USDA United States Department of Agriculture

Grain Transportation Report

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

September 29, 2022

Contents

The next release is October 6, 2022

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WEEKLY HIGHLIGHTS

Diesel Price Falls to Lowest Since March

For the week ending September 26, the U.S. average price of diesel fell 7.5 cents to $4.889 per gallon. According to the U.S. Energy Information Administration (EIS), this price was $1.483 above the same time last year. This most recent price marks the first time since March that diesel was below $4.90 per gallon (having dipped to $4.849 on March 7). From August 29 to September 26, the U.S. average diesel price dropped by 22.6 cents a gallon. The price of diesel fell in all 10 regions. In the Midwest, the key grain-producing region, the diesel price showed the largest decrease, falling by 1.14 cents to $4.881 per gallon. In California, the price of diesel fell 3.9 cents to $6.110, the smallest decrease in any of the regions.

FMC Seeks Input on "Unreasonable Refusal To Deal" Definition

The Federal Maritime Commission (FMC) has requested public comment on how to define an ocean carrier's unreasonable refusal to deal or negotiate regarding vessel space accommodation. The definitions of "refusal to deal" and "vessel space accommodation" are central to a proposed FMC rule, as mandated by the Ocean Shipping Reform Act of 2022 and explained in a notice of public rulemaking. According to the proposed rule, FMC would determine carriers' unreasonable refusal on a case-by-case basis. For example, because many ocean carriers have had their vessels depart the United States with shiploads of empty containers, many agricultural producers are unable to secure transport for their exports. Also, per the rule, the burden of proving an unreasonable refusal would shift from the shipper to the carrier. Stakeholders are welcome to comment on the rule until October 13.

FMCSA Seeks Comments on Use of ELDs

The Federal Motor Carrier Safety Administration (FMCSA) seeks public comment on current regulations regarding the use of electronic logging devices (ELDs). The agency would like to clarify the rules' language and address technical concerns raised by industry stakeholders. FMCSA seeks comments on five areas for which it is considering changes: how the rules apply to pre-2000 engines; how to address ELD malfunctions; how ELD products should be removed from FMCSA's list of certified devices; how ELD technical specifications should be revised; and how ELDs should be certified. Comments can be submitted here by November 15, 2022.

FHWA Funds Emergency Relief Road and Bridge Repair

The U.S. Department of Transportation's Federal Highway Administration (FHWA) recently announced it will provide millions of dollars in emergency relief (ER) funding to help repair roads and bridges damaged by storms, floods, wildfires, and other events in recent years. The ER will include disbursements to the following major grain-producing States: Missouri, $12.0 million; Ohio, $2.1 million; Illinois, $1.5 million; North Dakota, $1.3 million; Iowa, $750,000; Minnesota, $230,000. FHWA notes that transportation infrastructure is facing more frequent and unpredictable damage from severe weather events. To address this rising threat, the agency intends the ER repairs to improve the infrastructure's durability.

Snapshots by Sector

Export Sales

For the week ending September 15, **unshipped balances** of wheat, corn, and soybeans for marketing year 2022/23 totaled 40.14 million metric tons (mmt), down 21 percent from the same time last year. For the new corn and soybean marketing year (begun September 1), net **corn export sales** were 0.182 mmt, and net **soybean export sales** were 0.446 mmt. Net weekly **wheat export sales** were 0.184 mmt, down 16 percent from last week.

Rail

U.S. Class I railroads originated 19,199 **grain carloads** during the week ending September 17. This was a 5-percent increase from the previous week, 1 percent fewer than last year, and 4 percent fewer than the 3-year average.

Average October shuttle **secondary railcar** bids/offers (per car) were $927 above tariff for the week ending September 22. This was $648 less than last week and $119 more than this week last year.

Barge

For the week ending September 24, **barged grain movements** totaled 220,300 tons. This was 5 percent higher than the previous week and 17 percent higher than the same period last year.

For the week ending September 24, 136 grain barges **moved down river**—6 more barges than last week. There were 489 grain barges **unloaded** in the New Orleans region, 16 percent fewer than last week.

Ocean

For the week ending September 22, 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 23), 37 vessels were expected to be loaded—30 percent fewer than the same period last year.

As of September 22, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $61.00. This was 1 percent less than the previous week. The rate from the Pacific Northwest to Japan was $36.00 per mt, down 1 percent from the previous week.

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Feature Article/Calendar

A Look at Rail and Barge Supply and Demand as Harvest Begins

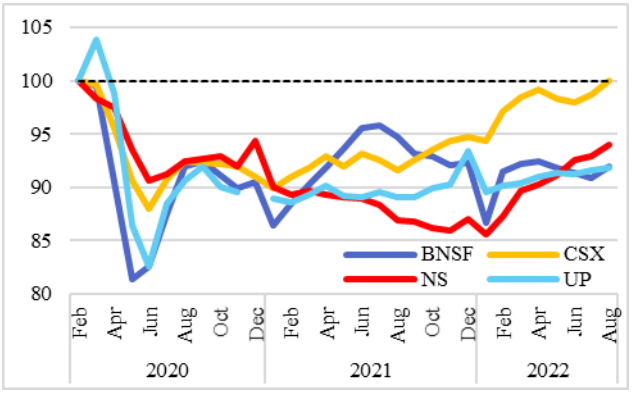
Across the country, farmers are harvesting corn and soybeans, which will boost the demand for grain transportation in the coming weeks. For the week ending September 25, 2022, major grain-producing States have harvested 12 percent of the corn crop and 8 percent of the soybean crop.[1] Grain shippers and receivers have dealt with a variety of transportation challenges in 2022, from congestion at ports to poor rail service. This feature looks at recent conditions and trends of rail and barge grain transportation and concludes with forward-looking transportation indicators, as harvest ramps up.

Some Progress in Rail Service but Issues Remain

The Class I railroads have struggled with service issues throughout the year. Poor service in the first half of the year led to a 2-day hearing in April at the Surface Transportation Board (STB) on urgent rail service issues. The railroads were also required to provide detailed service recovery plans and weekly status updates to STB. Since June, grain rail service has improved, but some issues remain, and at the same time, grain carloads have been declining (***GTR* fig. 3**). It is unclear whether railroads have in fact improved their ability to handle grain demand, or whether the improved grain metrics only reflect less grain moving on the rail network.

The metric of unfilled grain car orders reported to the STB every week illustrates these trends in service issues. Across all seven Class I railroads, this number peaked in June at its highest level ever reported since data collection started in 2017. Since then, the number of unfilled grain car orders has declined significantly, but as of September 21, it is still 457 percent above the average of the same weeks in 2018-21. There are also important differences across railroads. BNSF Railway (BNSF) reduced its unfilled grain car orders from a peak of 11,365 in June, to only 479 in the latest data. In contrast, Union Pacific Railroad (UP) has only reduced its unfilled orders from an August peak of 7,006 unfilled grain car orders to 5,674 cars in the latest data. These data suggest grain performance during harvest could vary significantly across railroads.

Figure 1: Index of transportation employment for major railroads, February 2020 = 100



Source: USDA, Agricultural Marketing Service analysis of Surface Transportation Board data.

Throughout the service crisis, railroads have consistently cited labor shortages as the primary cause behind the disruptions. In the early months of the pandemic, facing temporarily low demand, the railroads accelerated a years-long trend of cutting their labor force.[2] However, when demand picked up, they were then trying to rehire amid tight labor markets. Figure 1 shows transportation employment trends for the four major U.S. railroads, where employment is indexed to the pre-pandemic levels. The figure shows that CSX Transportation (CSX) and Norfolk Southern Railway (NS) have both made progress in hiring, since the start of the year, however Norfolk Southern is still well below pre-pandemic employment levels. Both BNSF and UP have made much less progress increasing their transportation workforce since the start of the year, and both also remain well below pre-pandemic levels. Although rail service metrics have improved, the fact that transportation employment remains low raises questions about how well railroads can handle grain rail demand through the rest of the harvest season.

[1] USDA, National Agricultural Statistics Service, September 26, 2022, *Crop Progress* report. The percentages reflect the top 18 States, which harvested 93 percent of the corn acreage and 96 percent of the soybean acreage in 2021.

