



# Grain Transportation Report

A weekly publication of the Agricultural Marketing Service  
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## WEEKLY HIGHLIGHTS

September 30, 2021

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#### Iowa Temporarily Increases Truck Weight Limits on Grain Transportation

Iowa Governor Kim Reynolds recently [signed a proclamation](#) to increase truck weight limits for grain transportation. Addressing concerns about heavy agricultural traffic throughout the State, the higher limits are intended to ensure efficient and effective collection of the grain harvest. Effective immediately and continuing through October 17 or earlier as determined by the Governor, the proclamation allows vehicles transporting corn, soybeans, hay, straw, silage and stover to be overweight without a permit. However, vehicles cannot exceed 90,000 pounds gross weight. The proclamation further applies to loads transported on all Iowa highways, excluding the interstate system. These covered vehicles cannot exceed the [legal maximum axle weight limit of 20,000 pounds](#) by more than 12.5 percent, and must comply with posted limits on roads and bridges.

#### STB Extends Deadline for Comments on First-Mile/Last-Mile Service Issues

The Surface Transportation Board (STB) [extended the deadline](#) for comments on first-mile/last-mile (FMLM) service. Comments from interested parties are now due by December 17, 2021, and reply comments from interested parties are due by February 17, 2022. FMLM service refers to the movement of railcars between a local railroad serving yard and a shipper or receiver facility. STB seeks comment on the following: possible FMLM service issues, design of potential metrics to measure FMLM service, and possible burdens associated with implementing any suggested changes.

#### FMCSA Requests Input on National Consumer Complaint Database

The Federal Motor Carrier Safety Administration (FMCSA) recently [requested comments](#) on its National Consumer Complaint Database (NCCDB), a repository of complaint information that can be later used for taking enforcement action. Comments on NCCDB will help FMCSA secure reauthorization by the Office of Management and Budget for the database's continued use. NCCDB, an online interface, allows consumers, drivers, and others to file complaints against unsafe and unscrupulous companies (including shippers) and/or their employees. Complaints cover a wide range of areas, including electronic logging devices and financial responsibility instruments for brokers and freight forwarders. Complaints relate to safety issues of driver harassment and coercion, as well as financial integrity concerns and issues. Comments can be submitted [here](#) by November 2.

### Snapshots by Sector

#### Export Sales

For the week ending September 16, [unshipped balances](#) of wheat, corn, and soybeans for marketing year 2021/22 totaled 50.7 million metric tons (mmt), down 12 percent from same time last year. Net [corn export sales](#) were 0.373 mmt, up 51 percent from last week. Net [soybean export sales](#) were 0.903 mmt, down 29 percent from last week. Net weekly [wheat export sales](#) were 0.356 mmt, down 42 percent from last week.

#### Rail

U.S. Class I railroads originated 19,432 [grain carloads](#) during the week ending September 18. This was a 16-percent increase from the previous week, 12 percent less than last year, and 7 percent lower than the 3-year average.

Average October shuttle [secondary railcar](#) bids/offers (per car) were \$808 above tariff for the week ending September 23. This was \$147 less than last week and \$721 lower than this week last year. There were no non-shuttle bids/offers this week.

#### Barge

For the week ending September 25, [barged grain movements](#) totaled 187,590 tons. This was 11 percent higher than the previous week and 63 percent lower than the same period last year.

For the week ending September 25, 112 grain barges [moved down river](#)—2 barges fewer than the previous week. There were 391 grain barges unloaded in New Orleans Region, 53 percent higher than last week.

#### Ocean

For the week ending September 23, 19 [oceangoing grain vessels](#) were loaded in the Gulf—21 percent fewer than the same period last year. Within the next 10 days (starting September 24), 53 vessels were expected to be loaded—13 percent fewer than the same period last year.

As of September 23, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$82.50. This was 1 percent more than the previous week. The rate from the Pacific Northwest to Japan was \$45.50 per mt, 1 percent more than the previous week.

#### Fuel

For the week ending September 27, the U.S. average [diesel fuel price](#) increased by 2.1 cents from the previous week to \$3.406 per gallon, \$1.012 above the same week last year. At \$4.339 per gallon, California diesel prices are the highest since March 2013.

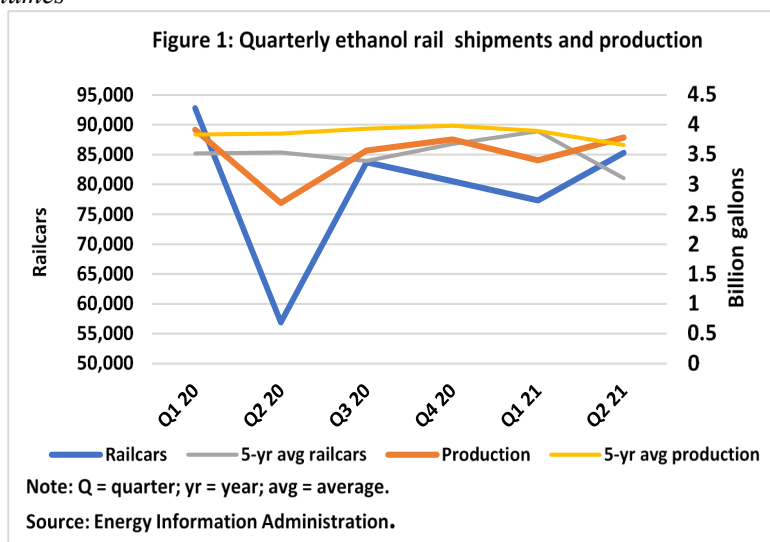
# Feature Article/Calendar

## Year-to-Date Ethanol and DDGS Transportation Update

As a result of the pandemic, the ethanol industry has witnessed significant changes, including lower profit margins, declining demand and production, and changing trade patterns. All of these factors affect demand for transporting ethanol and distillers' dried grains with solubles (DDGS). This article looks at year-to-date (YTD) changes in the ethanol market, their effect on demand for transporting ethanol, and the factors that will influence that demand in the near future. Please see the [Biofuels dashboard](#) on USDA's [Agricultural Transportation Open Data Platform](#) to view, access, and download extensive biofuels data, including that used in this feature

### Ethanol Production, Rail Movements, and Export Volumes

**Ethanol production and rail movements rebounded from first to second quarter.** Along with unusually cold weather in February 2021 extending across the Midwest, [low profit margins](#) disrupted ethanol production in the Midwest.<sup>1</sup> As a result, ethanol production fell by 9 percent to 3.4 billion gallons from fourth quarter 2020 to first quarter 2021. Along with ethanol production, Class I rail movements of ethanol, fell for the same period, dropping 4 percent (from 80,546 carloads to 77,333), 17 percent below the same time last year. However, second quarter 2021 saw a significant turnaround: boosted by the economic recovery and higher gasoline demand, ethanol production rose to 3.8 billion gallons, 3 percent above the 5-year average. At the same time, rail shipments of ethanol rose by 10 percent to 85,282 carloads, 50 percent higher than same time last year (fig. 1) and 5 percent above the 5-year average.



**Ethanol exports rose in first quarter, but fell in second.** While ethanol production and rail shipments fell from fourth quarter 2020 to first quarter 2021, ethanol exports increased 15 percent, mainly because of greater purchases from China. In first quarter 2021, China purchased a record 76 million gallons of ethanol, which accounted for 19 percent of total U.S. ethanol exports. Still, despite China's increased share, total first-quarter 2021 U.S. ethanol exports were 16 percent below the same time last year (pre-pandemic level) and 4 percent below the 5-year average. From first to second quarter 2021, ethanol exports dropped 34 percent because of reduced exports to China, Brazil, and India based on [USDA's Foreign Agricultural Service's data](#). Partly responding to higher U.S. prices, India used its [surplus sugarcane](#) to produce more ethanol domestically.

### Changing Players in the Ethanol Market and Effects on Port Activity

Over the last several years—and especially during the pandemic—the structure of the export market for U.S. ethanol has shifted significantly. However, because the post-pandemic economy is still developing, it remains to be seen which, if any, of these changes become normal patterns, and which changes will be very temporary.

