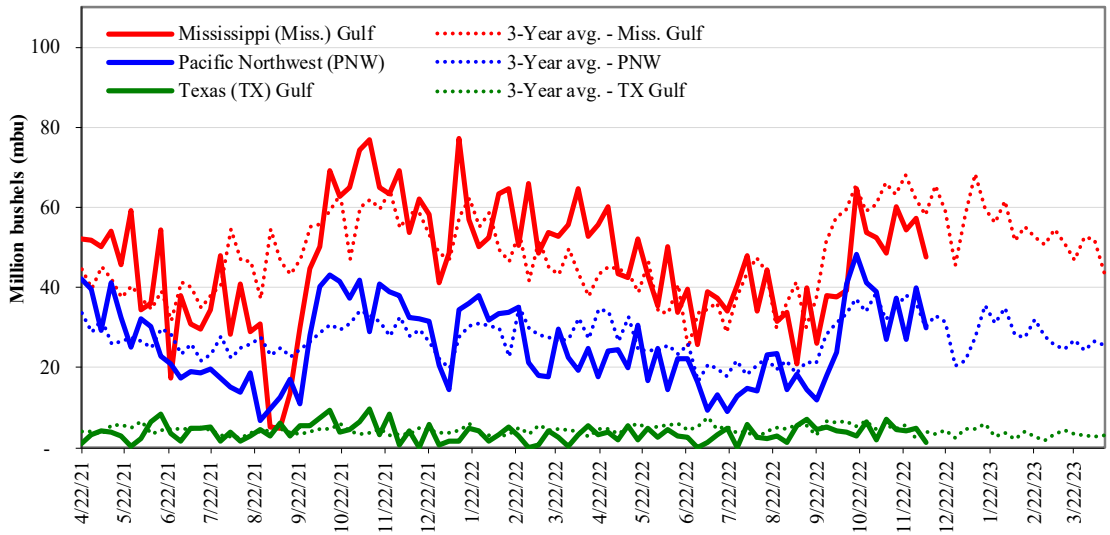


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 14

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



Week ending 12/08/22 inspections (mbu):	
MS Gulf:	47.5
PNW:	30.1
TX Gulf:	1.3

Percent change	MS Gulf	TX	U.S. Gulf	PNW
Last wk:	down 17	down 74	down 22	down 25
Last Year (same wk):	down 11	down 70	down 16	down 7
3-yr avg. (4-wk. mov. Avg):	down 25	down 70	down 27	down 14

Source: USDA, Federal Grain Inspection Service.

Table 16

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

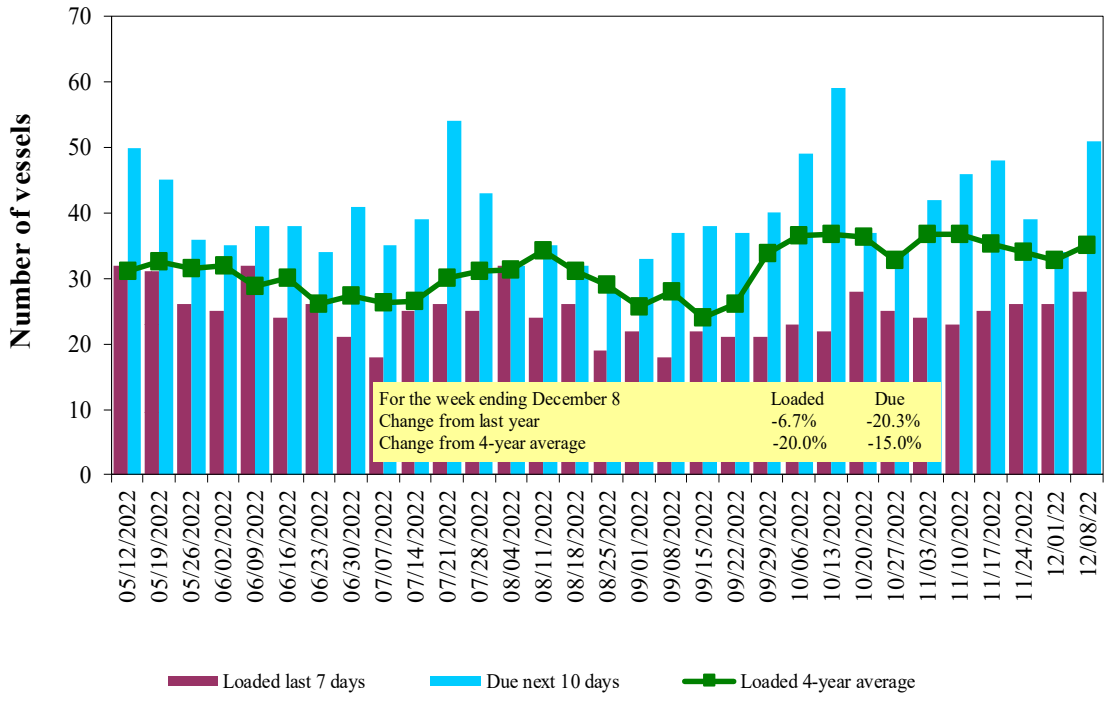
	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
12/8/2022	30	28	51	16
12/1/2022	38	26	34	15
2021 range	(10…57)	(5...48)	(15...69)	(4…27)
2021 average	34	32	49	15