[2] According STB employment data, Class I rail transportation employment fell from 68,186 in January 2019 to 56,767 in February 2020—a decline of 17 percent. Transportation employment reached a low of 47,671 in June 2020, 17 percent lower than the February 2020 level.

Tight Barge Supply Has Reduced Volumes and Increased Rates

The barge industry has had to balance a tight supply with increased demand throughout the year. During the winter, severe storms and icy conditions limited barge traffic on the Upper Mississippi River. In the spring, rising coal exports to replace reduced Russian coal and gas from the war in Ukraine—along with high waters levels—reduced barge capacity and increased demand for the use of barges. For example, from March 1 to May 31, total downbound non-grain volumes on the Mississippi River reached 14.3 million tons, 7 percent higher than the 5-year average and 3 percent higher than the same time period last year. In the summer, hot temperatures throughout the Midwest and low river levels in the lower Mississippi River led to draft and tow restrictions. At the same time, the barge industry, like the rail industry, has struggled to hire and maintain workers.

Tight barge supply has resulted in low grain barge volumes and high rates, especially recently. For the week ending September 24, year-to-date downbound grain volumes on the Mississippi river reached 23.9 million tons, 4 percent lower than the 5-year average and 10 percent lower than the same period last year (***GTR* table 10**). Since the beginning of September, 1,890 grain barges have unloaded in New Orleans, about 39 percent fewer than the 5-year average. Similarly, barge freight rates have increased steadily since early August. As of September 27, the St. Louis barge rate for export grain was a record 1,250 percent of tariff ($49.88 per ton), 95 percent higher than the 5-year average, and 58 percent higher than same period last year.

The tight barge supply is problematic for grain shippers heading into harvest. Unless barge supply improves, the increased demand for barges from grain shippers during harvest will likely put even more upward pressure on barge rates.

A Look Forward

USDA's September *World Agricultural Supply and Demand Estimates (WASDE)* report projected marketing year (MY) 2022/23 corn production at 13.9 billion bushels and soybean production, at 4.4 billion bushels—down 8 percent and 1 percent, respectively, from MY 2021/22. MY 2022/23 corn exports were projected at 2.3 billion bushels and soybean exports, at 2.1 billion bushels—down 8 percent and 3 percent, respectively, from MY 2021/22. Lower production and reduced exports will both translate into lower grain demand for rail and barge, which should make harvest transportation demand more manageable, despite ongoing supply issues.

Bids for railcars in the secondary auction markets can provide an indication of rail shippers' expectations of service in the coming months. If shippers are concerned about their ability to obtain cars from railroads, they will bid more in the auction markets to ensure car service. Average bids for service in October, November, and December (fourth quarter) have been well above average since March. So far in September, bids for fourth quarter service have averaged $1,370, over $1,000 more than average September bids for fourth quarter service between 2018 and 2021. However, bids for service in October and November have both come down significantly in the last few weeks (***GTR* figs. 4 and 5**). These trends suggest shippers' expectations about harvest rail service have improved recently, despite lingering service issues.

As a parallel indicator for barge, the average St. Louis 3-month barge rates for October, November, and December (bid in July, August, and September, respectively) have all exceeded the 5-year average. The October rate averaged 802 percent of tariff ($32.00 per ton), 67 percent higher than the 5-year average of 479 percent of tariff ($19.11 per ton), and 84 percent higher than last year's value of 436 percent of tariff ($17.40 per ton). The November and December rates have come down 26 percent and 31 percent, respectively, from the October rate, though both are well above the 5-year average. Similar to rail, these data suggest that, while expectations about harvest barge rates have somewhat improved, the barge industry still expects rates to remain high through harvest.

Jesse.Gastelle@usda.gov, *Richard.Henderson2@usda.gov*, *PeterA.Caffarelli@usda.gov*

Grain Transportation Indicators

Table 1

Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
09/28/22	328	335	298	643	273	255
09/21/22	333	335	326	529	275	259

[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	9/23/2022	9/16/2022
Corn	IL–Gulf	-1.44	-1.27
Corn	NE–Gulf	-1.13	-0.97
Soybean	IA–Gulf	-2.47	-2.40
HRW	KS–Gulf	-2.74	-2.73
HRS	ND–Portland	-3.04	-2.95

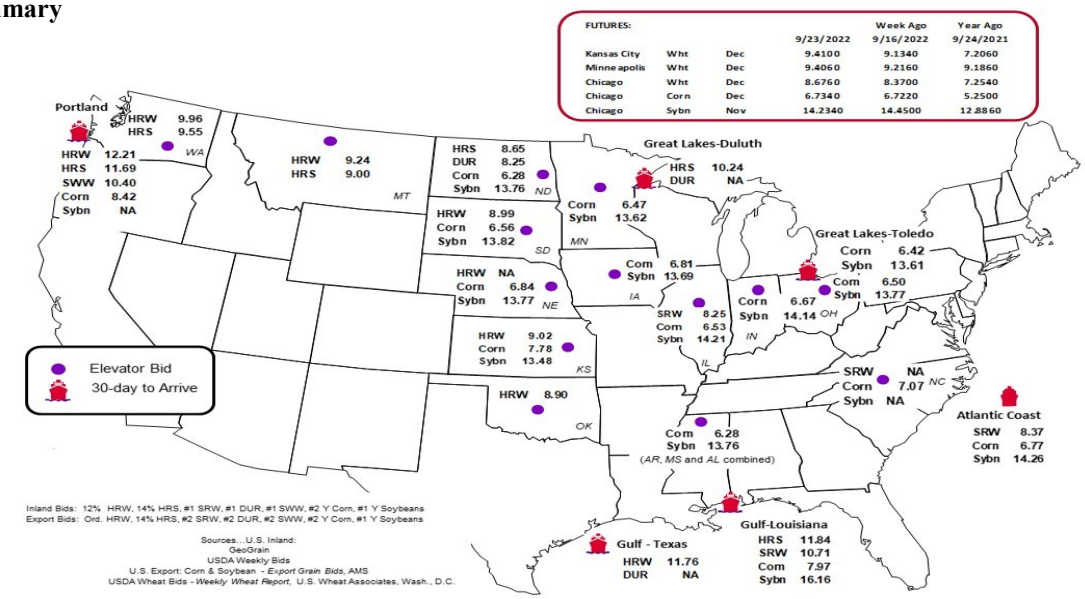
Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

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]
9/21/2022[p]	320	644	3,034	98	4,096	9/17/2022	2,338
9/14/2022[r]	318	572	1,800	95	2,785	9/10/2022	2,775
2022 YTD[r]	42,030	30,477	180,590	15,741	268,838	2022 YTD	101,888
2021 YTD[r]	37,095	47,442	198,462	10,633	293,632	2021 YTD	105,835
2022 YTD as % of 2021 YTD	113	64	91	148	92	% of 2021 YTD	96
Last 4 weeks as % of 2021[2]	225	77	91	98	94	Last 4wks. % 2021	94
Last 4 weeks as % of 4-year avg.[2]	48	55	55	37	54	Last 4wks. % 4 yr.	104
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.

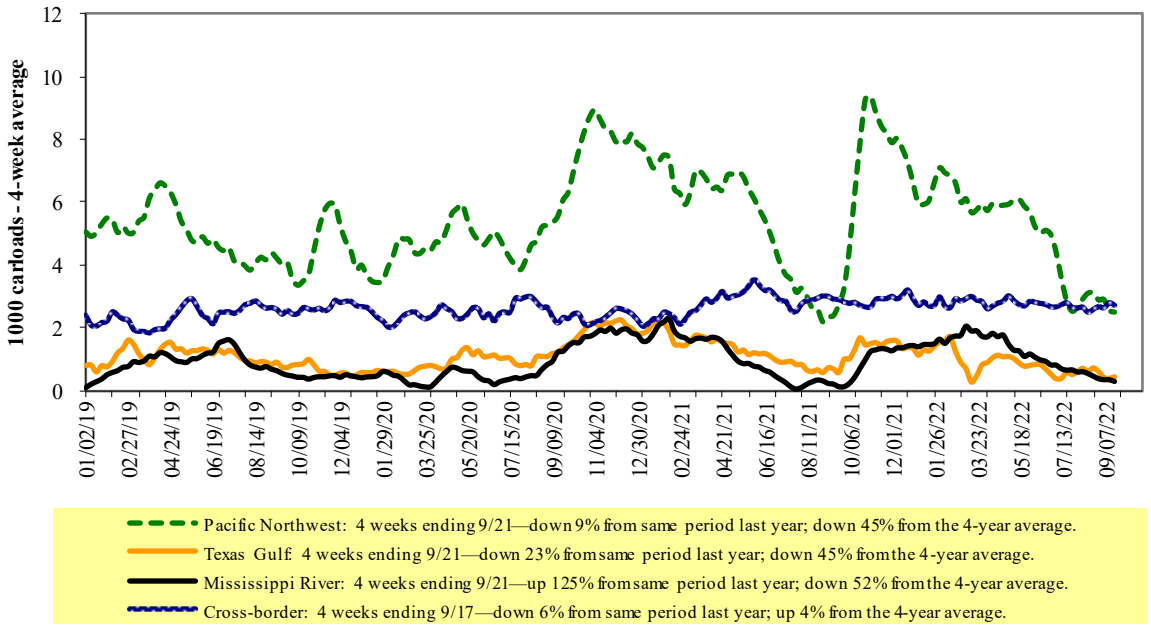
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

