United States Department of Agriculture

Grain Transportation Report

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

October 6, 2022

Contents

The next release is October 13, 2022

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WEEKLY HIGHLIGHTS

Closures and Restrictions on the Lower Mississippi River Announced

To accommodate removal of a gas pipeline, the Lower Mississippi River (LMR) will implement a series of closures and restrictions in October and November. South of mile marker 189.5 (roughly 80 miles north of New Orleans), the LMR will be closed to all southbound traffic from 7 pm to 7 am, October 17-22, October 26-31, and November 4-8. Southbound traffic may need to proceed more slowly than usual on October 4-6, October 23-25, and November 1-3. November 9-15 are reserved dates, pending any incomplete removal operations. During the periods of closures and restrictions, southbound traffic should check with Vessel Traffic Service (VTS) at mile marker 205, and northbound traffic should check with VTS at mile marker 167. During the same periods, tows with more than 20 barges should be aware of limited safe mooring areas south of the Interstate-10 bridge. With harvest progressing, the barge industry is already struggling with low water levels and reduced barge supply. See **this week's feature article** for more information.

U.S. Waterborne Commerce Statistic Center Approves Three Principal Ports

The U.S. Waterborne Commerce Statistics Center (WCSC) recently approved three adjacent ports in the Tri-State (Illinois, Missouri, and Iowa) above Locks and Dam 26 as new "Principal Ports." Operational since 2020 and 2021, the new WCSC-approved ports—Illinois Waterway Ports and Terminals, the Mid-America Port Commission, and the Mississippi River ports of Eastern Iowa and Western Illinois—are collectively referred to as the "Corn Belt Ports." They serve the largest grain-producing and -exporting region in the United States. The "Principal Port" designation means WCSC will publish data on the Corn Belt Ports' freight terminal volumes and vessel activities, along with those of other major ports. Because WCSC publication widens recognition for ports, it may also increase their funding opportunities. Together, the three Corn Belt Ports are expected to handle well over 40 million tons of freight annually—more than any single inland port in the Nation.

FMCSA Seeks Input on Entry-Level-Driver Training Regulations

The Federal Motor Carrier Safety Administration (FMCSA) seeks public comment on its plan to collect information about third-party testing programs for commercial driver's license (CDL) skills and knowledge tests. FMCSA proposes to survey State and local government employees about whether third-party CDL testing is as accurate and compliant as jurisdictional testing. The survey would also investigate how entry-level driver training regulations (initiated in February 2022) are affecting drivers. Currently, FMCSA seeks public comment on the proposed survey—about whether the survey is necessary for FMCSA to perform its functions and whether the estimated burden of time, effort, and funding for conducting the survey is accurate. The agency also seeks input on how to improve the collected information, and how the burden can be minimized without reducing information quality. Comments can be submitted here by November 21, 2022.

Snapshots by Sector

Export Sales

For the week ending September 22, **unshipped balances** of wheat, corn, and soybeans for marketing year 2022/23 totaled 40.47 million metric tons (mmt), down 21 percent from the same time last year and up 1 percent from last week. Net **corn export sales** for marketing year 2022/23 were 0.512 mmt, up significantly from last week. Net **soybean export sales** were 1.003 mmt, up significantly from last week. Net weekly **wheat export sales** were 0.280 mmt, up 52 percent from last week.

Rail

U.S. Class I railroads originated 19,540 **grain carloads** during the week ending September 24. This was a 2-percent increase from the previous week, 10 percent fewer than last year, and 11 percent fewer than the 3-year average.

Average October shuttle **secondary railcar bids/offers** (per car) were $1,746 above tariff for the week ending September 29. This was $819 more than last week and $1,476 more than this week last year.

Barge

For the week ending October 1, **barged grain movements** totaled 316,850 tons. This was 44 percent higher than the previous week and 36 percent fewer than the same period last year.

For the week ending October 1, 220 grain barges **moved down river**—84 more barges than last week. There were 576 grain barges **unloaded** in the New Orleans region, 18 percent more than last week.

Ocean

For the week ending September 29, 21 **oceangoing grain vessels** were loaded in the Gulf—11 percent more than the same period last year. Within the next 10 days (starting September 30), 40 vessels were expected to be loaded—25 percent fewer than the same period last year.

As of September 29, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $61.00. This was unchanged from the previous week. The rate from the Pacific Northwest to Japan was $36.00 per mt, unchanged from the previous week.

Fuel

For the week ending October 3, the U.S. average **diesel fuel price** decreased 5.3 cents from the previous week to $4.836 per gallon, 135.9 cents above the same week last year.

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Feature Article/Calendar

Update on Grain Storage Availability, Amid River Transportation Snarls

Over the past year, agricultural shippers have had to deal with disruptions to multiple links of the transportation supply chain. Port congestion and truck supply issues in 2021 were followed by rail service problems throughout 2022. Most recently, low river levels have reduced barge capacity. The confluence of tight transportation supply and elevated grain transportation demand during harvest will put extra pressure on the grain storage system. This article looks at the latest grain stocks, storage, and production data in the context of these ongoing transportation disruptions.

A Look at Recent Transportation Challenges

Recent rail and barge grain shipments are both well below average this time of year. As described below, rail service has shown some signs of improvement, but challenges for barge transportation have worsened.

Rail. As shown in the latest service metrics collected by the Surface Transportation Board (presented in a dashboard on AgTransport), grain carloads originated by Class I railroads have increased the past 2 weeks, and speeds for grain trains have climbed over multiple weeks. At the same time, the number of unfilled grain car orders (4,757 for the week ending September 28) has fallen to a new low in 2022, and average monthly grain shuttle trips went from 2.75 in August to 4 in September—an increase of 45 percent. While these are positive signs, rail volumes and service are still below previous years.

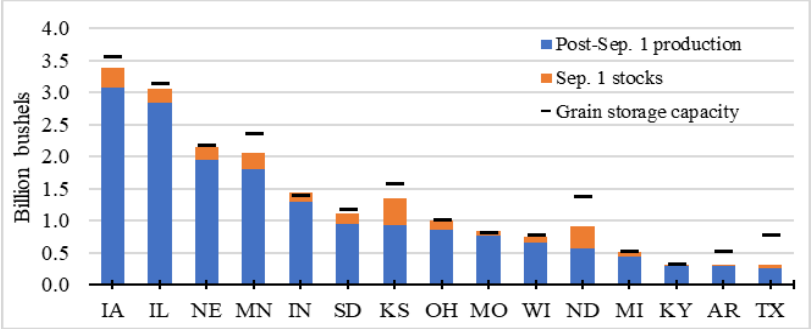
Barge. Barge transportation is an essential mode for grain, especially this time of year as the corn and soybean harvests ramp up in the Corn Belt States. In recent weeks, barge carriers and shippers have dealt with increasingly severe low water levels—reducing shipping capacity and resulting in record rates. Beginning in July, the average level of the Mississippi River at New Orleans was well below the 5-year average and continued to drop. With lower water levels, vessel operators and shippers have had to use lighter loads per barge because of draft restrictions and fewer barges per tow. American Commercial Barge Line said tonnages per southbound barge have been reduced by 20-27 percent. Moreover, the number of barges per tow have been reduced by 17-38 percent.[1] The industry has also experienced groundings and intermittent outages. As of October 4, the cost per ton to ship from St. Louis to the Gulf was $90.45/ton, up 218 percent from last year and up 379 percent from the 3-year average. Over the past 5 weeks (week ending October 1), 2,466 barges have been unloaded in New Orleans, down 25 percent from the 5-year average. Further compounding these issues, the U.S. Coast Guard is implementing speed and overnight-hour restrictions on the Lower Mississippi River, from mid-October to mid-November, to accommodate a pipeline removal (see **first highlight**). However, some industry analysts believe the impacts of the additional closures and other restrictions may be overshadowed by already reduced navigability from historically low water levels.

Availability of Storage to Mitigate Transportation Challenges

According to data published last week from USDA's National Agricultural Statistics Service, as of September 1, 2022, total grain in storage across the Nation was 3.7 billion bushels (bbu). This was up 6 percent from the same time last year, but down 24 percent from the 2017-21 average September 1 stocks. Also, year to year, grain storage capacity has continued to grow, although the latest, end-of-year 2021 data were only slightly higher than 2020.