**Canada and Brazil switch rankings.** Canada and Brazil have long been the top importers of U.S. ethanol. Canada surpassed Brazil as the top U.S. ethanol importer in 2020, mainly due to reduced imports by Brazil. This drop in Brazil's imports was the result of lower fuel demand caused by the pandemic. Brazil also reduced its U.S. ethanol imports in response to a new 20-percent tariff rate on those imports, after the country ended its tariff-free imports of U.S. ethanol in December 2020.

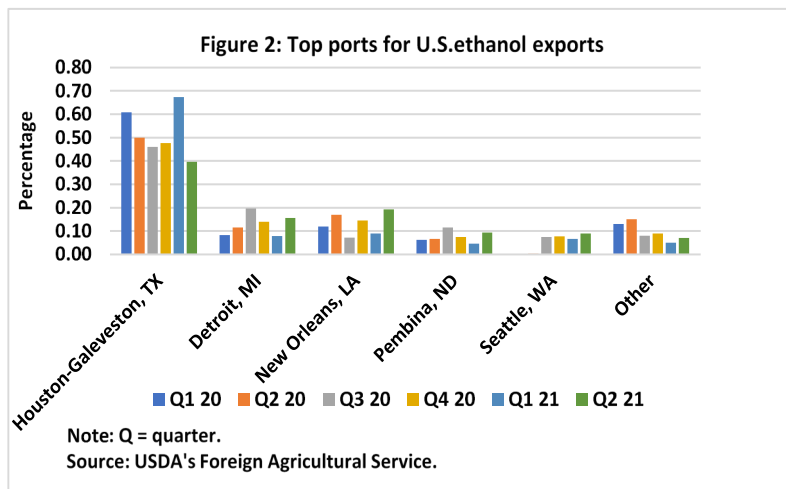
**China and India sharply increase ethanol imports in first quarter.** Historically, China has not been a major ethanol buyer. However, several factors have contributed to China's rising share of U.S. ethanol purchases during first quarter 2021. These include China's tightening supplies of domestic corn available for ethanol production, high domestic ethanol prices, increased demand for

<sup>1</sup> Ethanol's operating margins and production rates are largely driven by fuel ethanol, corn, and natural gas prices. Estimated ethanol margins fell to negative levels in February, when natural gas supplies were disrupted and natural gas spot prices approached near record-high levels. As a result, many fuel ethanol producers reduced production. Also, with the high gas prices, some fuel ethanol producers preferred to sell natural gas supplies back to spot markets instead of producing fuel ethanol. Prices of corn, the main feedstock of ethanol, also remained high in the first half of the year because of several factors: increased demand from China ([Grain Transportation Report, July 8, 2021](#)), a deep freeze in the Midwest, and uncertainty over corn production in Argentina and Brazil.

disinfectants, and low U.S. ethanol prices in early 2021. However, given the decline in second-quarter 2021 imports, it remains uncertain whether China will become a stable importer of U.S. ethanol. Since India set an “E20” goal for its biofuel in 2018, this country has also emerged as one of the top U.S. ethanol importers. [In January 2021](#), the Indian government advanced, from 2030 to 2025, its deadline for achieving a 20-percent-ethanol (E20) blend for all gasoline. The country retained its more immediate goal of E10 by 2022.

**Changing port activity reflects shifting demand for U.S. ethanol exports.**

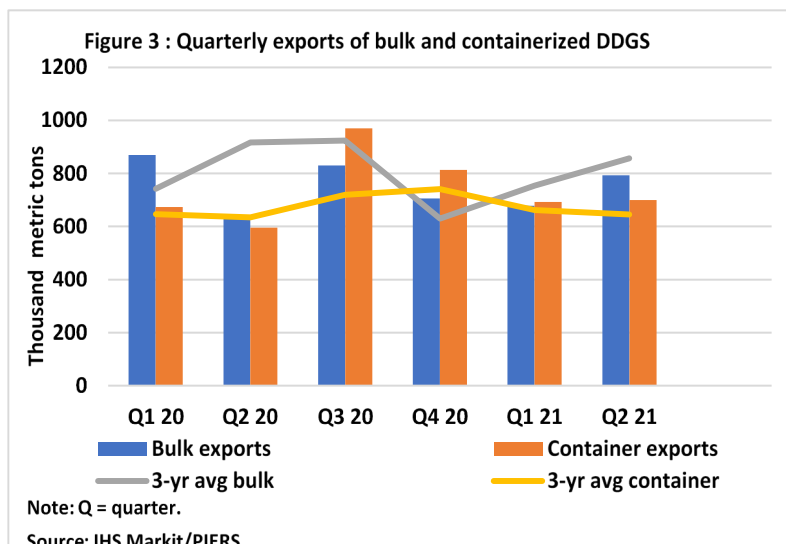
As Brazilian ethanol imports declined, the share of exports through Houston, TX—the top port of exit for exports to Brazil—started falling after second quarter 2020. However, Houston’s share rose again with increased exports to India and China in first quarter 2021. From fourth quarter 2020 to first quarter 2021, the share of exports through Houston jumped from 48 percent to 67 percent. In second quarter 2021, Houston’s share declined again to just 40 percent, with a decrease in China’s and India’s imports. Fluctuations in shares for the Pembina, ND, and Detroit, MI, ports—the top ports for shipments for Canada—reflect changes in Canadian demand. As exports to Canada increased from first to second quarter 2021, the share of ethanol exports through these ports almost doubled (fig. 2).



*Impact on the DDGS Market*

Because DDGS production depends on ethanol production, lower U.S. ethanol production in first quarter 2021 hampered DDGS production. DDGS production fell by 8 percent from fourth quarter 2020. In first quarter 2021, containerized DDGS shipments—the second-largest containerized grain exports after soybeans—declined 15 percent from fourth quarter 2020 to almost 692,000 metric tons (mt) (fig. 3). Bulk shipments of DDGS decreased by 4 percent during this period.

Because DDGS can easily ship either as bulk or in containers, it is less affected than other U.S. agricultural commodities by container shortages. This adaptability is reflected in the increased share of bulk DDGS shipments in second quarter 2021. In second quarter 2021, DDGS production rose 14 percent from the first quarter, 44 percent from the same time last year, and 9 percent above the 3-year average. As a result, bulk shipments increased 17 percent, while containerized shipments increased only slightly, by 1 percent.



*Looking Ahead*

According to the Energy Information Administration’s September 2021 [Short Term Energy Outlook](#), ethanol production will average 970,000 barrels per day in 2021, up from 910,000 barrels per day in 2020. In 2022, ethanol production is expected to average 1.01 million barrels per day. From marketing year (MY) 2020/21 to MY 2021/22, corn use for ethanol is projected to increase by 3 percent according to USDA’s September 2021 [World Agricultural Supply and Demand Estimates](#) report. According to [USDA’s Economic Research Service](#), ethanol exports are expected to increase modestly in fiscal year (FY) 2022 (as gasoline markets recover and the demand for disinfectants increases). Uncertainty remains over ethanol exports to China in FY 2022. However, ethanol exports to Brazil are expected to rise because of recent yield-lowering frost damage to Brazil’s sugarcane, higher sugar prices, and the ongoing recovery of demand for fuel. Further signaling the need for increased U.S. ethanol exports, United Kingdom (UK) and India are expected to import more ethanol to meet their respective E10 and E20 fuel mandates. Rises in exports to Brazil, the UK, and India may increase the demand for transporting ethanol. [Kranti.Mulik@usda.gov](mailto:Kranti.Mulik@usda.gov)

# Grain Transportation Indicators

Table 1

## Grain transport cost indicators<sup>1</sup>

For the week ending	Truck	Rail		Barge	Ocean	
		Non-Shuttle	Shuttle		Gulf	Pacific
09/29/21	229	291	255	433	369	323
09/22/21	227	291	260	394	364	319

<sup>1</sup>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)