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	
9/17/2022	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,077	1,936	9,435	1,330	5,421	19,199	5,459	5,249
This week last year	1,165	1,237	9,940	1,528	5,550	19,420	2,880	3,522
2022 YTD	64,374	88,694	399,314	45,244	211,570	809,196	126,949	128,735
2021 YTD	65,318	88,674	423,301	42,903	224,495	844,691	150,005	175,800
2022 YTD as % of 2021 YTD	99	100	94	105	94	96	85	73
Last 4 weeks as % of 2021*	109	139	113	86	105	110	111	120
Last 4 weeks as % of 3-yr. avg.**	94	105	93	100	104	98	100	95
Total 2021	93,935	120,639	609,890	64,818	318,002	1,207,284	210,001	242,533

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

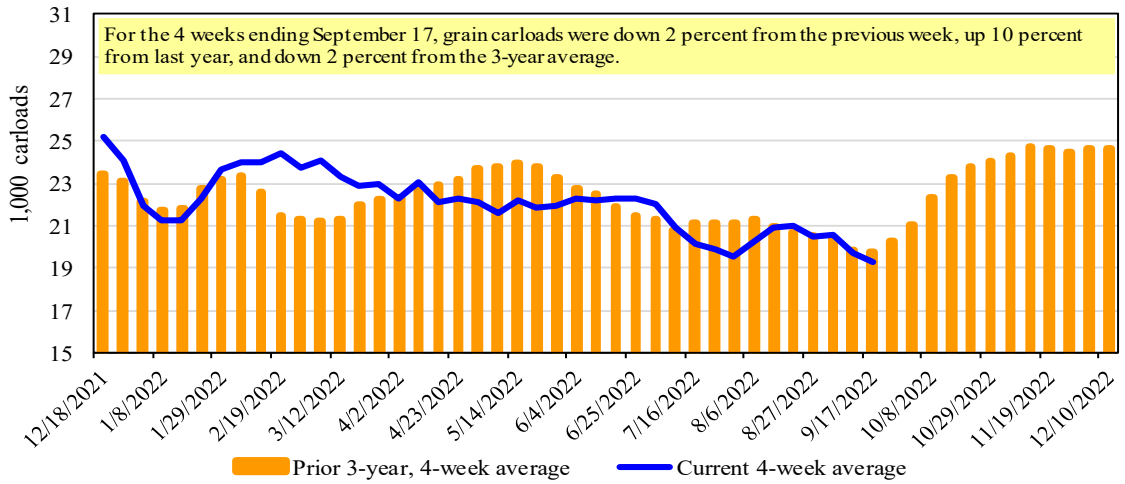
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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							
9/22/2022		Oct-22	Oct-21	Nov-22	Nov-21	Dec-22	Dec-21	Jan-23	Jan-22
BNSF[3]	COT grain units	0	0	no bids	0	0	0	no bids	0
	COT grain single-car	0	76	0	0	0	0	no bids	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.

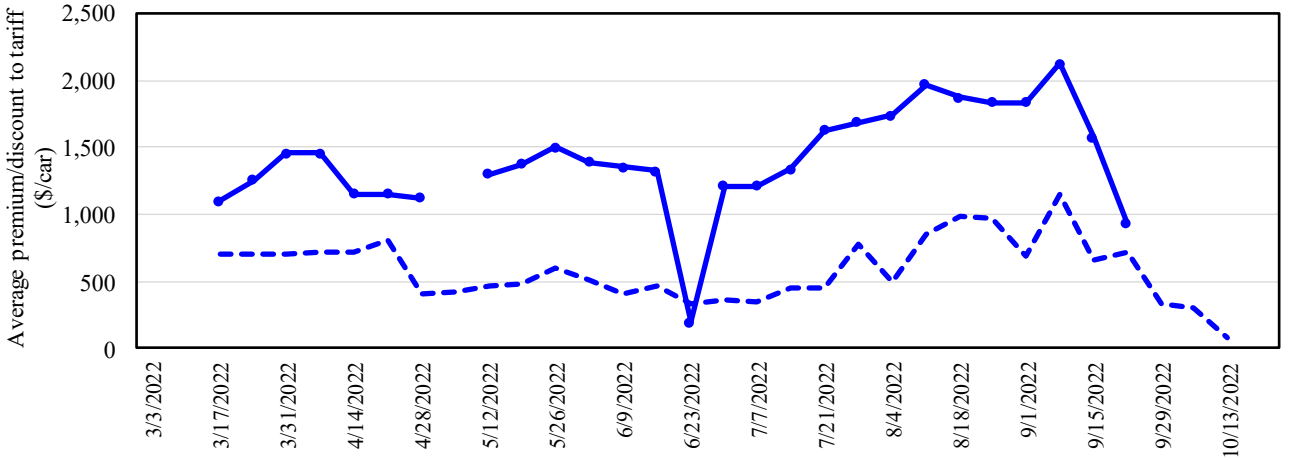
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

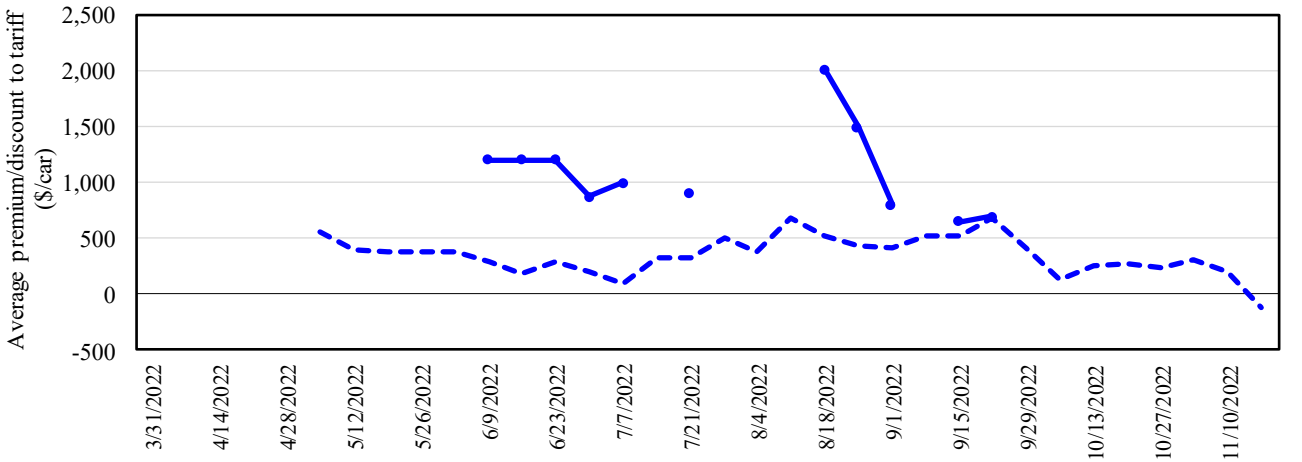


9/22/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$1,092	$763

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $648 this week and are $1,198 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