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

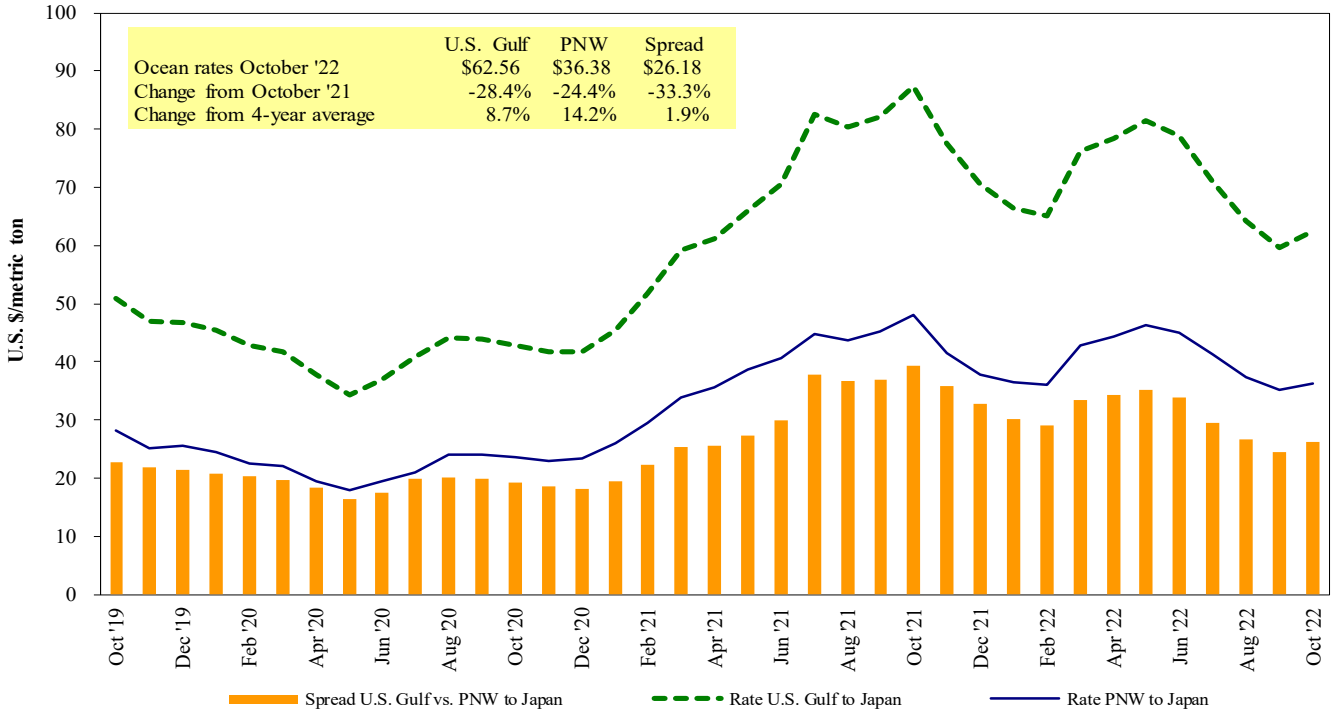


[1]U.S. Gulf includes Mississippi, Texas, and East Gulf.