The ongoing corn, soybean, and grain sorghum harvests are adding to available fall grain supplies. Through the week ending October 2, the corn harvest is 20 percent complete, and the soybean harvest is 22 percent complete. These numbers slightly lag the previous 5-year average pace. However, USDA projects total corn, soybean, and sorghum production to be 18.6 bbu, down 7 percent from last year and 1 percent from the 3-year average.

Figure 1. Grain storage, stocks, and projected production, top 15 production States (2022)



Source: USDA, Agricultural Marketing Service analysis of data from USDA's National Agricultural Statistics Service.

Relatively low starting stocks, increased storage capacity, and declines in forecasted production, all contribute to relatively abundant storage this season compared to prior years. Figure 1 shows which States could have shortfalls in storage and, hence, more pressure on their transportation systems this harvest. All the top production States have storage surpluses. For instance, Iowa and Minnesota—States that heavily use the barge system—have relatively large storage surpluses. As a result, shippers in those States may have some ability to respond to transportation disruptions by holding grain. In contrast, Missouri, Ohio, and Indiana—other major barge-using States with smaller storage surpluses—could feel the barge disruptions more acutely. Similarly, Nebraska and South Dakota—rail-dependent States with relatively small surpluses—may be constrained in responding to rail disruptions.

Analysis and Outlook

In the latest week of data, bids in the secondary auction markets for rail car service in October and November significantly increased for both months from bids of the prior week (***GTR* figs. 4 and 5**). These trends suggest shippers are still concerned about harvest rail service. In the last few weeks of data, the 1-month barge rate for St. Louis has increased each week, except for the current week, reflecting concerns about harvest demand and the low water levels. The National Oceanic and Atmospheric Administration expects river levels at Memphis, TN, to remain low throughout its 28-day forecast, which extends through the beginning of November.[2]

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[1] American Commercial Barge Line's Daily River Conditions report, as of October 4, 2022.
[2] National Oceanic and Atmospheric Administration, lower Mississippi 28-day forecasts, as of October 4, 2022.

Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
10/05/22	325	332	327	1045	273	255
09/28/22	328	329	297	643	273	255

[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.

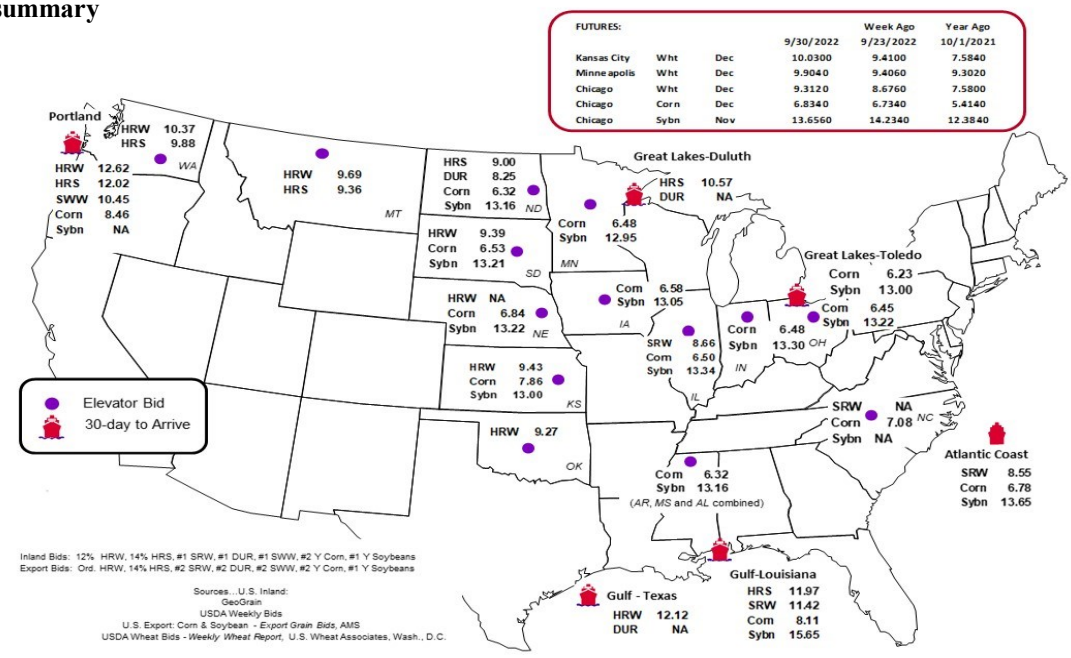
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	9/30/2022	9/23/2022
Corn	IL–Gulf	-1.61	-1.44
Corn	NE–Gulf	-1.27	-1.13
Soybean	IA–Gulf	-2.60	-2.47
HRW	KS–Gulf	-2.69	-2.74
HRS	ND–Portland	-3.02	-3.04

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

Rail deliveries to port (carloads)[1]

For the week ending	Mississippi Gulf	Texas Gulf	Pacific Northwest	Atlantic & East Gulf	Total	Week ending	Cross-border Mexico[3]
9/28/2022[p]	105	650	2,825	41	3,621	9/24/2022	2,835
9/21/2022[r]	320	644	3,034	98	4,096	9/17/2022	2,338
2022 YTD[r]	42,135	31,127	183,415	15,782	272,459	2022 YTD	104,723
2021 YTD[r]	37,301	49,445	202,486	11,043	300,275	2021 YTD	108,784
2022 YTD as % of 2021 YTD	113	63	91	143	91	% of 2021 YTD	96
Last 4 weeks as % of 2021[2]	202	56	82	45	78	Last 4wks. % 2021	95
Last 4 weeks as % of 4-year avg.[2]	41	58	60	29	56	Last 4wks. % 4 yr.	107
Total 2021	53,554	68,335	305,865	21,913	449,667	Total 2021	145,883
Total 2020	45,177	63,348	296,060	24,202	428,787	Total 2020	126,407

[1] Data is incomplete as it is voluntarily provided.

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

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

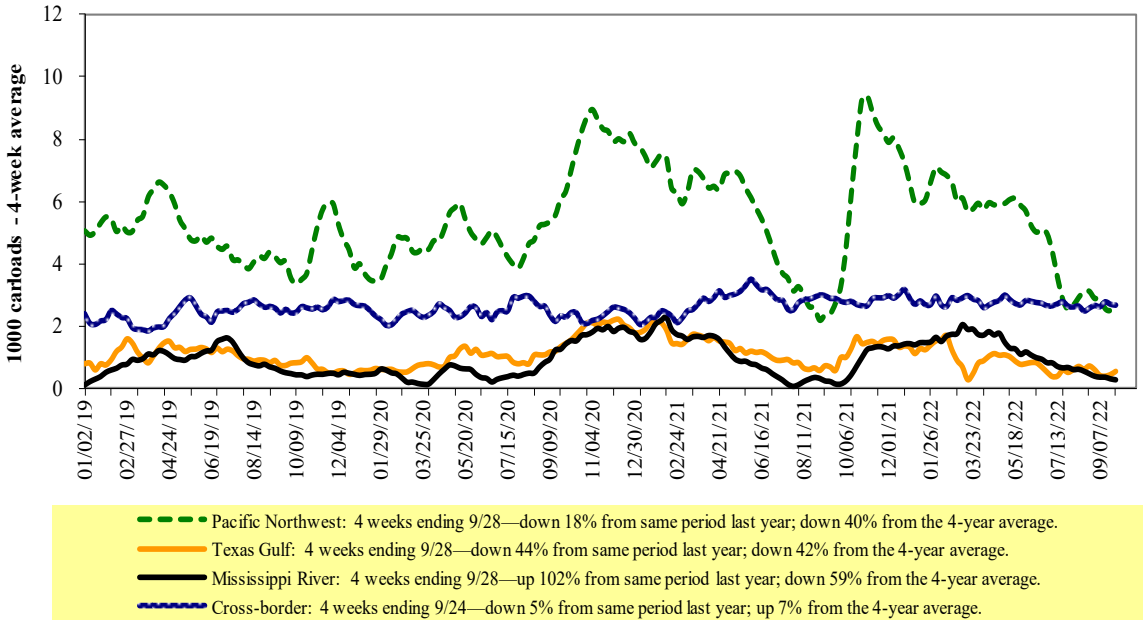
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

Source: USDA, Agricultural Marketing Service.