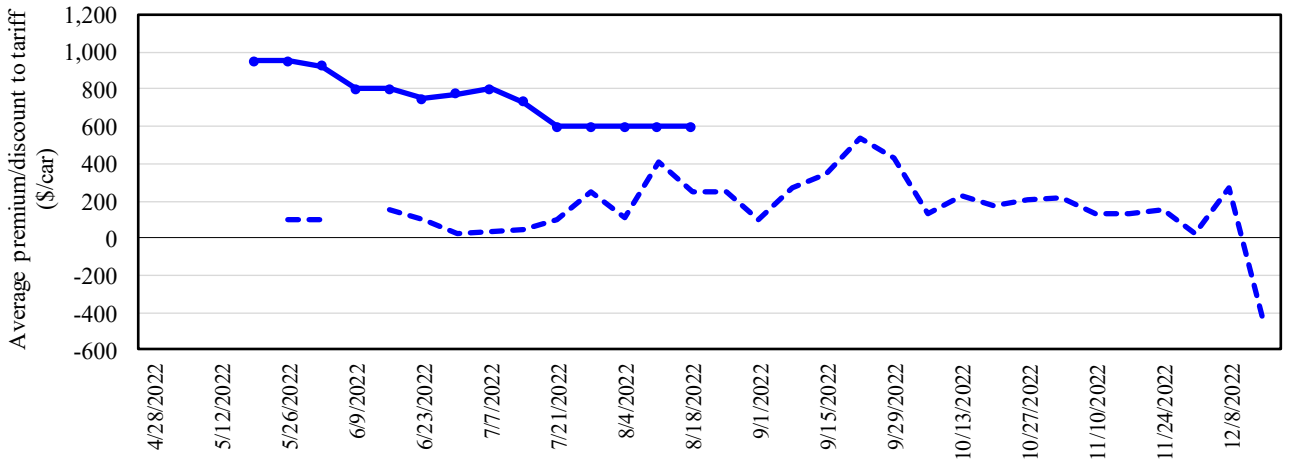
9/22/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$694	n/a

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $44 this week and are $1,315 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



9/22/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	n/a

There were no non-shuttle bids/offers this week.
There were no shuttle bids/offers this week.

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: 9/22/2022	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**	**1,092**	**694**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(308)	44	n/a	n/a	n/a	n/a
	Change from same week 2021	473	194	n/a	n/a	n/a	n/a
	UP-Pool	**763**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(987)	n/a	n/a	n/a	n/a	n/a
	Change from same week 2021	(235)	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]

September 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	$344	$40.11	$1.09	6
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$167	$39.97	$1.09	10
	Wichita, KS	Los Angeles, CA	$7,490	$857	$82.89	$2.26	17
	Wichita, KS	New Orleans, LA	$4,600	$605	$51.69	$1.41	10
	Sioux Falls, SD	Galveston-Houston, TX	$7,226	$703	$78.74	$2.14	16
	Colby, KS	Galveston-Houston, TX	$4,850	$663	$54.75	$1.49	9
	Amarillo, TX	Los Angeles, CA	$5,121	$923	$60.02	$1.63	11
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$684	$46.52	$1.18	13
	Toledo, OH	Raleigh, NC	$8,551	$757	$92.43	$2.35	19
	Des Moines, IA	Davenport, IA	$2,505	$145	$26.31	$0.67	6
	Indianapolis, IN	Atlanta, GA	$6,593	$568	$71.12	$1.81	20
	Indianapolis, IN	Knoxville, TN	$5,564	$368	$58.91	$1.50	18
	Des Moines, IA	Little Rock, AR	$4,000	$426	$43.95	$1.12	9
	Des Moines, IA	Los Angeles, CA	$5,880	$1,240	$70.70	$1.80	14
Soybeans	Minneapolis, MN	New Orleans, LA	$4,431	$1,077	$54.70	$1.49	41
	Toledo, OH	Huntsville, AL	$7,037	$539	$75.24	$2.05	15
	Indianapolis, IN	Raleigh, NC	$7,843	$767	$85.51	$2.33	21
	Indianapolis, IN	Huntsville, AL	$5,689	$364	$60.11	$1.64	15
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$684	$55.11	$1.50	13
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$493	$48.52	$1.32	17
	Wichita, KS	Galveston-Houston, TX	$4,611	$384	$49.60	$1.35	18
	Chicago, IL	Albany, NY	$7,090	$715	$77.50	$2.11	22
	Grand Forks, ND	Portland, OR	$6,051	$851	$68.54	$1.87	18
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$886	$62.42	$1.70	10
	Colby, KS	Portland, OR	$5,923	$1,087	$69.62	$1.89	9
Corn	Minneapolis, MN	Portland, OR	$5,380	$1,037	$63.72	$1.62	24
	Sioux Falls, SD	Tacoma, WA	$5,340	$949	$62.45	$1.59	22
	Champaign-Urbana, IL	New Orleans, LA	$3,920	$684	$45.72	$1.16	13
	Lincoln, NE	Galveston-Houston, TX	$4,080	$553	$46.01	$1.17	19
	Des Moines, IA	Amarillo, TX	$4,420	$535	$49.21	$1.25	10
	Minneapolis, MN	Tacoma, WA	$5,380	$1,028	$63.64	$1.62	24
	Council Bluffs, IA	Stockton, CA	$5,300	$1,063	$63.19	$1.61	25
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$949	$72.48	$1.97	21
	Minneapolis, MN	Portland, OR	$6,400	$1,037	$73.85	$2.01	22
	Fargo, ND	Tacoma, WA	$6,250	$844	$70.45	$1.92	19
	Council Bluffs, IA	New Orleans, LA	$5,095	$789	$58.43	$1.59	14
	Toledo, OH	Huntsville, AL	$4,797	$539	$52.99	$1.44	8
	Grand Island, NE	Portland, OR	$5,730	$1,113	$67.96	$1.85	21

[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]	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.

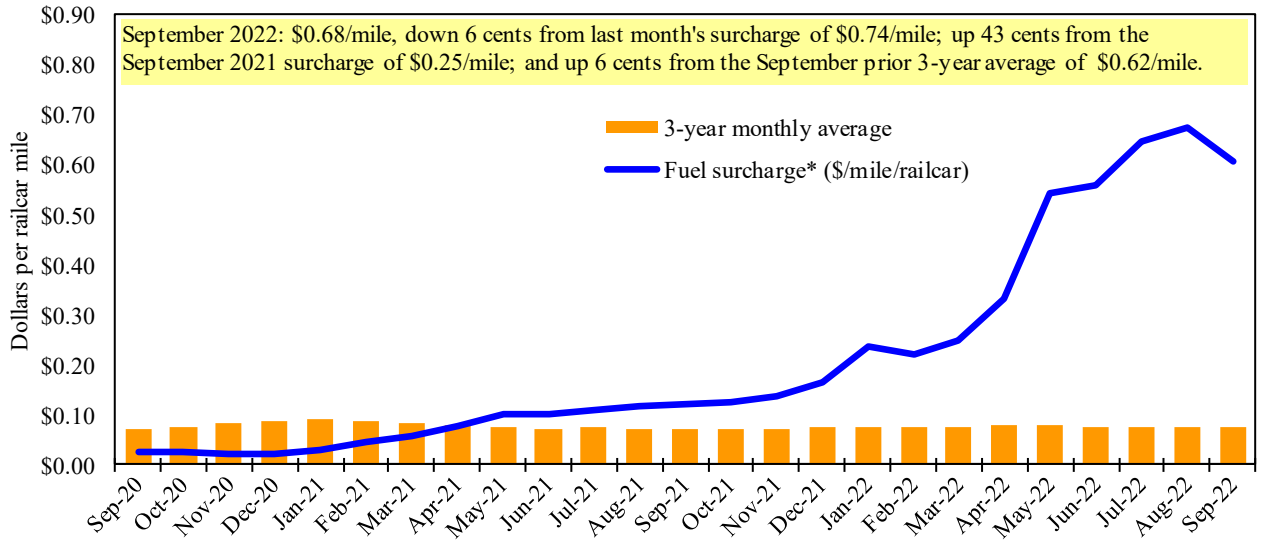
[4]Percentage change calculated using tariff rate plus fuel surchage; Y/Y = year over year.

[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.