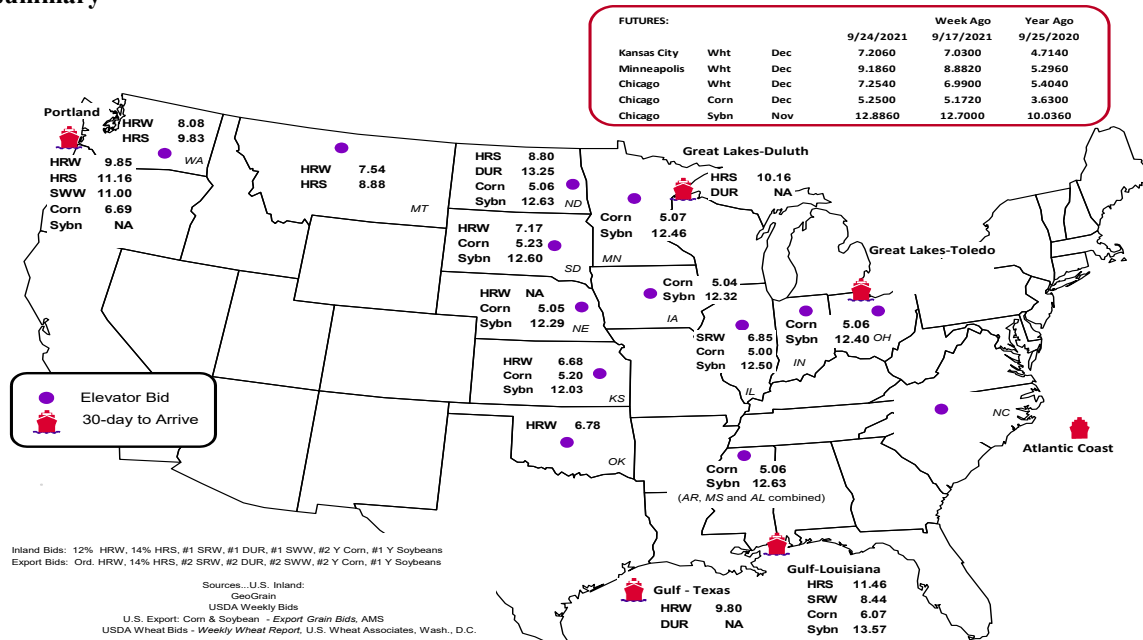
Commodity	Origin-destination	9/24/2021	9/17/2021
Corn	IL-Gulf	-1.07	-0.99
Corn	NE-Gulf	-1.02	-0.79
Soybean	IA-Gulf	-1.25	-1.30
HRW	KS-Gulf	-3.12	-2.92
HRS	ND-Portland	-2.36	-2.34

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)<sup>1</sup>

For the week ending	Mississippi		Pacific	Atlantic &	Total	Week ending	Cross-border Mexico <sup>3</sup>
	Gulf	Texas Gulf	Northwest	East Gulf			
9/22/2021 <sup>p</sup>	0	330	3,319	227	3,876	9/18/2021	3,092
9/15/2021 <sup>r</sup>	220	558	2,725	40	3,543	9/11/2021	2,049
2021 YTD <sup>r</sup>	37,095	47,442	198,462	10,633	293,632	2021 YTD	105,835
2020 YTD <sup>r</sup>	19,134	34,822	179,234	8,834	242,024	2020 YTD	93,061
2021 YTD as % of 2020 YTD	194	136	111	120	121	% change YTD	114
Last 4 weeks as % of 2020 <sup>2</sup>	11	49	49	24	42	Last 4wks. % 2020	134
Last 4 weeks as % of 4-year avg. <sup>2</sup>	19	62	62	35	56	Last 4wks. % 4 yr.	115
Total 2020	45,294	64,116	299,882	24,458	433,750	Total 2020	126,407
Total 2019	40,974	51,167	251,181	16,192	359,514	Total 2019	127,622

<sup>1</sup>Data is incomplete as it is voluntarily provided.

<sup>2</sup>Compared with same 4-weeks in 2020 and prior 4-year average.

<sup>3</sup>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.

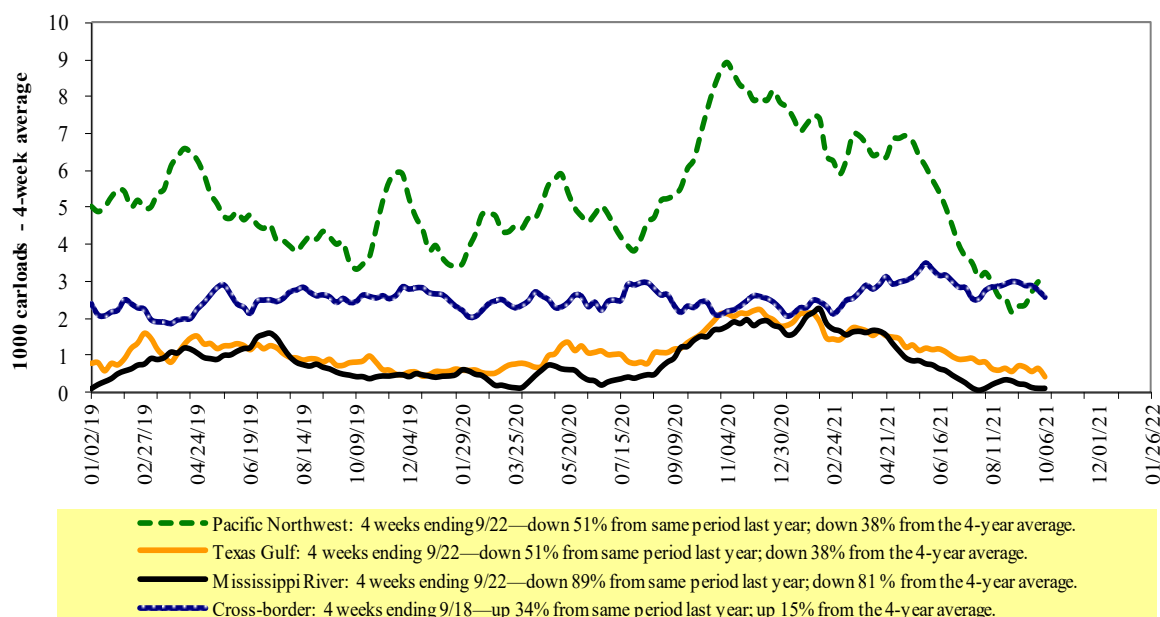
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

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: 9/18/2021	East		West			U.S. total	Canada	
	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,165	1,249	9,940	1,528	5,550	19,432	2,888	3,522
This week last year	1,770	1,535	11,714	1,134	5,888	22,041	4,640	4,944
2021 YTD	65,318	88,941	423,301	42,903	224,495	844,958	150,277	175,800
2020 YTD	61,723	89,039	410,140	39,735	195,708	796,345	155,697	174,553
2021 YTD as % of 2020 YTD	106	100	103	108	115	106	97	101
Last 4 weeks as % of 2020*	83	70	71	129	89	80	72	69
Last 4 weeks as % of 3-yr. avg.**	82	65	75	148	98	84	79	71
Total 2020	91,659	129,723	613,630	57,782	296,701	1,189,495	238,318	261,778

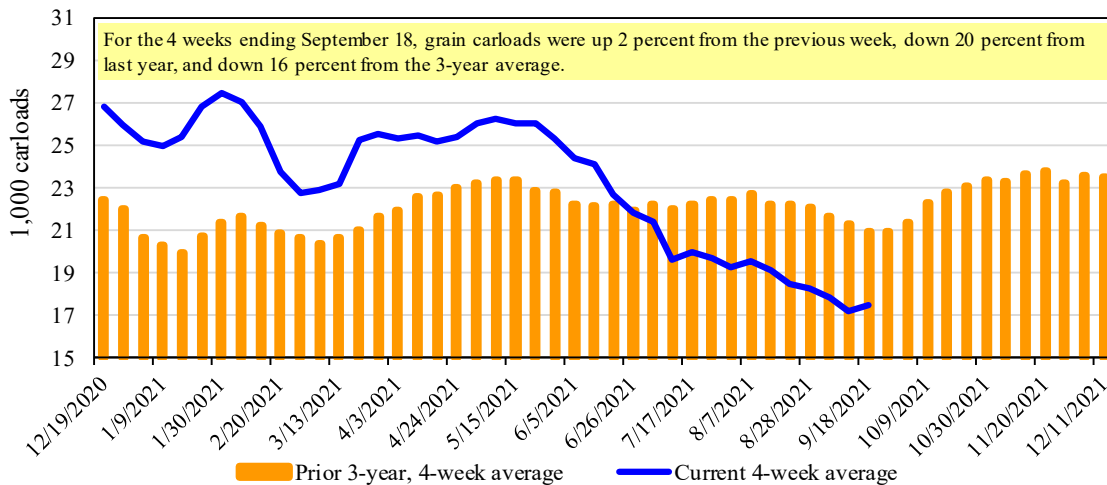
\*The past 4 weeks of this year as a percent of the same 4 weeks last year.