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

Figure 2

Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

Table 4

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

For the week ending:	East		West			U.S. total	Canada	
9/24/2022	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,359	1,726	10,305	1,143	5,007	19,540	4,868	5,372
This week last year	1,393	1,696	10,610	1,315	6,802	21,816	4,105	4,022
2022 YTD	65,733	90,420	409,619	46,387	216,577	828,736	131,817	134,107
2021 YTD	66,711	90,370	433,911	44,218	231,297	866,507	154,110	179,822
2022 YTD as % of 2021 YTD	99	100	94	105	94	96	86	75
Last 4 weeks as % of 2021*	98	132	108	85	96	104	116	124
Last 4 weeks as % of 3-yr. avg.**	85	102	95	97	97	95	114	103
Total 2021	93,935	120,591	609,890	64,818	318,002	1,207,236	209,962	242,533

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

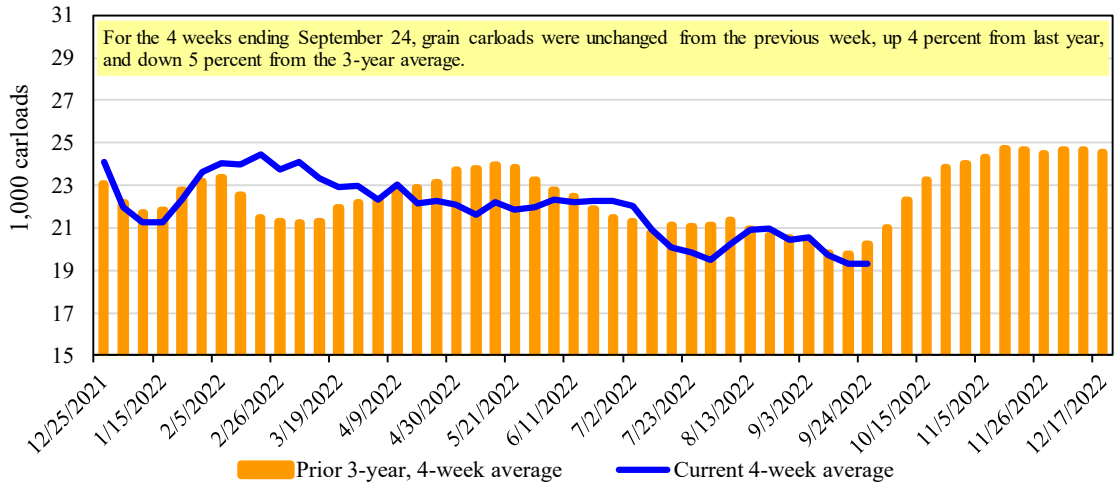
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 5

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

For the week ending:		Delivery period							
9/29/2022		Oct-22	Oct-21	Nov-22	Nov-21	Dec-22	Dec-21	Jan-23	Jan-22
BNSF[3]	COT grain units	no bids	0	no bids	0	0	no bids	0	no bids
	COT grain single-car	177	1	101	0	102	0	0	0
UP[4]	GCAS/Region 1	no offer	n/a	no offer	n/a	no offer	n/a	n/a	n/a
	GCAS/Region 2	no offer	n/a	no offer	n/a	no offer	n/a	n/a	n/a

[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.

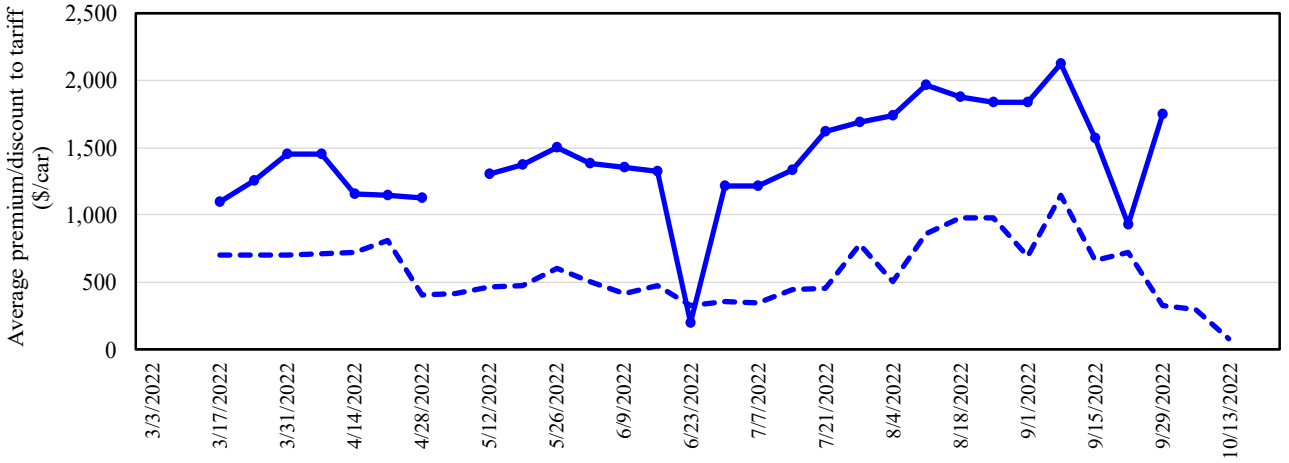
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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 4
Secondary market bids/offers for railcars to be delivered in October 2022

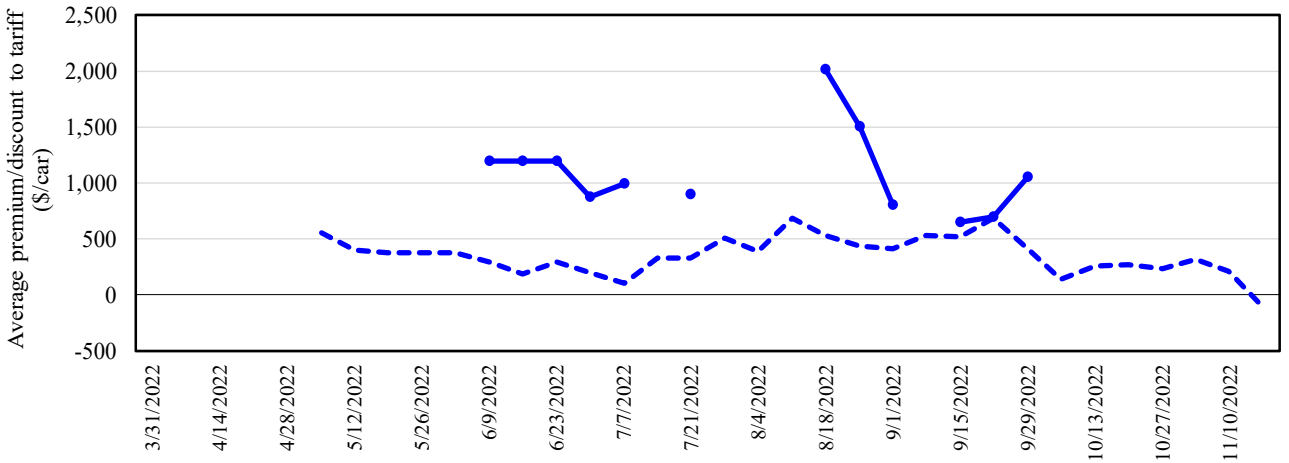


9/29/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$1,592	$1,900

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $819 this week and are $379 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 November 2022



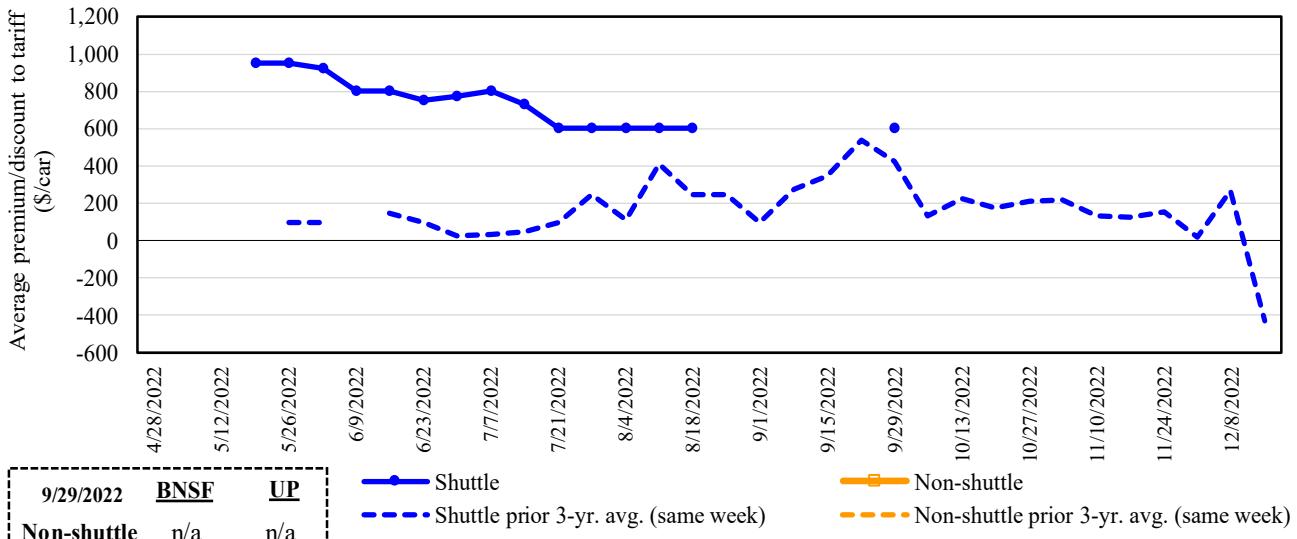
9/29/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$1,056	n/a