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 12/10/2022

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

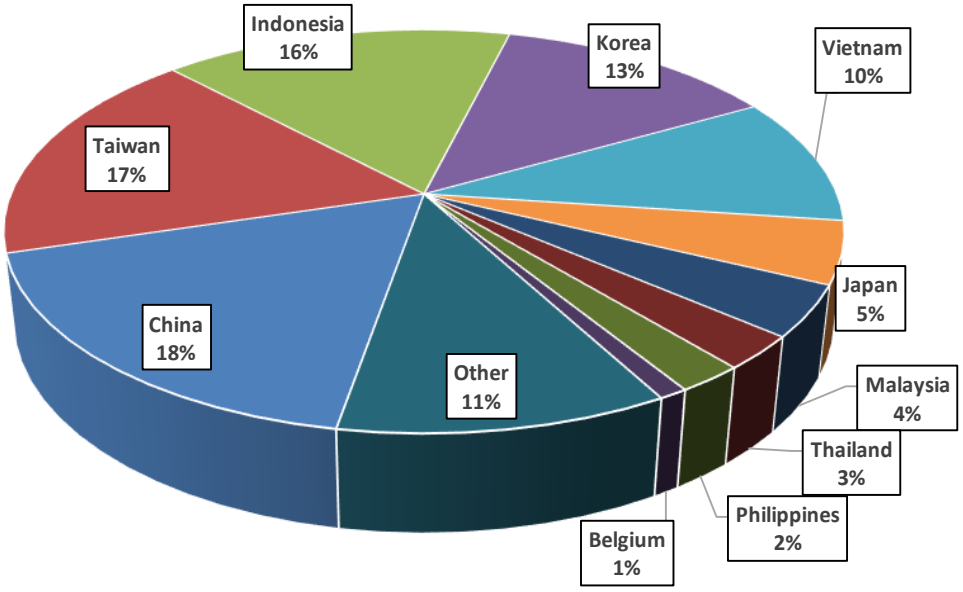
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

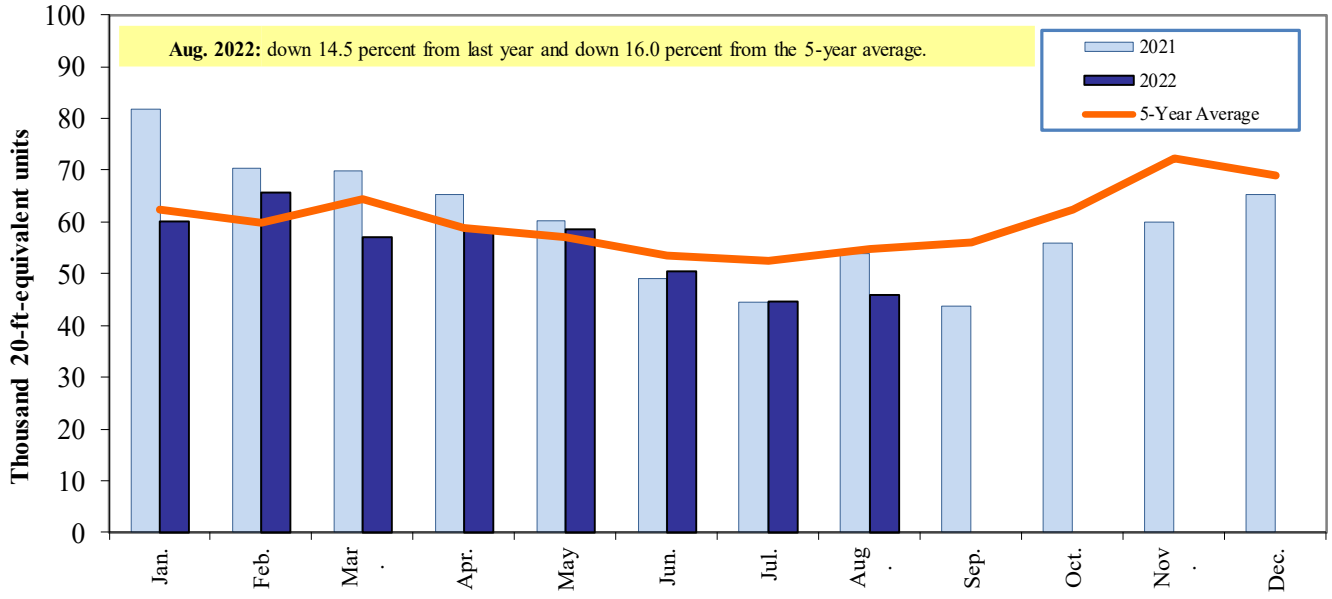
Figure 17
Top 10 destination markets for U.S. containerized grain exports, Jan-Aug 2022



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

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