\*\*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<sup>1</sup> (\$/car)<sup>2</sup>**

For the week ending: 9/23/2021		Delivery period							
		Oct-21	Oct-20	Nov-21	Nov-20	Dec-21	Dec-20	Jan-22	Jan-21
BNSF <sup>3</sup>	COT grain units	0	no offer	0	102	0	9	0	23
	COT grain single-car	76	no offer	0	397	0	405	0	301
UP <sup>4</sup>	GCAS/Region 1	n/a	no offer	n/a	no offer	n/a	no offer	n/a	0
	GCAS/Region 2	n/a	no offer	n/a	no offer	n/a	no offer	n/a	440

<sup>1</sup>Auction offerings are for single-car and unit train shipments only.

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

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

<sup>4</sup>UP - GCAS = Union Pacific Railroad Grain Car Allocation System.

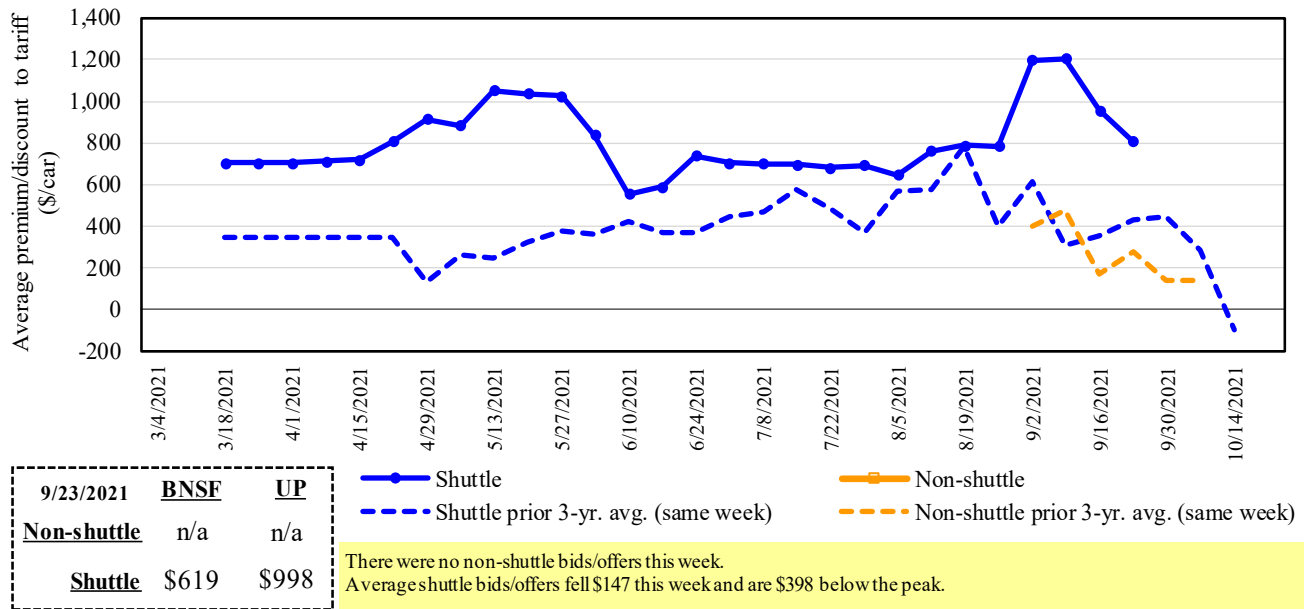
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

Source: USDA, Agricultural Marketing Service.

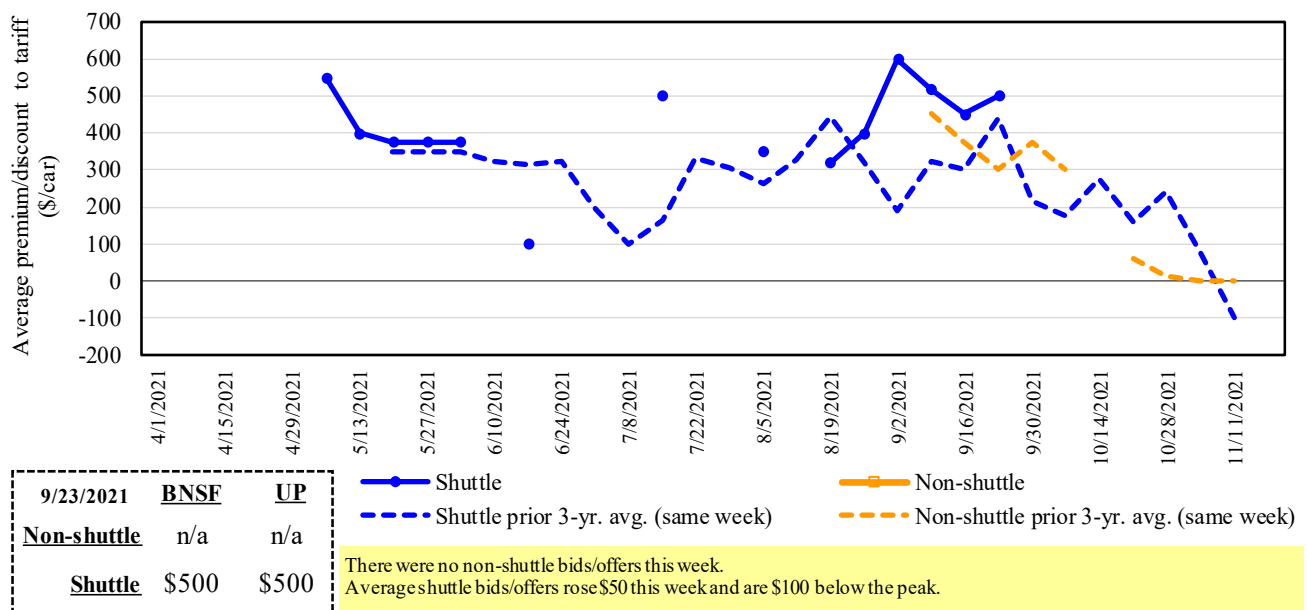
The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/supply.

**Figure 4**  
**Bids/offers for railcars to be delivered in October 2021, secondary market**



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.

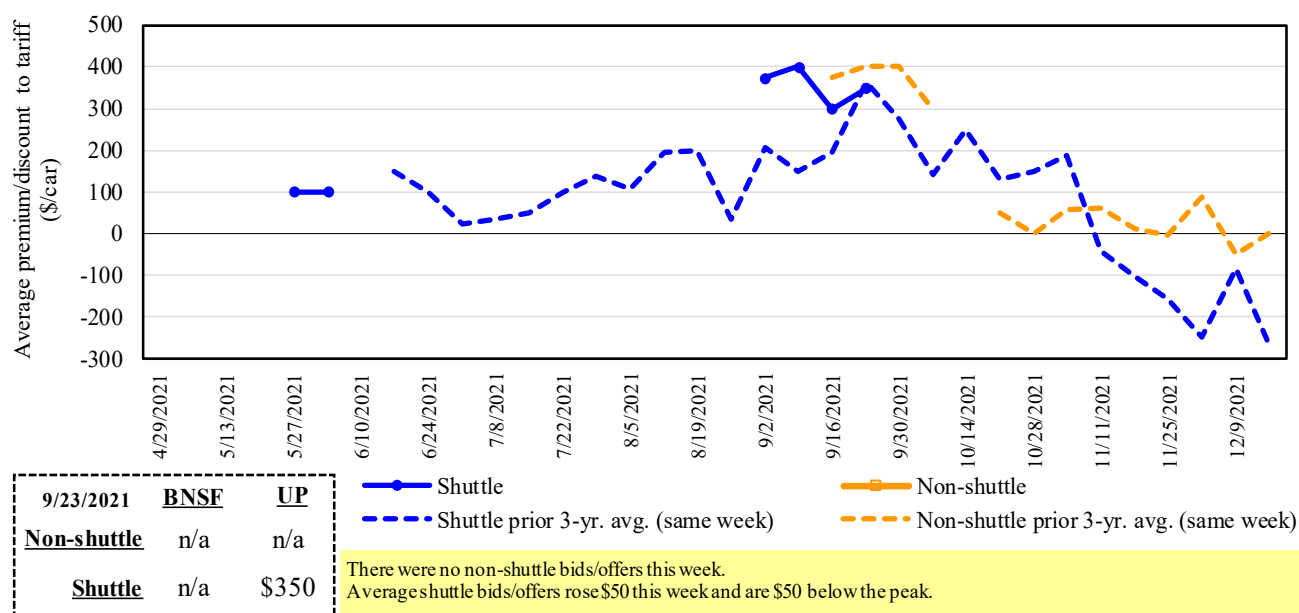
**Figure 5**  
**Bids/offers for railcars to be delivered in November 2021, secondary market**