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $362 this week and are $952 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 6

Secondary market bids/offers for railcars to be delivered in December 2022



9/29/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$600	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 $350 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 6

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

For the week ending: 9/29/2022		Delivery period					
		Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-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**	**1,592**	**1,056**	**600**	**n/a**	**n/a**	**n/a**
	Change from last week	500	362	n/a	n/a	n/a	n/a
	Change from same week 2021	1,414	956	n/a	n/a	n/a	n/a
	UP-Pool	**1,900**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	1,137	n/a	n/a	n/a	n/a	n/a
	Change from same week 2021	1,538	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 7

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

October 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	$299	$39.66	$1.08	4
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$134	$39.64	$1.08	9
	Wichita, KS	Los Angeles, CA	$7,490	$689	$81.22	$2.21	12
	Wichita, KS	New Orleans, LA	$4,600	$525	$50.89	$1.39	8
	Sioux Falls, SD	Galveston-Houston, TX	$7,226	$565	$77.37	$2.11	11
	Colby, KS	Galveston-Houston, TX	$4,850	$575	$53.88	$1.47	7
	Amarillo, TX	Los Angeles, CA	$5,121	$801	$58.80	$1.60	8
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$594	$45.62	$1.16	8
	Toledo, OH	Raleigh, NC	$8,551	$654	$91.41	$2.32	13
	Des Moines, IA	Davenport, IA	$2,655	$126	$27.61	$0.70	9
	Indianapolis, IN	Atlanta, GA	$6,593	$491	$70.35	$1.79	14
	Indianapolis, IN	Knoxville, TN	$5,564	$318	$58.41	$1.48	12
	Des Moines, IA	Little Rock, AR	$4,250	$369	$45.87	$1.17	11
	Des Moines, IA	Los Angeles, CA	$6,130	$1,076	$71.55	$1.82	13
Soybeans	Minneapolis, MN	New Orleans, LA	$4,431	$917	$53.11	$1.45	37
	Toledo, OH	Huntsville, AL	$7,037	$466	$74.51	$2.03	12
	Indianapolis, IN	Raleigh, NC	$7,843	$663	$84.47	$2.30	15
	Indianapolis, IN	Huntsville, AL	$5,689	$315	$59.62	$1.62	12
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$594	$54.21	$1.48	9
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$396	$47.56	$1.29	14
	Wichita, KS	Galveston-Houston, TX	$4,311	$308	$45.87	$1.25	5
	Chicago, IL	Albany, NY	$7,090	$617	$76.54	$2.08	16
	Grand Forks, ND	Portland, OR	$6,051	$684	$66.88	$1.82	15
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$712	$60.69	$1.65	7
	Colby, KS	Portland, OR	$5,923	$943	$68.19	$1.86	7
Corn	Minneapolis, MN	Portland, OR	$5,660	$833	$64.48	$1.64	21
	Sioux Falls, SD	Tacoma, WA	$5,620	$763	$63.38	$1.61	20
	Champaign-Urbana, IL	New Orleans, LA	$4,170	$594	$47.30	$1.20	14
	Lincoln, NE	Galveston-Houston, TX	$4,360	$445	$47.71	$1.21	18
	Des Moines, IA	Amarillo, TX	$4,670	$464	$50.99	$1.30	11
	Minneapolis, MN	Tacoma, WA	$5,660	$826	$64.41	$1.64	21
	Council Bluffs, IA	Stockton, CA	$5,580	$855	$63.90	$1.62	21
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$763	$70.63	$1.92	18
	Minneapolis, MN	Portland, OR	$6,400	$833	$71.83	$1.95	19
	Fargo, ND	Tacoma, WA	$6,250	$678	$68.80	$1.87	16
	Council Bluffs, IA	New Orleans, LA	$5,095	$684	$57.39	$1.56	10
	Toledo, OH	Huntsville, AL	$5,277	$466	$57.03	$1.55	16
	Grand Island, NE	Portland, OR	$5,730	$966	$66.49	$1.81	16

[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 8

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.

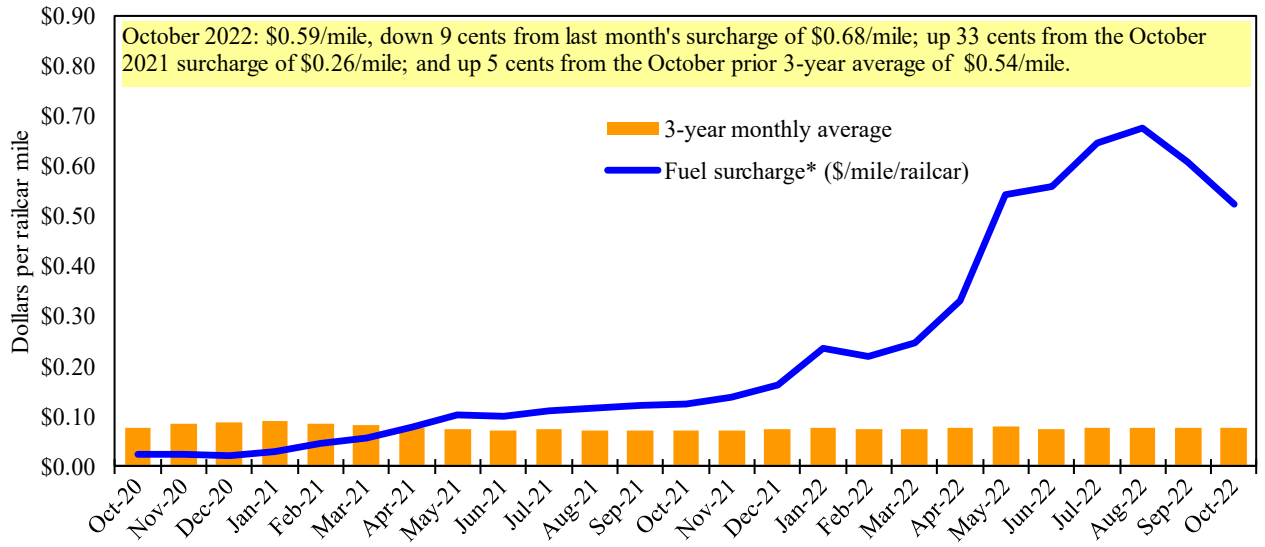
[5] As of January 1, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

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

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

Figure 7

Railroad fuel surcharges, North American weighted average[1]



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

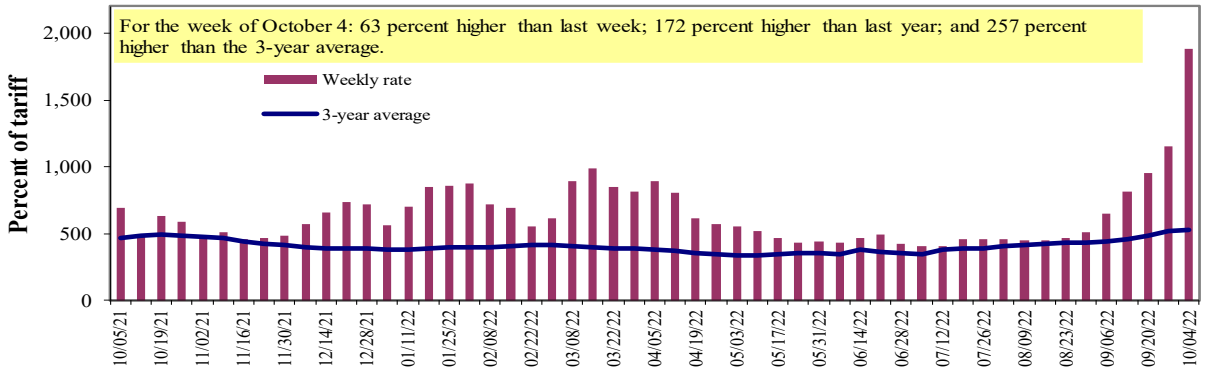
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