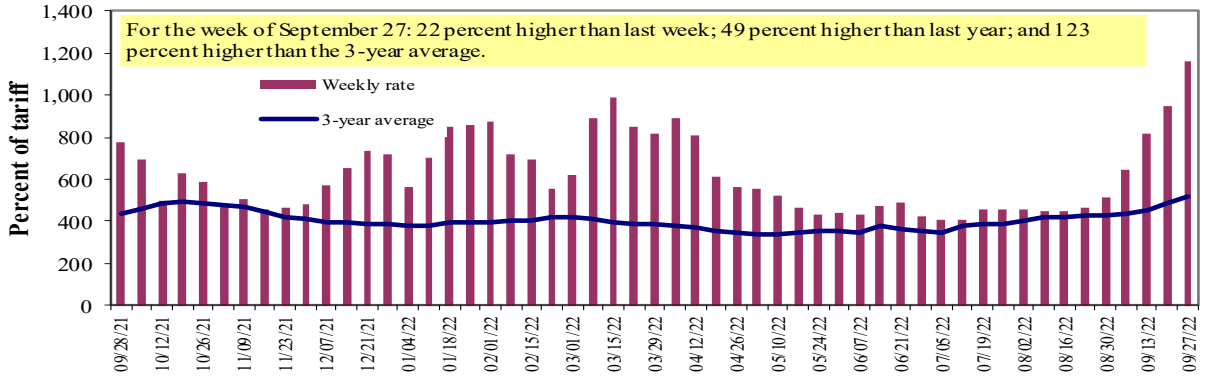
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

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

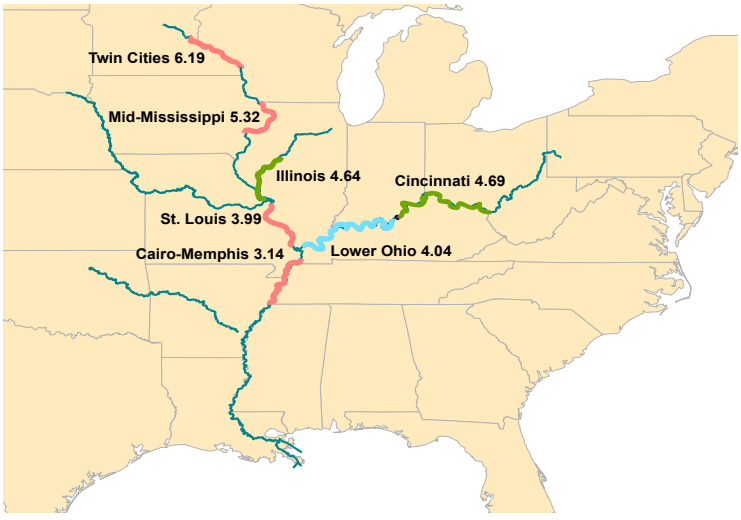
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	9/27/2022	1168	1214	1157	1250	1350	1350	1429
	9/20/2022	972	959	952	955	980	980	925
$/ton	9/27/2022	72.30	64.58	53.68	49.88	63.32	54.54	44.87
	9/20/2022	60.17	51.02	44.17	38.10	45.96	39.59	29.05
Current week % change from the same week:								
	Last year	61	41	49	48	58	58	43
	3-year avg. [2]	136	140	-	179	176	176	189
Rate[1]	October	1146	1200	1168	1211	1243	1243	1264
	December	-	-	686	563	661	661	538

[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

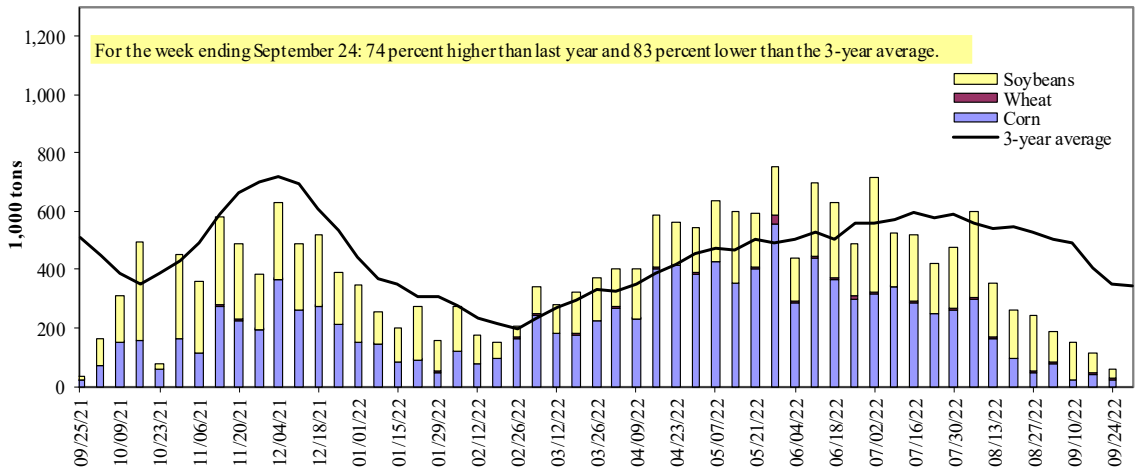
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 09/24/2022	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	2	2	9	0	13
Winfield, MO (L25)	21	2	16	0	38
Alton, IL (L26)	34	2	38	0	73
Granite City, IL (L27)	24	3	32	0	59
Illinois River (La Grange)	11	0	19	0	30
Ohio River (Olmsted)	68	0	44	2	114
Arkansas River (L1)	13	4	31	0	48
Weekly total - 2022	105	7	106	2	220
Weekly total - 2021	111	28	46	3	188
2022 YTD[1]	13,296	1,469	8,884	190	23,839
2021 YTD[1]	18,971	1,416	6,083	225	26,695
2022 as % of 2021 YTD	70	104	146	85	89
Last 4 weeks as % of 2021[2]	128	52	125	111	109
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.

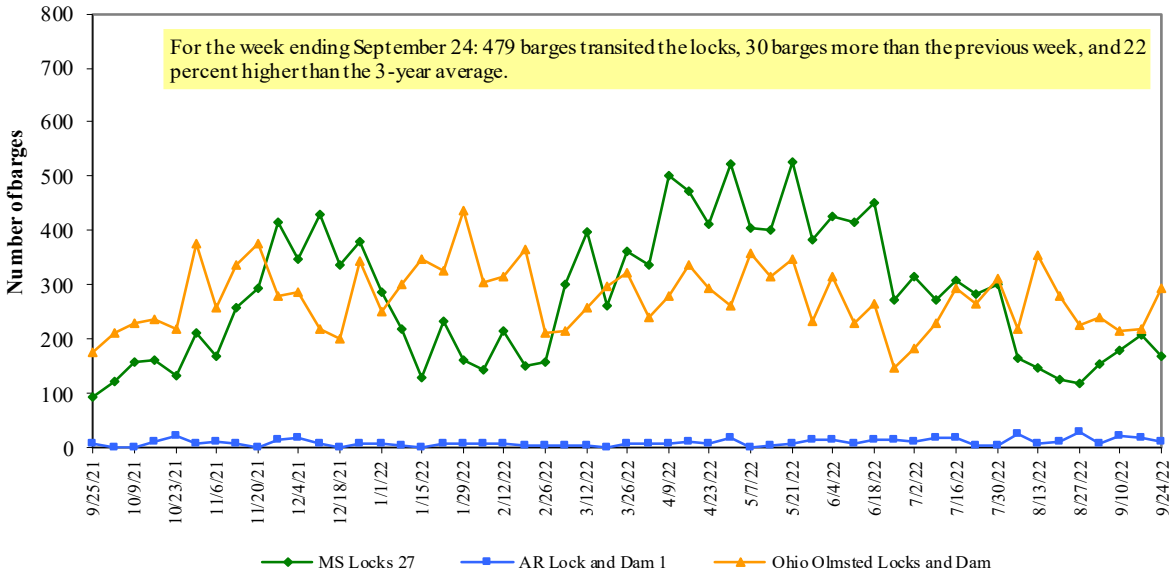
[2] As a percent of same period in 2021.