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

**Bids/offers for railcars to be delivered in December 2021, secondary market**



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)<sup>1</sup>**

For the week ending:		Delivery period					
		Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
Non-shuttle	<b>BNSF-GF</b>	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 2020	n/a	n/a	n/a	n/a	n/a	n/a
	<b>UP-Pool</b>	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 2020	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	<b>BNSF-GF</b>	619	500	n/a	300	n/a	n/a
	Change from last week	(167)	0	n/a	(100)	n/a	n/a
	Change from same week 2020	(965)	(350)	n/a	(600)	n/a	n/a
	<b>UP-Pool</b>	998	500	350	400	n/a	n/a
	Change from last week	(127)	100	n/a	n/a	n/a	n/a
	Change from same week 2020	(477)	(400)	(300)	(350)	n/a	n/a

<sup>1</sup>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<sup>1</sup>**

September 2021	Origin region <sup>3</sup>	Destination region <sup>3</sup>	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per:		Percent change Y/Y <sup>4</sup>
					metric ton	bushel <sup>2</sup>	
<b>Unit train</b>							
Wheat	Wichita, KS	St. Louis, MO	\$3,695	\$127	\$37.95	\$1.03	5
	Grand Forks, ND	Duluth-Superior, MN	\$3,658	\$0	\$36.33	\$0.99	-13
	Wichita, KS	Los Angeles, CA	\$7,115	\$0	\$70.66	\$1.92	0
	Wichita, KS	New Orleans, LA	\$4,525	\$223	\$47.14	\$1.28	3
	Sioux Falls, SD	Galveston-Houston, TX	\$6,851	\$0	\$68.03	\$1.85	0
	Colby, KS	Galveston-Houston, TX	\$4,801	\$244	\$50.10	\$1.36	4
Corn	Amarillo, TX	Los Angeles, CA	\$5,121	\$339	\$54.22	\$1.48	5
	Champaign-Urbana, IL	New Orleans, LA	\$3,900	\$252	\$41.23	\$1.05	5
	Toledo, OH	Raleigh, NC	\$7,833	\$0	\$77.79	\$1.98	15
	Des Moines, IA	Davenport, IA	\$2,455	\$53	\$24.91	\$0.63	3
	Indianapolis, IN	Atlanta, GA	\$5,979	\$0	\$59.37	\$1.51	3
	Indianapolis, IN	Knoxville, TN	\$5,040	\$0	\$50.05	\$1.27	3
Soybeans	Des Moines, IA	Little Rock, AR	\$3,900	\$157	\$40.28	\$1.02	6
	Des Moines, IA	Los Angeles, CA	\$5,780	\$456	\$61.92	\$1.57	7
	Minneapolis, MN	New Orleans, LA	\$3,631	\$272	\$38.76	\$1.05	6
	Toledo, OH	Huntsville, AL	\$6,595	\$0	\$65.49	\$1.78	17
	Indianapolis, IN	Raleigh, NC	\$7,125	\$0	\$70.75	\$1.93	3
	Indianapolis, IN	Huntsville, AL	\$5,247	\$0	\$52.11	\$1.42	3
	Champaign-Urbana, IL	New Orleans, LA	\$4,645	\$252	\$48.62	\$1.32	4
<b>Shuttle train</b>							
Wheat	Great Falls, MT	Portland, OR	\$4,193	\$0	\$41.64	\$1.13	4
	Wichita, KS	Galveston-Houston, TX	\$4,236	\$0	\$42.07	\$1.14	0
	Chicago, IL	Albany, NY	\$6,376	\$0	\$63.32	\$1.72	-10
	Grand Forks, ND	Portland, OR	\$5,851	\$0	\$58.10	\$1.58	3
	Grand Forks, ND	Galveston-Houston, TX	\$5,721	\$0	\$56.81	\$1.55	-5
	Colby, KS	Portland, OR	\$6,012	\$400	\$63.67	\$1.73	5
Corn	Minneapolis, MN	Portland, OR	\$5,180	\$0	\$51.44	\$1.31	0
	Sioux Falls, SD	Tacoma, WA	\$5,140	\$0	\$51.04	\$1.30	0
	Champaign-Urbana, IL	New Orleans, LA	\$3,820	\$252	\$40.43	\$1.03	5
	Lincoln, NE	Galveston-Houston, TX	\$3,880	\$0	\$38.53	\$0.98	0
	Des Moines, IA	Amarillo, TX	\$4,320	\$197	\$44.85	\$1.14	6
	Minneapolis, MN	Tacoma, WA	\$5,180	\$0	\$51.44	\$1.31	0
Soybeans	Council Bluffs, IA	Stockton, CA	\$5,100	\$0	\$50.65	\$1.29	2
	Sioux Falls, SD	Tacoma, WA	\$6,050	\$0	\$60.08	\$1.64	3
	Minneapolis, MN	Portland, OR	\$6,100	\$0	\$60.58	\$1.65	3
	Fargo, ND	Tacoma, WA	\$5,950	\$0	\$59.09	\$1.61	3
	Council Bluffs, IA	New Orleans, LA	\$4,875	\$290	\$51.29	\$1.40	4
	Toledo, OH	Huntsville, AL	\$4,945	\$0	\$49.11	\$1.34	3
	Grand Island, NE	Portland, OR	\$5,260	\$409	\$56.30	\$1.53	5

<sup>1</sup>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.

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

<sup>3</sup>Regional economic areas are defined by the Bureau of Economic Analysis (BEA).

<sup>4</sup>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: September 2021			Tariff rate per car <sup>1</sup>	Fuel surcharge per car <sup>2</sup>	Tariff rate plus fuel surcharge per:		Percent change <sup>4</sup> Y/Y
Commodity	Origin state	Destination region			metric ton <sup>3</sup>	bushel <sup>3</sup>	
Wheat	MT	Chihuahua, CI	\$7,699	\$0	\$78.67	\$2.14	4
	OK	Cuautitlan, EM	\$6,813	\$174	\$71.39	\$1.94	3
	KS	Guadalajara, JA	\$7,531	\$684	\$83.94	\$2.28	3
	TX	Salinas Victoria, NL	\$4,347	\$106	\$45.50	\$1.24	2
Corn	IA	Guadalajara, JA	\$8,902	\$597	\$97.06	\$2.46	2
	SD	Celaya, GJ	\$8,140	\$0	\$83.17	\$2.11	0
	NE	Queretaro, QA	\$8,300	\$364	\$88.52	\$2.25	3
	SD	Salinas Victoria, NL	\$6,905	\$0	\$70.55	\$1.79	0
	MO	Tlahuepantla, EM	\$7,665	\$355	\$81.94	\$2.08	4
	SD	Torreón, CU	\$7,690	\$0	\$78.57	\$1.99	0
Soybeans	MO	Bojay (Tula), HG	\$8,547	\$560	\$93.04	\$2.53	3
	NE	Guadalajara, JA	\$9,157	\$588	\$99.56	\$2.71	3
	IA	El Castillo, JA	\$9,410	\$0	\$96.15	\$2.61	0
	KS	Torreón, CU	\$8,064	\$412	\$86.60	\$2.35	3
Sorghum	NE	Celaya, GJ	\$7,772	\$533	\$84.85	\$2.15	3
	KS	Queretaro, QA	\$8,108	\$218	\$85.06	\$2.16	2
	NE	Salinas Victoria, NL	\$6,713	\$175	\$70.37	\$1.79	2
	NE	Torreón, CU	\$7,092	\$380	\$76.34	\$1.94	2

<sup>1</sup>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.