**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 8
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 9
Weekly barge freight rates: Southbound only

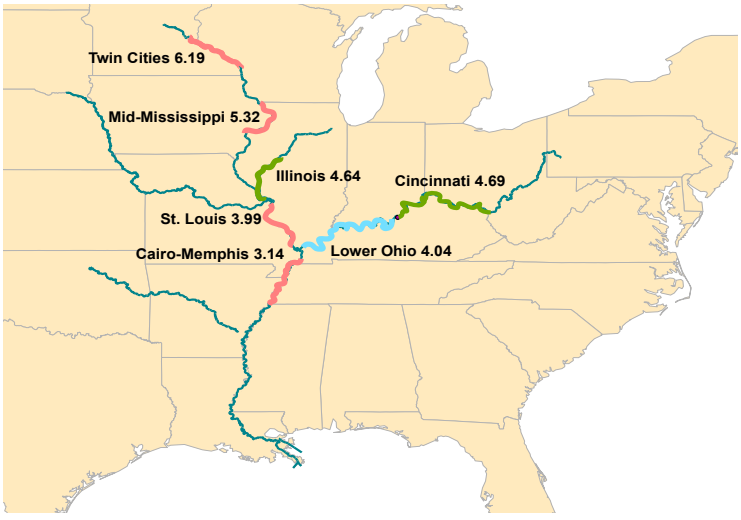
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	10/4/2022	1622	1836	1881	2267	2094	2094	2428
	9/27/2022	1168	1214	1157	1250	1350	1350	1429
$/ton	10/4/2022	100.40	97.68	87.28	90.45	98.21	84.60	76.24
	9/27/2022	72.30	64.58	53.68	49.88	63.32	54.54	44.87
Current week % change from the same week:								
	Last year	158	156	172	218	196	196	218
	3-year avg. [2]	222	246	257	379	306	306	372
Rate[1]	November	1003	936	923	866	897	897	799
	January	-	-	729	628	686	686	593

[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 9
Benchmark tariff rates

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

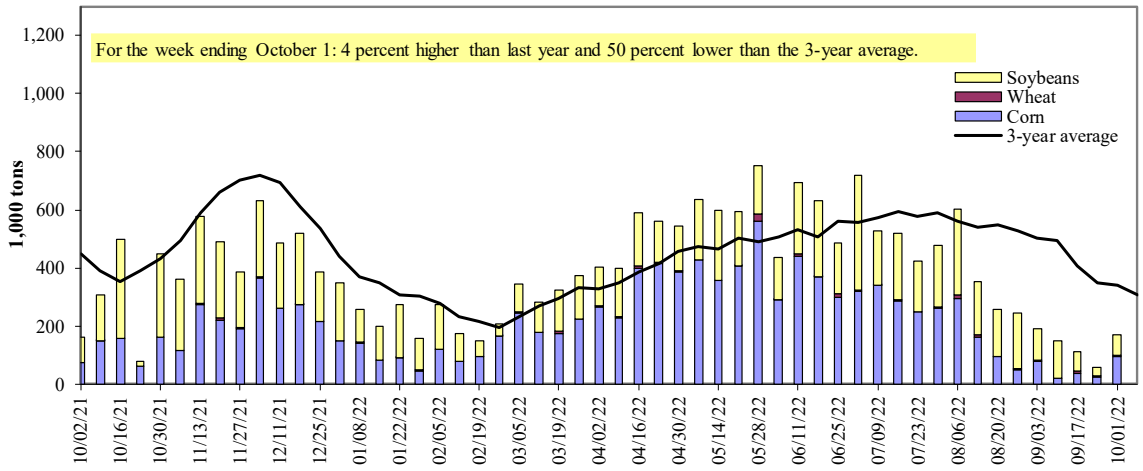
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 10

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 10

Barge grain movements (1,000 tons)

For the week ending 10/01/2022	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	25	0	25
Winfield, MO (L25)	54	2	34	0	89
Alton, IL (L26)	106	2	55	0	163
Granite City, IL (L27)	97	2	72	0	171
Illinois River (La Grange)	32	0	8	0	40
Ohio River (Olmsted)	55	2	46	0	102
Arkansas River (L1)	3	20	21	0	44
Weekly total - 2022	154	23	139	0	317
Weekly total - 2021	308	25	159	0	493
2022 YTD[1]	13,451	1,492	9,023	190	24,155
2021 YTD[1]	19,280	1,441	6,242	225	27,187
2022 as % of 2021 YTD	70	104	145	85	89
Last 4 weeks as % of 2021[2]	78	59	141	111	97
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.

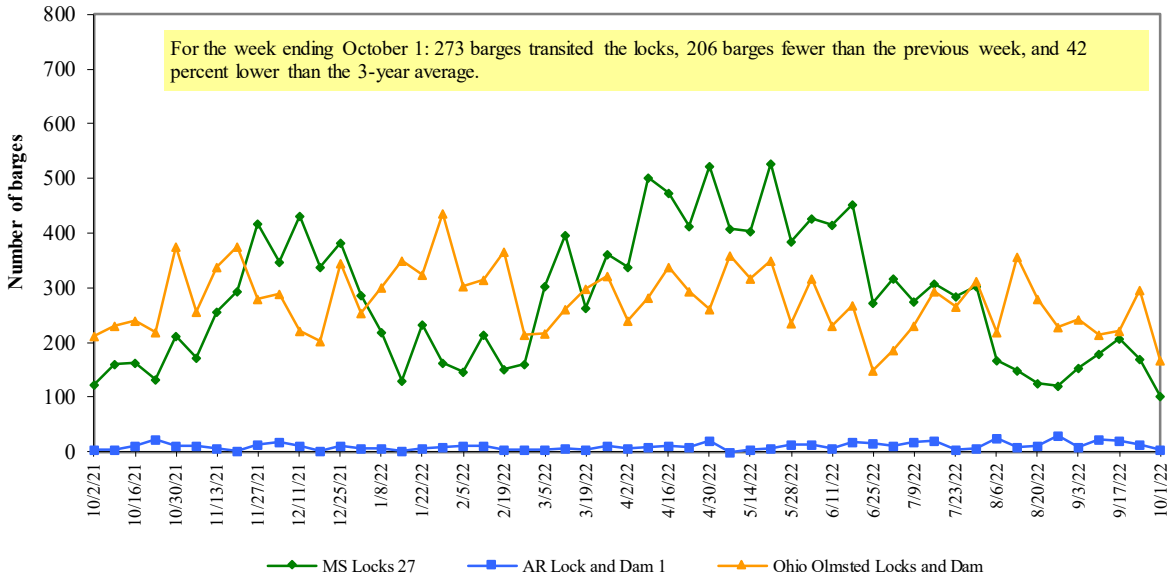
[2] As a percent of same period in 2021.