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 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

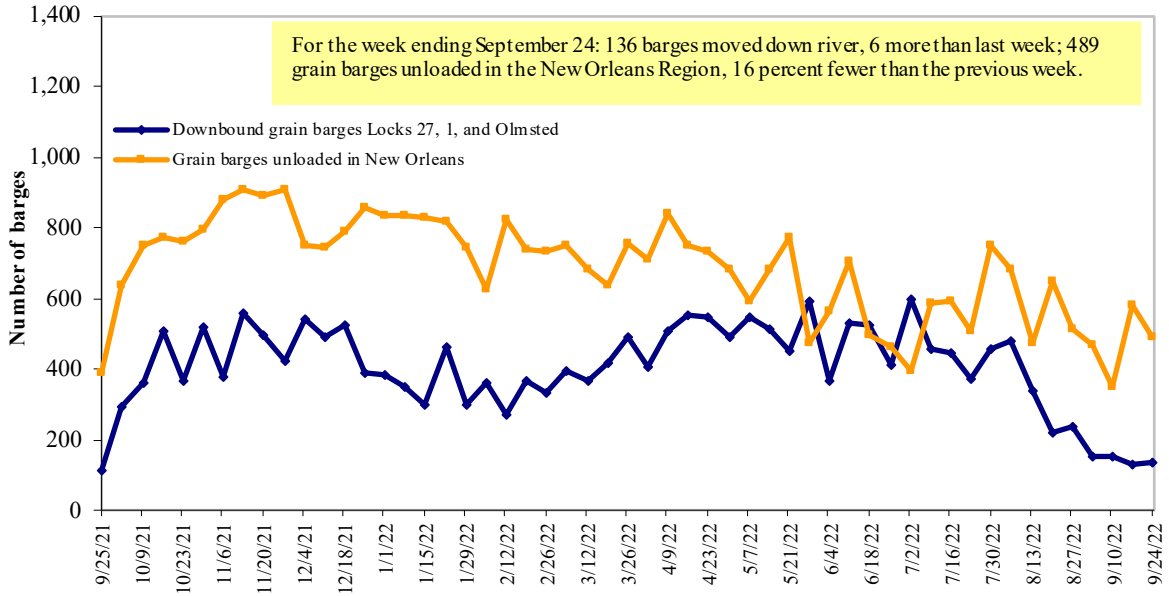


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

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 9/26/2022 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.836	-0.053	1.465
	New England	4.967	-0.044	1.668
	Central Atlantic	5.024	-0.069	1.510
	Lower Atlantic	4.752	-0.048	1.464
II	Midwest	4.881	-0.114	1.555
III	Gulf Coast	4.623	-0.067	1.481
IV	Rocky Mountain	4.885	-0.047	1.280
V	West Coast	5.567	-0.045	1.535
	West Coast less California	5.094	-0.050	1.430
	California	6.110	-0.039	1.771
Total	United States	4.889	-0.075	1.483

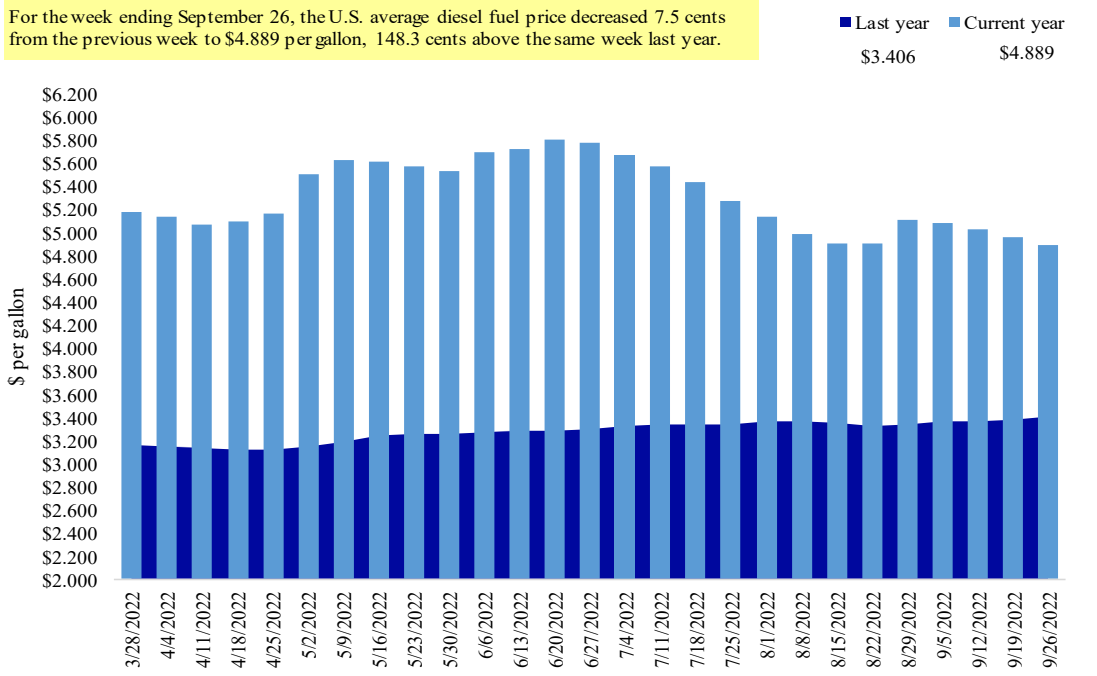
[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

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



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]									
9/15/2022	1,057	491	1,227	1,010	115	3,899	11,457	24,782	40,139
This week year ago	1,573	750	981	576	66	3,944	24,100	22,660	50,704
Cumulative exports-marketing year[2]									
2022/23 YTD	1,935	1,367	1,822	1,348	34	6,507	1,027	945	8,478
2021/22 YTD	2,538	946	1,945	1,351	61	6,840	846	533	8,219
YTD 2022/23 as % of 2021/22	76	145	94	100	56	95	121	177	103
Last 4 wks. as % of same period 2021/22	79	92	132	210	152	115	38	85	65
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 09/15/2022	Total commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
		1,000 mt -		
Mexico	4922.6	5,381	(9)	15,227
China	3367	11,905	(72)	12,616
Japan	991	1,759	(44)	10,273
Columbia	253	854	(70)	4,398
Korea	7	72	(91)	2,563
Top 5 importers	**9,540**	**19,971**	(52)	**45,077**
Total U.S. corn export sales	**12,484**	**24,946**	(50)	**56,665**
% of projected exports	22%	40%		
Change from prior week[2]	**182**	**373**		
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 09/15/2022	Total commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
				- 1,000 mt -
China	13,325	10,992	21	27,283
Mexico	1,635	1,618	1	4,929
Egypt	574	492	17	3,553
Japan	564	549	3	2,266
Indonesia	231	155	49	2,116
Top 5 importers	**16,330**	**13,806**	18	**40,147**
Total U.S. soybean export sales	**25,727**	**23,192**	11	**54,231**
% of projected exports	45%	40%		
change from prior week[2]	**446**	**903**		
Top 5 importers' share of U.S. soybean export sales	63%	60%		**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 9/15/2022	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	1,814	1,858	(2)	3,388
Philippines	1,363	1,627	(16)	3,121
Japan	1,047	1,098	(5)	2,567
Korea	607	661	(8)	1,501
Nigeria	515	1,186	(57)	1,490
China	609	846	(28)	1,268
Taiwan	360	400	(10)	1,187
Indonesia	231	0	115150	1,131
Thailand	242	283	(15)	768
Italy	199	118	69	681
Top 10 importers	**6,987**	**8,076**	(13)	**17,102**
Total U.S. wheat export sales	**10,406**	**10,785**	(4)	**24,617**
% of projected exports	46%	49%		
change from prior week[2]	**184**	**356**		
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 09/22/22	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	325	391	83	7,604	11,441	66	128	114	13,243
Corn	0	0	n/a	8,952	12,368	72	146	21	13,420
Soybeans	0	0	n/a	5,212	3,986	131	63	21	14,540
Total	**325**	**391**	**83**	**21,768**	**27,795**	**78**	**118**	**72**	**41,203**
Mississippi Gulf									
Wheat	43	205	21	3,614	2,429	149	554	163	3,202
Corn	264	390	68	26,140	31,466	83	174	111	38,498
Soybeans	226	465	49	16,375	12,182	134	215	53	27,159
Total	**533**	**1,060**	**50**	**46,130**	**46,077**	**100**	**216**	**79**	**68,858**
Texas Gulf									
Wheat	91	190	48	2,577	3,105	83	107	115	3,888
Corn	0	0	n/a	557	468	119	50	52	627
Soybeans	0	0	n/a	2	656	0	n/a	0	1,611
Total	**91**	**190**	**48**	**3,136**	**4,230**	**74**	**99**	**90**	**6,126**
Interior									
Wheat	64	80	79	2,305	2,393	96	92	151	2,973
Corn	171	129	132	6,562	7,121	92	82	92	10,157
Soybeans	41	77	53	4,767	4,179	114	93	61	6,525
Total	**276**	**287**	**96**	**13,634**	**13,693**	**100**	**87**	**93**	**19,656**
Great Lakes									
Wheat	24	10	237	266	319	84	291	112	536
Corn	0	0	n/a	141	94	150	23	40	145
Soybeans	0	0	n/a	239	67	357	n/a	0	592
Total	**24**	**10**	**237**	**646**	**479**	**135**	**149**	**59**	**1,273**
Atlantic									
Wheat	2	4	37	130	123	106	28	73	128
Corn	16	20	80	256	43	599	431	673	85
Soybeans	4	4	93	1,597	1,086	147	251	29	2,184
Total	**22**	**29**	**76**	**1,983**	**1,252**	**158**	**143**	**78**	**2,397**
U.S. total from ports*									
Wheat	548	881	62	16,497	19,810	83	137	124	23,969
Corn	451	540	84	42,609	51,560	83	125	91	62,932
Soybeans	271	547	50	28,192	22,157	127	154	46	52,612
Total	**1,270**	**1,967**	**65**	**87,298**	**93,526**	**93**	**137**	**80**	**139,512**