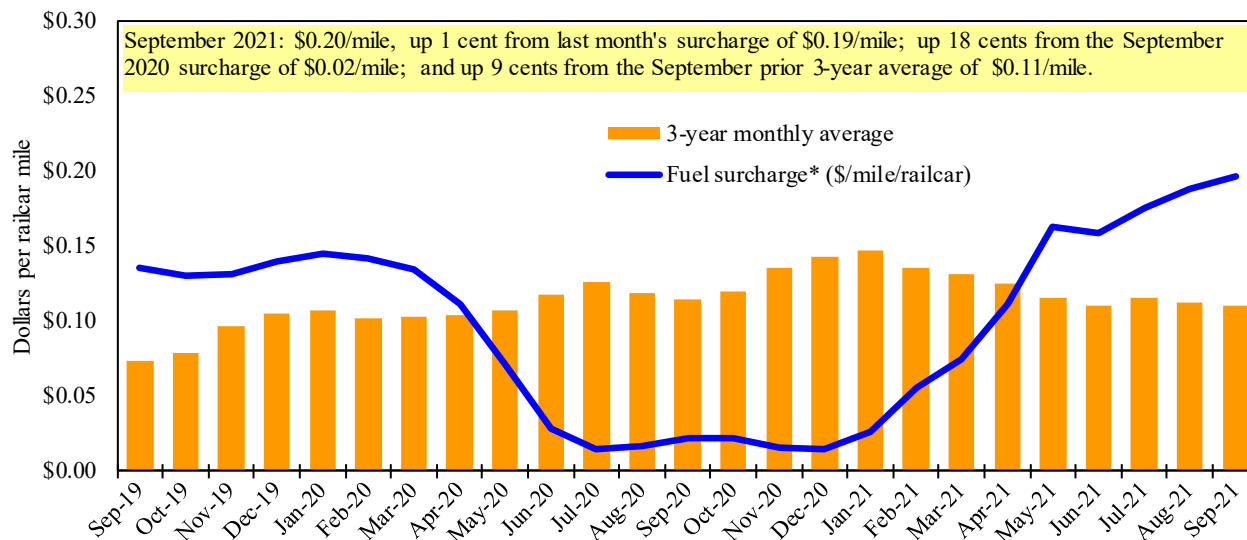
<sup>2</sup>Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009.

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

<sup>4</sup>Percentage change calculated using tariff rate plus fuel surcharge; Y/Y = year over year.

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

Figure 7

**Railroad fuel surcharges, North American weighted average<sup>1</sup>**

<sup>1</sup> 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.

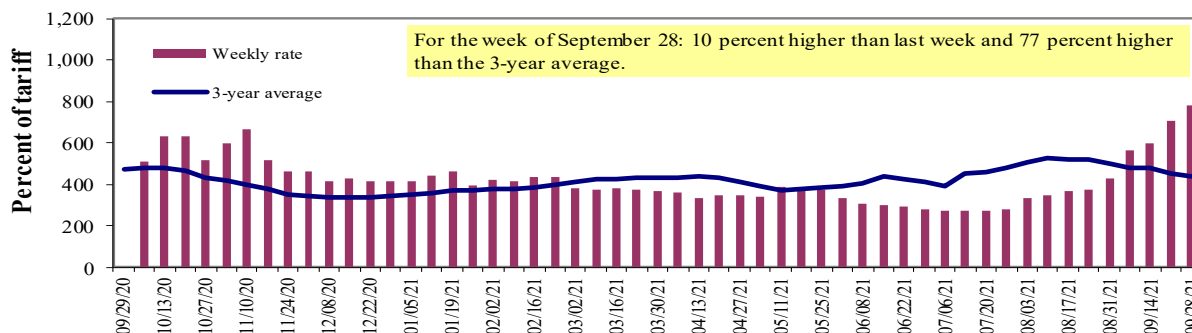
\*\*CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1, 2015.

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<sup>1,2,3</sup>



<sup>1</sup>Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); <sup>2</sup>4-week moving average of the 3-year average.

<sup>3</sup>No rates data from 06/23/20 to 9/29/20 due to the lock closure for rehabilitation and replacement of lock machinery.

The 3-yr avg counts the average of 2018 and 2019. 2020 data is not available. \*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 <sup>1</sup>	9/28/2021	725	863	779	846	856	856	1000
	9/21/2021	660	720	709	688	719	719	885
\$/ton	9/28/2021	44.88	45.91	36.15	33.76	40.15	34.58	31.40
	9/21/2021	40.85	38.30	32.90	27.45	33.72	29.05	27.79
<b>Current week % change from the same week:</b>								
	Last year	42	81	-	134	102	102	201
	3-year avg. <sup>2</sup>	61	95	77	132	106	106	180
Rate <sup>1</sup>	October	744	819	754	795	818	818	819
	December	-	-	444	357	389	389	331

<sup>1</sup>Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); <sup>2</sup>4-week moving average; ton = 2,000 pounds; "-" not available due to lock closure.

ILL River 3-year avg. is the 4-week moving average of 2018 and 2019. Data for 2020 is not available. Source: USDA, Agricultural Marketing Service.

Figure 9

### Benchmark tariff rates

#### Calculating barge rate per ton:

$$(\text{Rate} * 1976 \text{ tariff benchmark rate per ton}) / 100$$

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

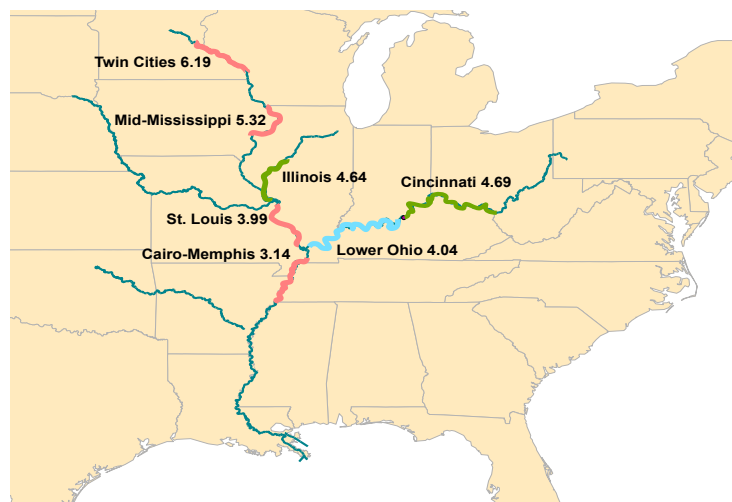
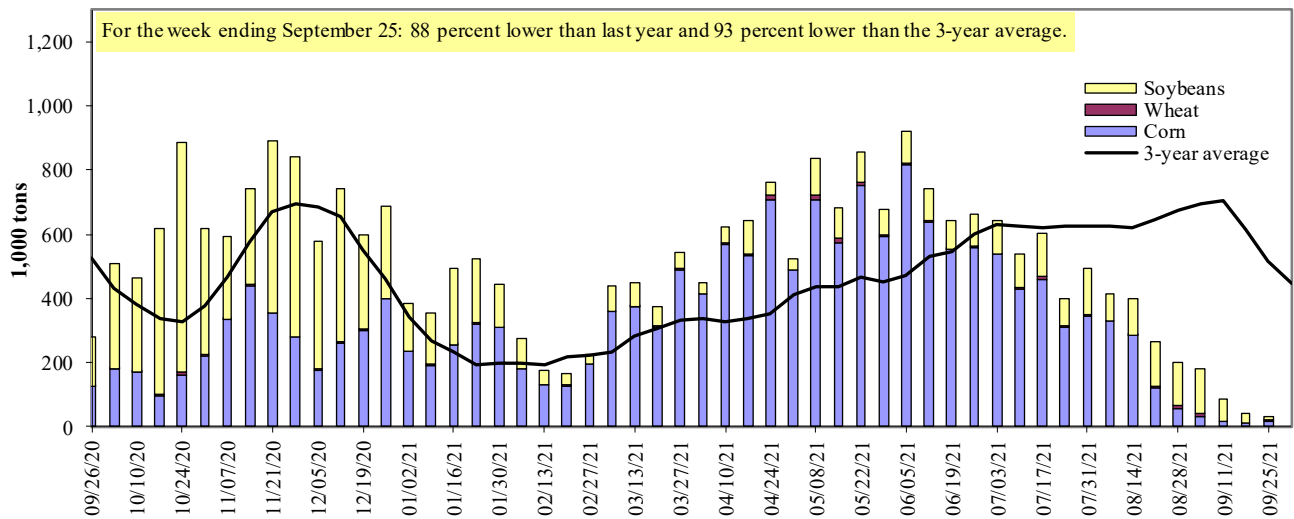


Figure 10

**Barge movements on the Mississippi River<sup>1</sup> (Locks 27 - Granite City, IL)**



<sup>1</sup> The 3-year average is a 4-week moving average.