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 11

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

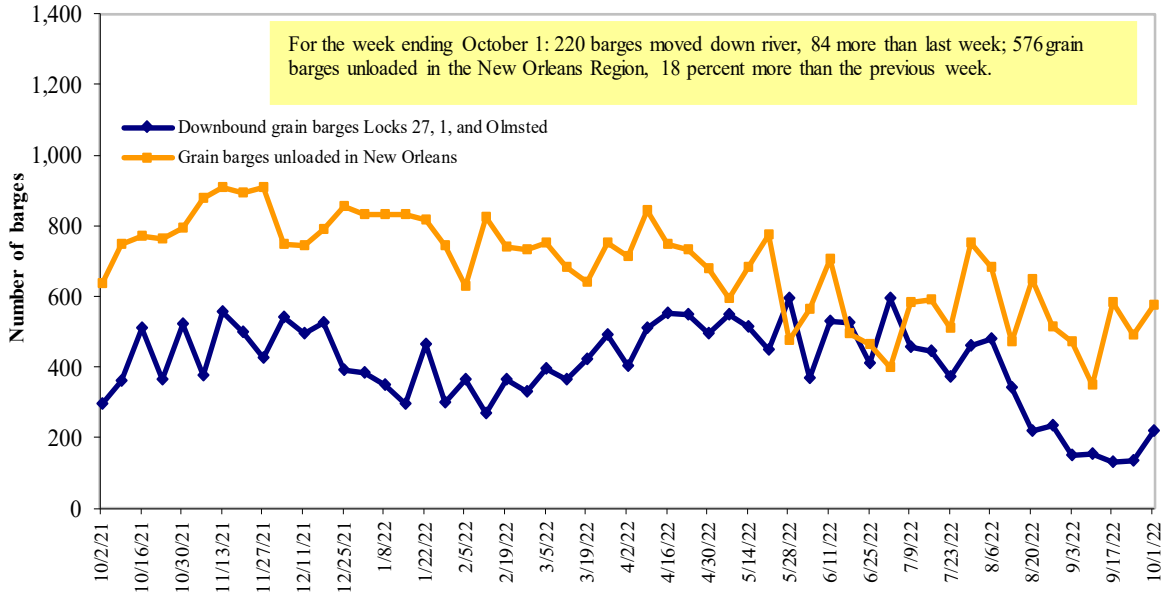


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 12

Grain barges for export in New Orleans region



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

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

Truck Transportation

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

Table 11

Retail on-highway diesel prices, week ending 10/3/2022 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.797	-0.039	1.361
	New England	4.874	-0.093	1.539
	Central Atlantic	4.994	-0.030	1.422
	Lower Atlantic	4.716	-0.036	1.354
II	Midwest	4.819	-0.062	1.389
III	Gulf Coast	4.557	-0.066	1.354
IV	Rocky Mountain	4.870	-0.015	1.230
V	West Coast	5.535	-0.032	1.463
	West Coast less California	5.063	-0.031	1.346
	California	6.077	-0.033	1.708
Total	United States	4.836	-0.053	1.359

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

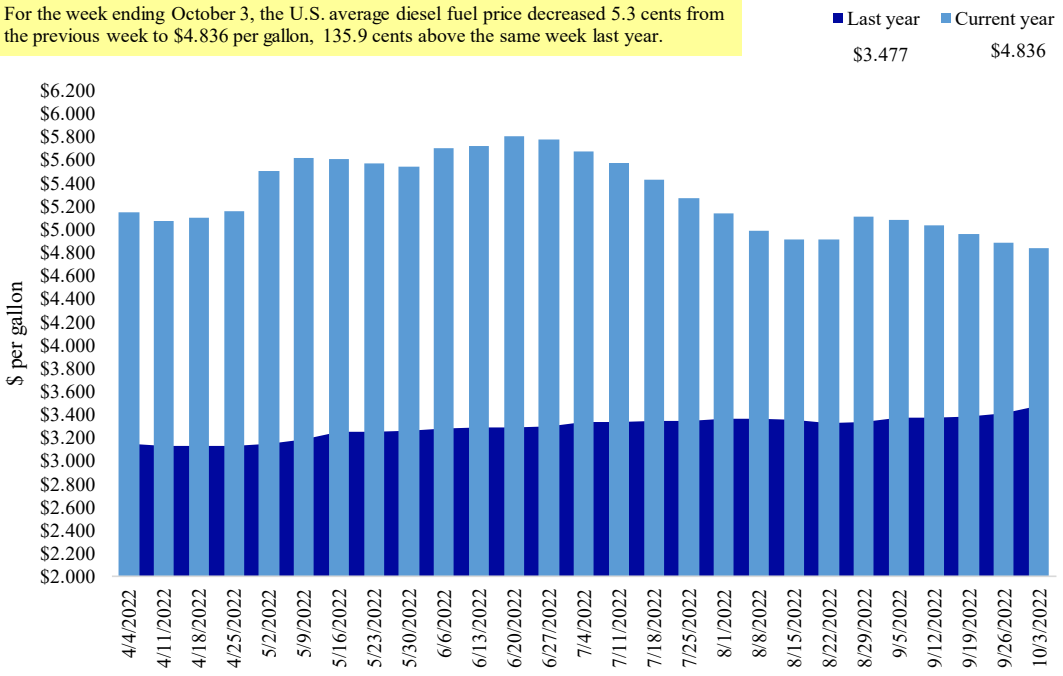
Note: On June 13, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

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

Figure 13

Weekly diesel fuel prices, U.S. average

For the week ending October 3, the U.S. average diesel fuel price decreased 5.3 cents from the previous week to $4.836 per gallon, 135.9 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 12

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]									
9/22/2022	869	591	1,096	908	94	3,559	11,394	25,516	40,469
This week year ago	1,568	667	989	582	61	3,866	23,794	23,225	50,884
Cumulative exports-marketing year[2]									
2022/23 YTD	2,141	1,443	1,994	1,476	74	7,127	1,601	1,214	9,943
2021/22 YTD	2,691	1,049	1,989	1,419	61	7,209	1,522	975	9,706
YTD 2022/23 as % of 2021/22	80	138	100	104	120	99	105	125	102
Last 4 wks. as % of same period 2021/22	72	95	123	189	164	108	49	107	80
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 13

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

For the week ending 09/22/2022	Total commitments[2]		% change	Exports[3]
	2022/23 current MY	2021/22 last MY	current MY from last MY	3-yr. avg. 2019-21
		1,000 mt -		
Mexico	5244.3	5,484	(4)	15,227
China	3372	11,910	(72)	12,616
Japan	1042	1,836	(43)	10,273
Columbia	253	849	(70)	4,398
Korea	7	72	(90)	2,563
Top 5 importers	**9,918**	**20,150**	(51)	**45,077**
Total U.S. corn export sales	**12,996**	**25,316**	(49)	**56,665**
% of projected exports	22%	40%		
Change from prior week[2]	**512**	**370**		
Top 5 importers' share of U.S. corn export sales	76%	80%		80%
USDA forecast September 2022	**57,888**	**62,977**	(8)	
Corn use for ethanol USDA forecast, September 2022	**135,255**	**135,382**	(0)	

[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 14

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

For the week ending 09/22/2022	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	13,874	11,768	18	27,283
Mexico	1,852	1,662	11	4,929
Egypt	652	585	12	3,553
Japan	646	570	13	2,266
Indonesia	244	160	53	2,116
Top 5 importers	**17,268**	**14,745**	17	**40,147**
Total U.S. soybean export sales	**26,730**	**24,200**	10	**54,231**
% of projected exports	47%	41%		
change from prior week[2]	**1,003**	**1,008**		
Top 5 importers' share of U.S. soybean export sales	65%	61%		**74%**
USDA forecast, September 2022	**56,812**	**58,447**	(3)	

[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.

-2.80%

Table 15

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

For the week ending 9/22/2022	Total Commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2018-20
		1,000 mt -		- 1,000 mt -
Mexico	1,860	1,895	(2)	3,388
Philippines	1,364	1,668	(18)	3,121
Japan	1,049	1,149	(9)	2,567
Korea	607	664	(8)	1,501
Nigeria	521	1,231	(58)	1,490
China	614	848	(28)	1,268
Taiwan	363	449	(19)	1,187
Indonesia	231	0	115150	1,131
Thailand	289	290	(0)	768
Italy	231	118	95	681
Top 10 importers	**7,129**	**8,313**	(14)	**17,102**
Total U.S. wheat export sales	**10,686**	**11,075**	(4)	**24,617**
% of projected exports	48%	51%		
change from prior week[2]	**280**	**290**		
Top 10 importers' share of U.S. wheat export sales	67%	75%		69%
USDA forecast, September 2022	**22,480**	**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 16