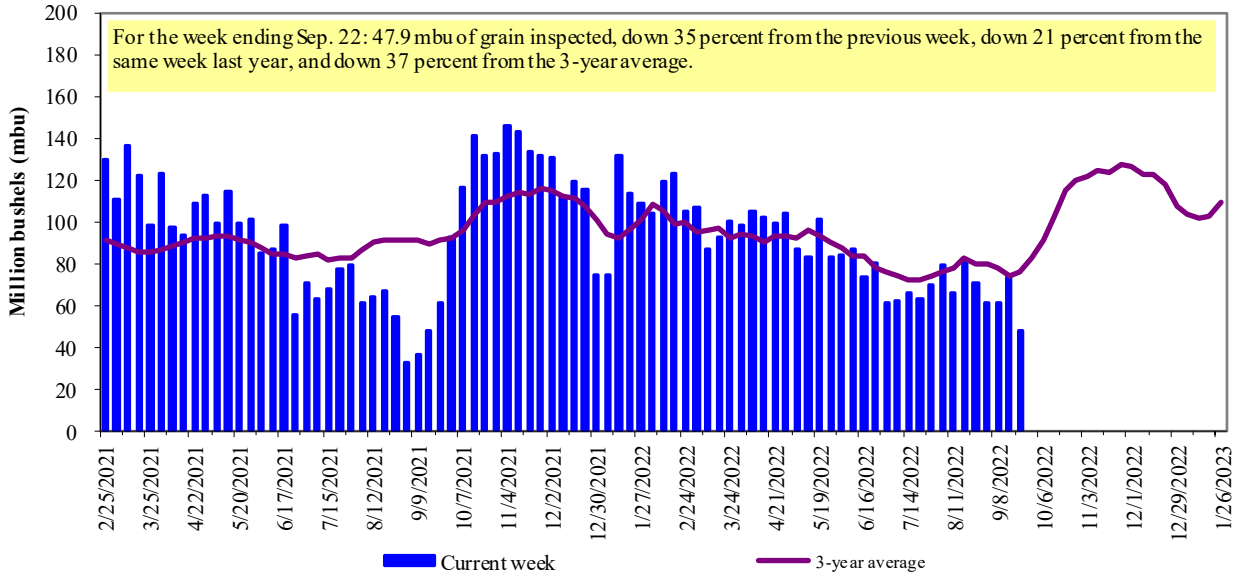
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

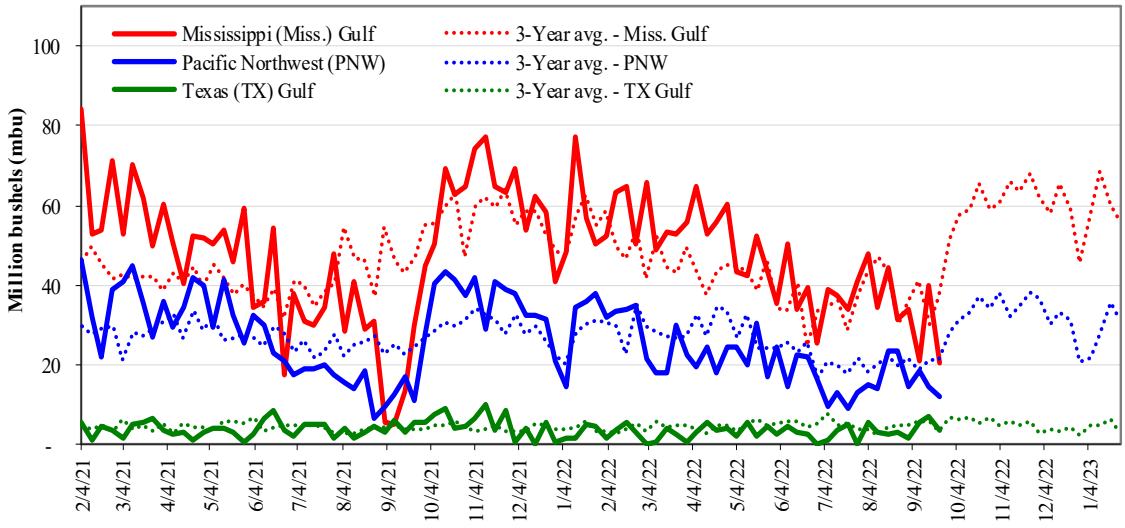


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 09/22/22 inspections (mbu):	
MS Gulf:	20.3
PNW:	12.0
TX Gulf:	3.3

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 49	down 52	down 50	down 17
Last Year (same wk):	down 32	down 41	down 34	up 9
3-yr avg. (4-wk. mov. Avg):	down 44	down 31	down 42	down 42

Source: USDA, Federal Grain Inspection Service.

Table 17

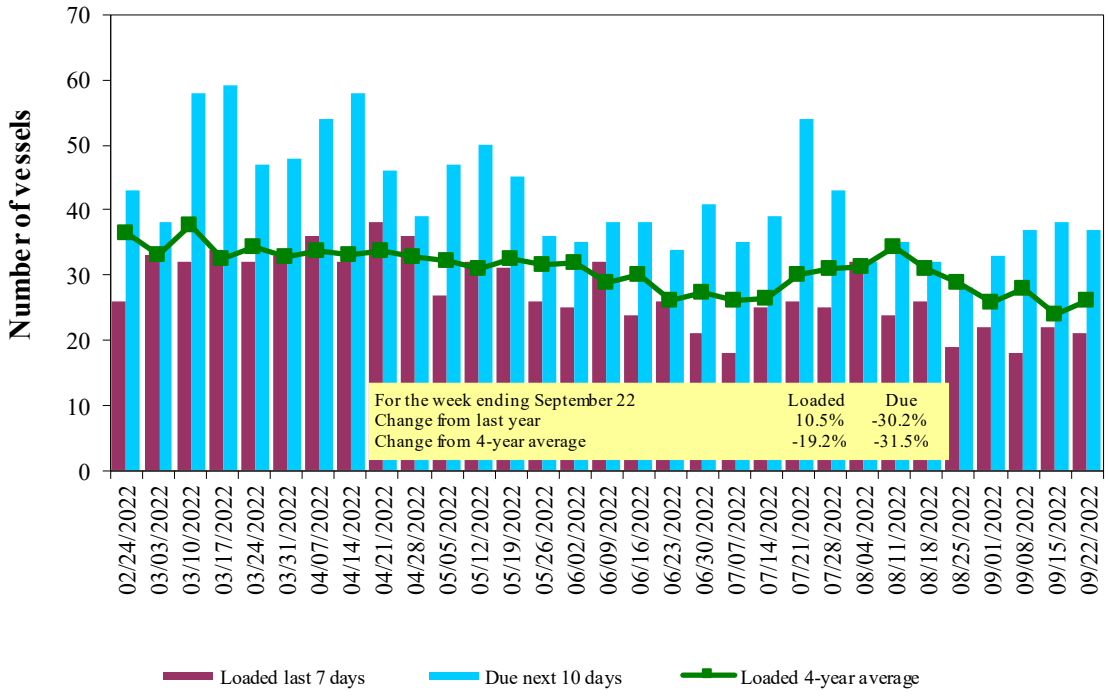
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
9/22/2022	37	21	37	10
9/15/2022	32	22	38	11
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.