Source: U.S. Army Corps of Engineers.

Table 10

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

For the week ending 09/25/2021	Corn	Wheat	Soybeans	Other	Total
<b>Mississippi River</b>					
Rock Island, IL (L15)	2	0	9	0	11
Winfield, MO (L25)	11	2	25	0	38
Alton, IL (L26)	11	2	13	0	25
Granite City, IL (L27)	19	2	13	3	37
<b>Illinois River (La Grange)</b>					
	2	0	0	0	2
<b>Ohio River (Olmsted)</b>					
	72	6	32	0	110
<b>Arkansas River (L1)</b>					
	20	20	2	0	41
Weekly total - 2021	111	28	46	3	188
Weekly total - 2020	223	35	246	0	504
2021 YTD <sup>1</sup>	18,971	1,416	6,083	225	26,695
2020 YTD <sup>1</sup>	13,501	1,486	10,630	116	25,733
2021 as % of 2020 YTD	141	95	57	193	104
Last 4 weeks as % of 2020 <sup>2</sup>	26	160	26	53	32
Total 2020	18,942	1,765	19,205	237	40,149

<sup>1</sup> 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.

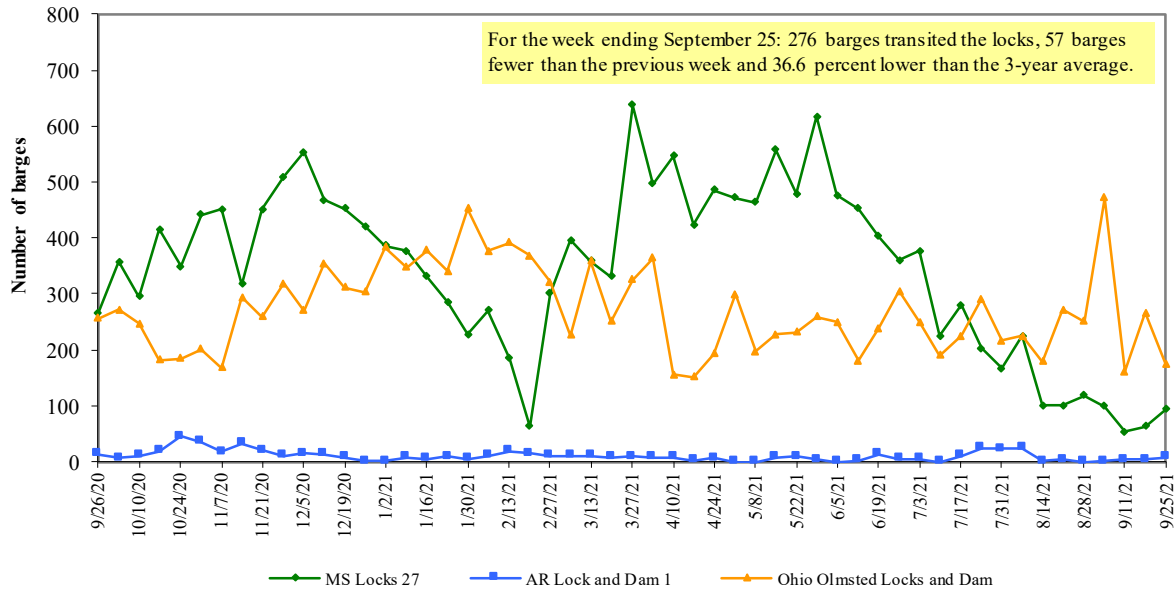
<sup>2</sup> As a percent of same period in 2020.

Note: L (as in "L15") refers to a lock, locks, or locks and dam facility.

Source: U.S. Army Corps of Engineers.

Figure 11

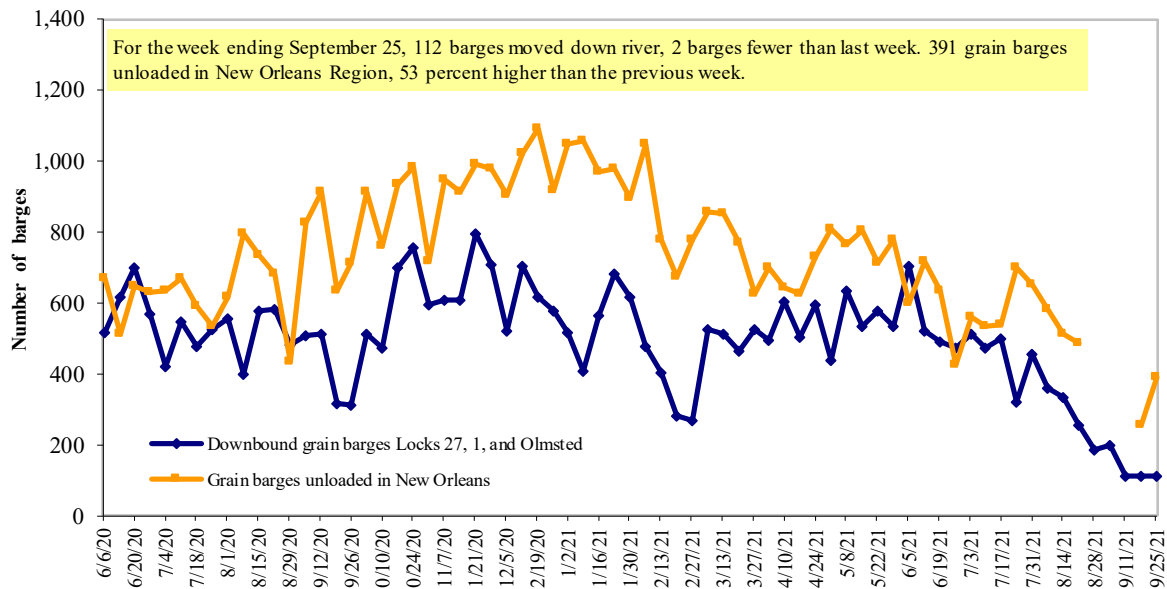
**Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam**



Source: U.S. Army Corps of Engineers.

Figure 12

**Grain barges for export in New Orleans region**



Note: Olmsted = Olmsted Locks and Dam.

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 9/27/2021 (U.S. \$/gallon)**