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

Port regions	For the week ending 09/29/22	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	487	325	150	8,091	11,841	68	127	127	13,243
Corn	0	0	n/a	8,952	12,368	72	146	22	13,420
Soybeans	0	0	n/a	5,212	4,344	120	13	8	14,540
Total	**487**	**325**	**150**	**22,255**	**28,553**	**78**	**91**	**71**	**41,203**
Mississippi Gulf									
Wheat	25	78	32	3,673	2,488	148	282	143	3,202
Corn	447	352	127	26,675	32,174	83	108	101	38,498
Soybeans	533	259	206	16,941	12,581	135	149	58	27,159
Total	**1,004**	**688**	**146**	**47,289**	**47,244**	**100**	**135**	**78**	**68,858**
Texas Gulf									
Wheat	136	128	106	2,751	3,251	85	122	135	3,888
Corn	7	0	n/a	565	470	120	15	15	627
Soybeans	0	0	n/a	2	656	0	n/a	0	1,611
Total	**143**	**128**	**112**	**3,317**	**4,377**	**76**	**112**	**107**	**6,126**
Interior									
Wheat	22	64	34	2,326	2,414	96	96	140	2,973
Corn	181	172	106	6,744	7,322	92	85	100	10,157
Soybeans	71	44	161	4,842	4,289	113	86	56	6,525
Total	**274**	**279**	**98**	**13,912**	**14,024**	**99**	**88**	**92**	**19,656**
Great Lakes									
Wheat	0	24	0	266	342	78	172	91	536
Corn	7	0	n/a	148	94	158	n/a	n/a	145
Soybeans	0	0	n/a	239	89	270	0	0	592
Total	**7**	**24**	**30**	**653**	**524**	**125**	**134**	**58**	**1,273**
Atlantic									
Wheat	34	2	n/a	165	123	134	138	375	128
Corn	8	16	49	264	56	471	334	443	85
Soybeans	2	4	40	1,598	1,092	146	133	28	2,184
Total	**43**	**22**	**198**	**2,028**	**1,271**	**160**	**188**	**145**	**2,397**
U.S. total from ports*									
Wheat	703	620	113	17,273	20,458	84	134	131	23,969
Corn	650	540	120	43,348	52,485	83	100	91	62,932
Soybeans	605	307	197	28,834	23,051	125	96	45	52,612
Total	**1,958**	**1,467**	**133**	**89,455**	**95,994**	**93**	**111**	**80**	**139,512**

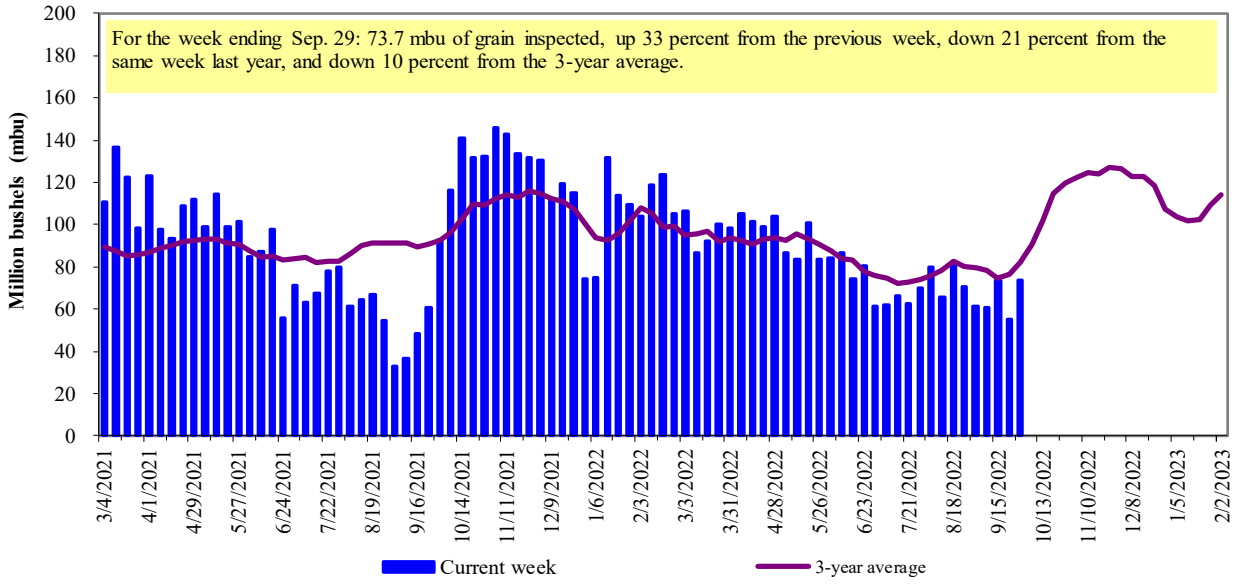
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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

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

Figure 14

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

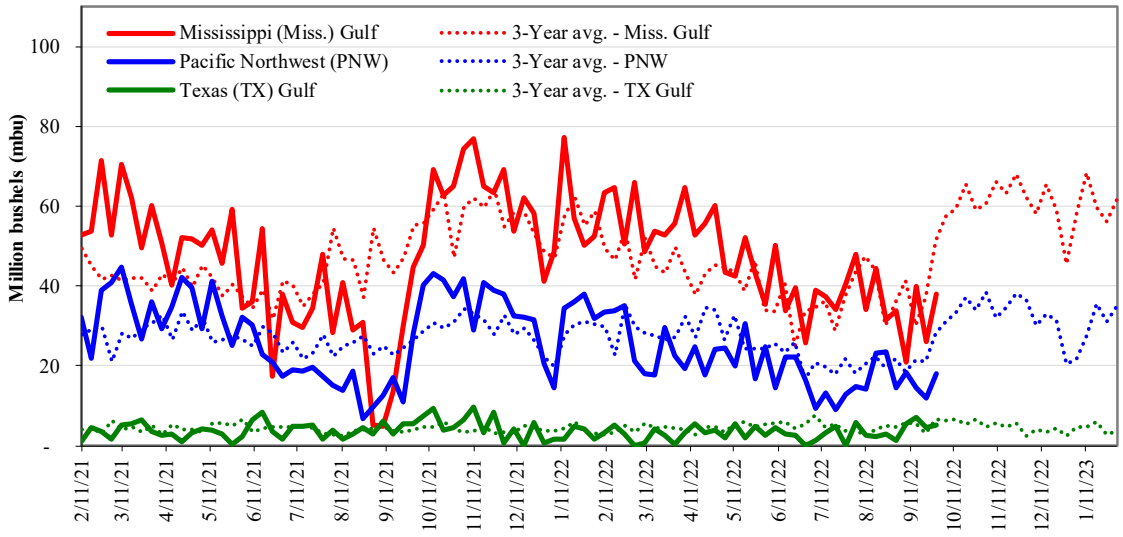


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 09/29/22 inspections (mbu):	
MS Gulf:	38.1
PNW:	17.9
TX Gulf:	5.3

Percent change	MS Gulf	TX	U.S. Gulf	PNW
Last wk:	up 45	up 12	up 40	up 50
Last Year (same wk):	down 15	down 3	down 14	down 36
3-yr avg. (4-wk. mov. Avg):	down 5	unchanged	down 4	down 20

Source: USDA, Federal Grain Inspection Service.

Table 17

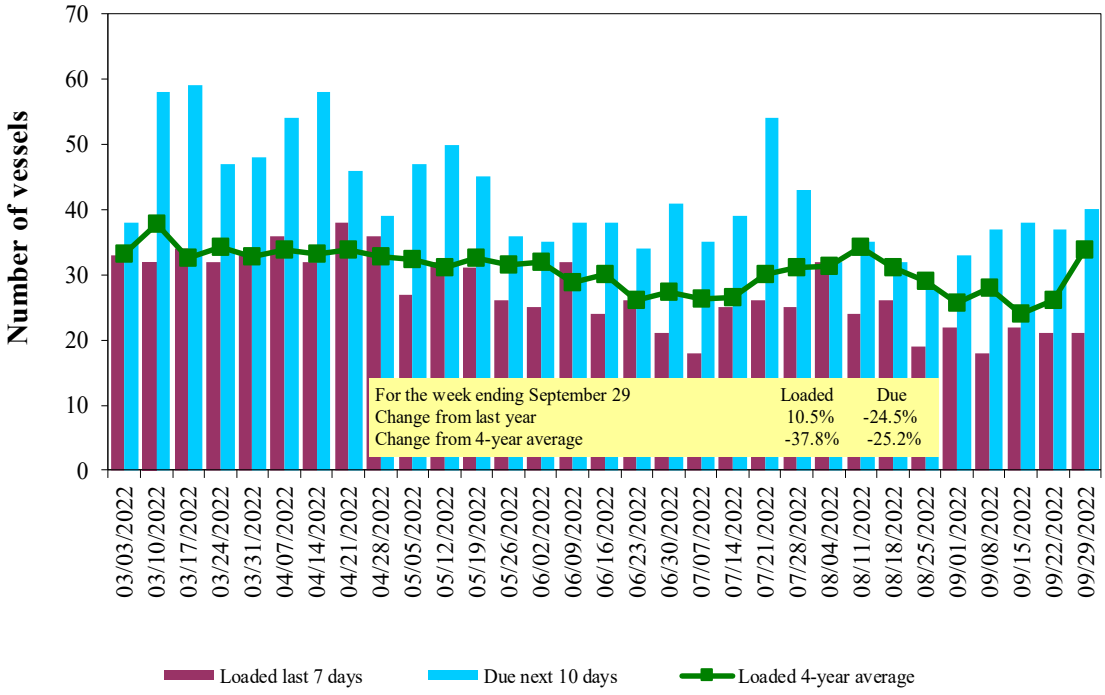
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
9/29/2022	36	21	40	10
9/22/2022	37	21	37	10
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 16