Figure 16

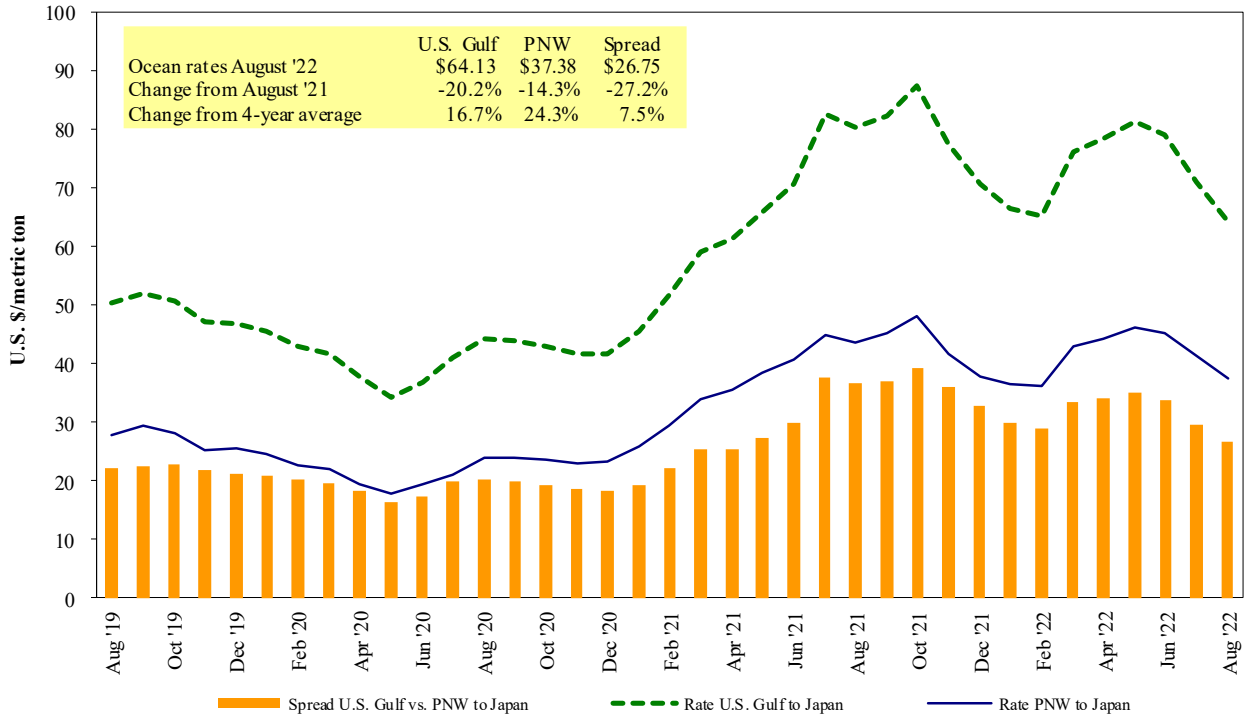
U.S. Gulf[1] vessel loading activity



[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 09/22/2022

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.

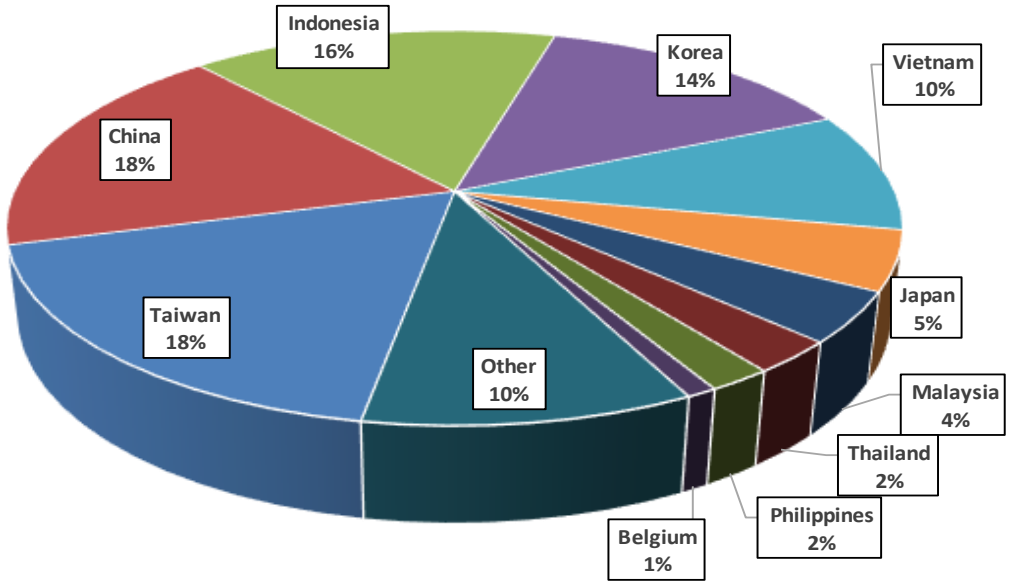
Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated; op = option.

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

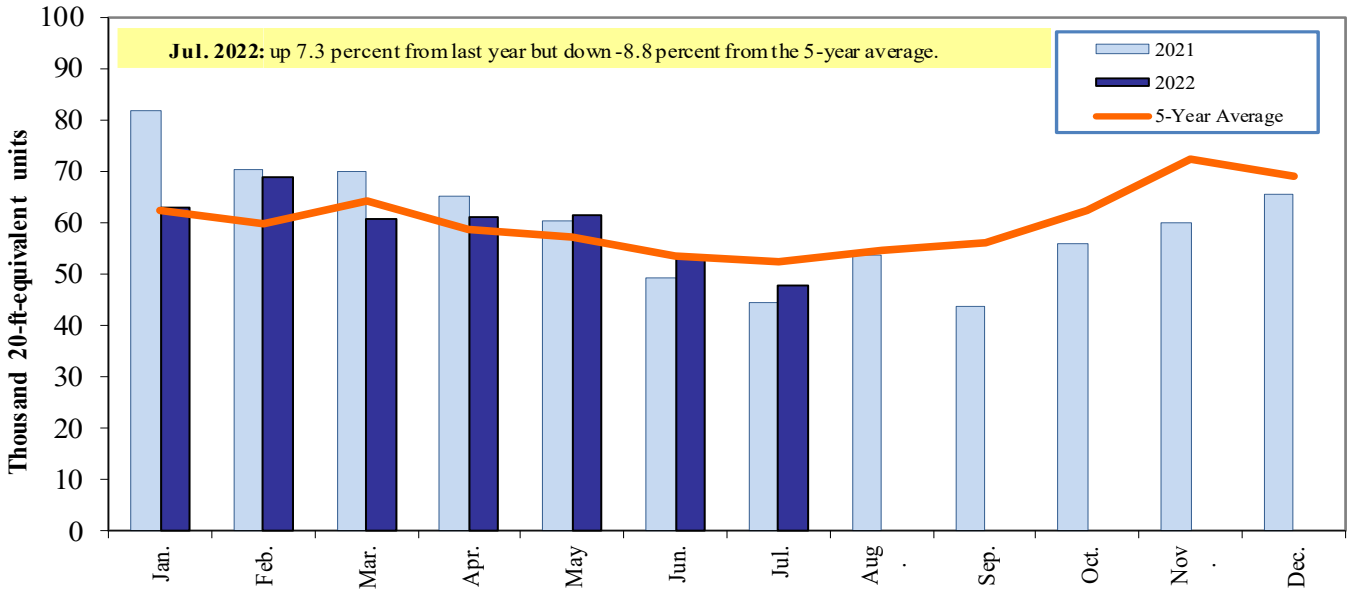


Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210',

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.

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
Truck Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Kranti Mulik	kranti.mulik@usda.gov	(202) 756 - 2577
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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