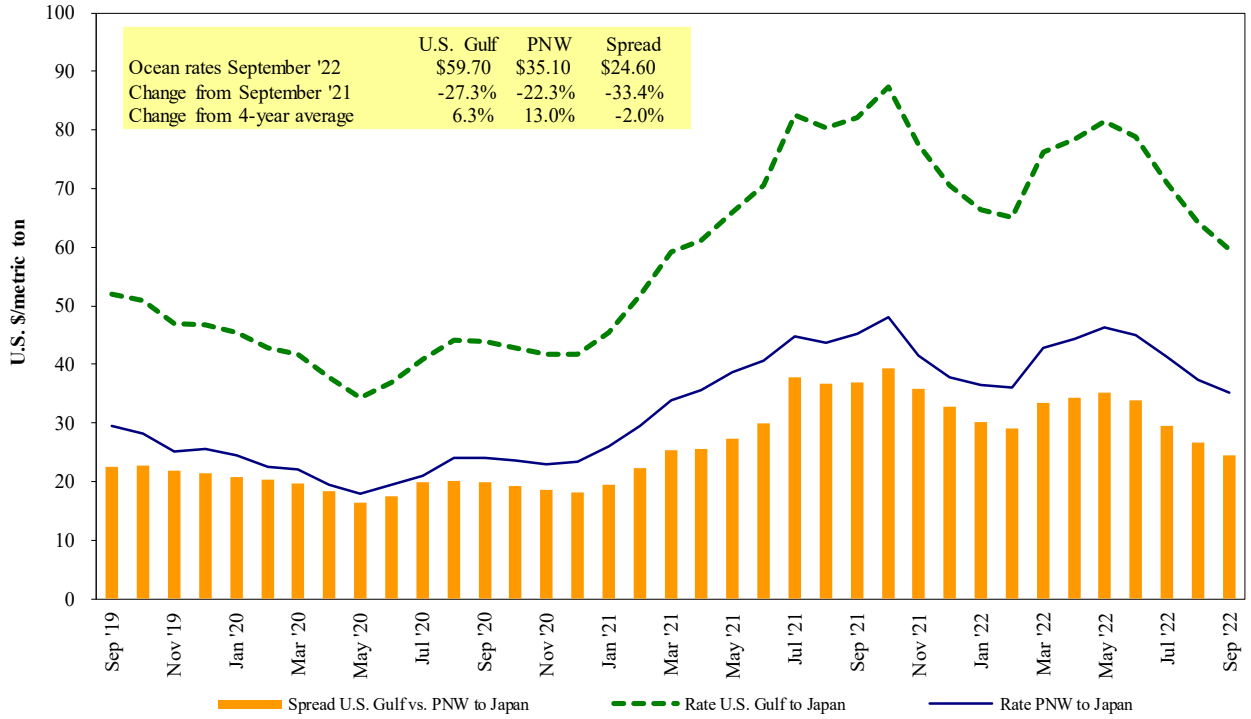
U.S. Gulf[1] vessel loading activity



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

Figure 17

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 18

Ocean freight rates for selected shipments, week ending 09/29/2022

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

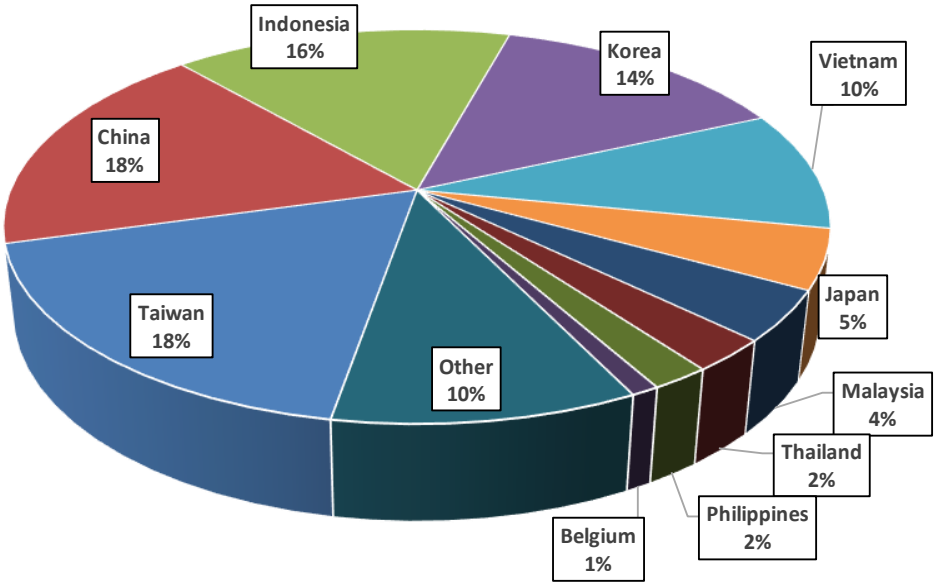
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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

Source: Maritime Research, Inc.

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

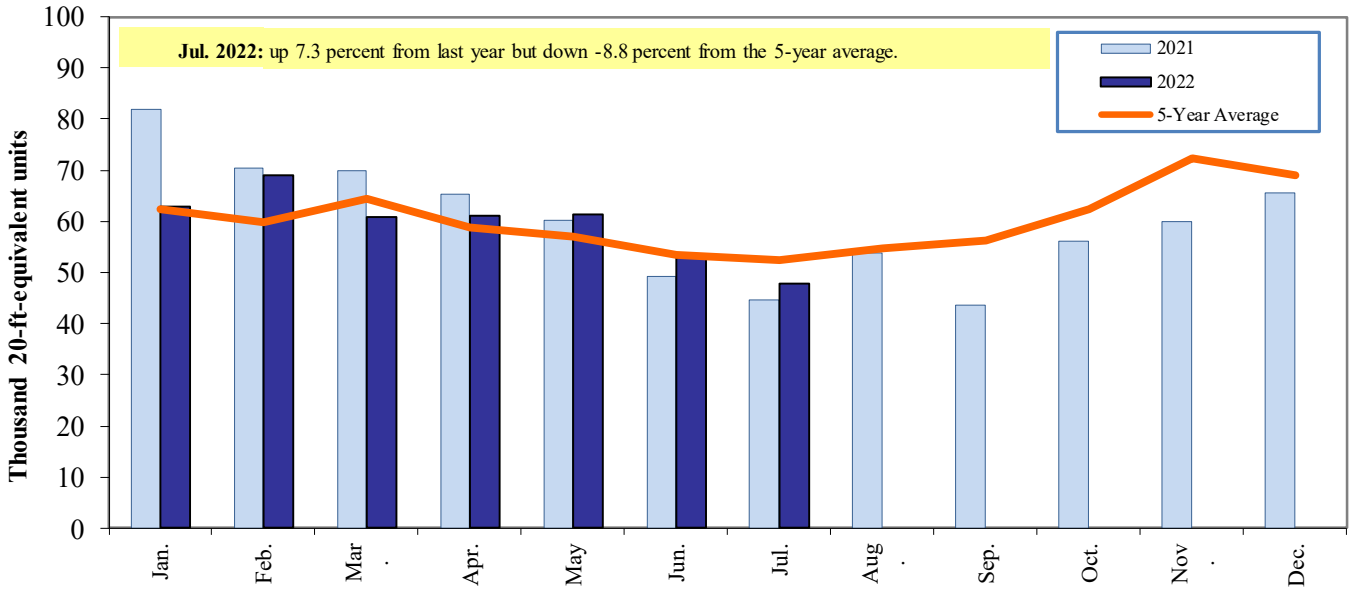
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Jul 2022



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '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 19
Monthly shipments of U.S. containerized grain exports



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

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

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