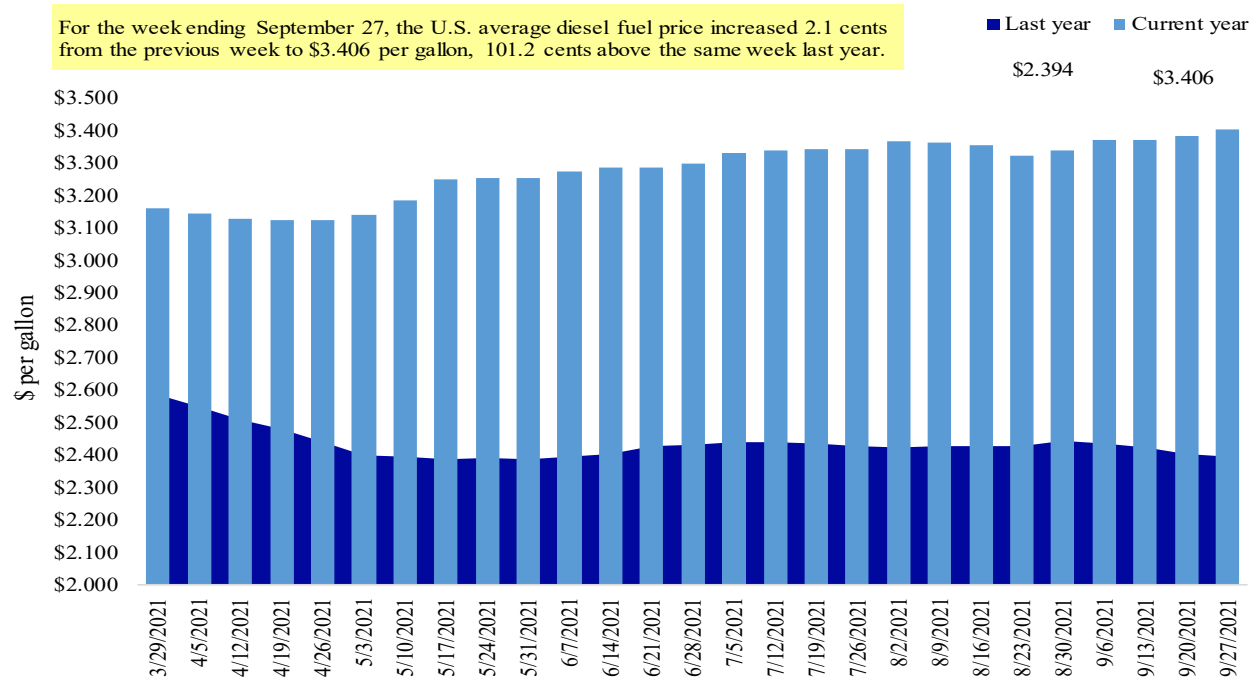
Region	Location	Price	Change from	
			Week ago	Year ago
I	East Coast	3.371	0.019	0.898
	New England	3.299	-0.001	0.707
	Central Atlantic	3.514	0.018	0.856
	Lower Atlantic	3.288	0.022	0.965
II	Midwest	3.326	0.036	1.057
III	Gulf Coast	3.142	0.023	0.988
IV	Rocky Mountain	3.605	-0.024	1.269
V	West Coast	4.032	0.006	1.104
	West Coast less California	3.664	0.001	1.110
	California	4.339	0.010	1.103
Total	United States	3.406	0.021	1.012

<sup>1</sup>Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

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

Figure 13

**Weekly diesel fuel prices, U.S. average**



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)

For the week ending	Wheat						Corn	Soybeans	Total
	HRW	SRW	HRS	SWW	DUR	All wheat			
<b>Export balances<sup>1</sup></b>									
9/16/2021	1,573	750	981	576	66	3,944	24,100	22,660	50,704
This week year ago	1,637	419	1,733	1,297	257	5,342	20,602	31,996	57,941
<b>Cumulative exports-marketing year<sup>2</sup></b>									
2021/22 YTD	2,538	946	1,945	1,351	61	6,840	846	533	8,219
2020/21 YTD	3,372	706	2,216	1,571	278	8,142	1,993	3,426	13,561
YTD 2021/22 as % of 2020/21	75	134	88	86	22	84	42	16	61
Last 4 wks. as % of same period 2020/21*	96	180	59	48	10	75	92	53	69
Total 2020/21	8,331	1,744	7,337	6,281	654	24,347	66,702	60,287	151,336
Total 2019/20	9,526	2,318	6,960	4,751	922	24,477	42,622	43,994	111,094

<sup>1</sup> Current unshipped (outstanding) export sales to date.

<sup>2</sup> Shipped export sales to date; 2021/22 marketing year now in effect for wheat, corn and soybeans.

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<sup>1</sup> of U.S. corn

For the week ending 09/16/2021	Total commitments <sup>2</sup>		% change current MY from last MY	Exports <sup>3</sup> 3-yr. avg. 2019-21
	2021/22 current MY	2020/21 last MY		
	1,000 mt -			
Mexico	5,381	3,905	38	14,817
Japan	1,759	2,542	(31)	11,082
China	11,905	9,807	21	7,920
Columbia	854	806	6	4,491
Korea	72	341	(79)	3,302
<b>Top 5 importers</b>	<b>19,971</b>	<b>17,401</b>	<b>15</b>	<b>41,613</b>
<b>Total U.S. corn export sales</b>	<b>24,946</b>	<b>22,595</b>	<b>10</b>	<b>53,145</b>
% of projected exports	40%	32%		
Change from prior week <sup>2</sup>	<b>373</b>	<b>2,139</b>		
<b>Top 5 importers' share of U.S. corn export sales</b>	80%	77%		78%
<b>USDA forecast September 2021</b>	<b>62,977</b>	<b>69,847</b>	<b>(10)</b>	
<b>Corn use for ethanol USDA forecast, September 2021</b>	<b>132,080</b>	<b>127,889</b>	<b>3</b>	

<sup>1</sup>Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2020/21; marketing year (MY) = Sep 1 - Aug 31.

<sup>2</sup>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.

<sup>3</sup>FAS marketing year ranking reports (carry over 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<sup>1</sup> of U.S. soybeans**

For the week ending 09/16/2021	Total commitments <sup>2</sup>		% change current MY from last MY	Exports <sup>3</sup> 3-yr. avg. 2018-20
	2021/22 current MY	2020/21 last MY		
				- 1,000 mt -
China	10,992	19,241	(43)	21,666
Mexico	1,618	1,732	(7)	4,754
Egypt	492	444	11	3,093
Indonesia	155	529	(71)	2,325
Japan	549	592	(7)	2,275
<b>Top 5 importers</b>	<b>13,806</b>	<b>22,537</b>	<b>(39)</b>	<b>34,113</b>
<b>Total U.S. soybean export sales</b>	<b>23,192</b>	<b>35,422</b>	<b>(35)</b>	<b>50,758</b>
% of projected exports	41%	58%		
change from prior week <sup>2</sup>	<b>903</b>	<b>3,195</b>		
<b>Top 5 importers' share of U.S. soybean export sales</b>	<b>60%</b>	<b>64%</b>		<b>67%</b>
<b>USDA forecast, September 2021</b>	<b>56,948</b>	<b>61,580</b>	<b>92</b>	

<sup>1</sup>Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2020/21; marketing year (MY) = Sep 1 - Aug 31.

<sup>2</sup>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.

<sup>3</sup>FAS marketing year ranking reports (carry over 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 15

**Top 10 importers<sup>1</sup> of all U.S. wheat**

For the week ending 09/16/2021	Total Commitments <sup>2</sup>		% change current MY from last MY	Exports <sup>3</sup> 3-yr. avg. 2018-20
	2021/22 current MY	2020/21 last MY		
				- 1,000 mt -
Mexico	1,858	1,392	33	3,388
Philippines	1,627	1,987	(18)	3,121
Japan	1,098	1,297	(15)	2,567
Korea	661	792	(17)	1,501
Nigeria	1,169	639	83	1,490
China	846	1,473	(43)	1,268
Taiwan	400	582	(31)	1,187
Indonesia	0	550	(100)	1,131
Thailand	283	321	(12)	768
Italy	118	458	(74)	681
<b>Top 10 importers</b>	<b>8,059</b>	<b>9,490</b>	<b>(15)</b>	<b>17,102</b>
<b>Total U.S. wheat export sales</b>	<b>10,785</b>	<b>13,484</b>	<b>(20)</b>	<b>24,617</b>
% of projected exports	45%	50%		
change from prior week <sup>2</sup>	<b>356</b>	<b>351</b>		
<b>Top 10 importers' share of U.S. wheat export sales</b>	<b>75%</b>	<b>70%</b>		<b>69%</b>
<b>USDA forecast, September 2021</b>	<b>23,842</b>	<b>27,030</b>	<b>(12)</b>	

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

<sup>2</sup>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.

<sup>3</sup>FAS marketing year final reports (carry over 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 09/23/21	Previous week*	Current week as % of previous	2021 YTD*	2020 YTD*	2021 YTD as % of 2020 YTD	Last 4-weeks as % of:		2020 total*
							Last year	Prior 3-yr. avg.	
<b>Pacific Northwest</b>									
Wheat	156	394	40	11,441	12,272	93	73	95	15,966
Corn	46	0	n/a	12,368	8,160	152	5	7	9,969
Soybeans	94	68	140	3,986	4,362	91	20	32	14,028
<b>Total</b>	<b>296</b>	<b>461</b>	<b>64</b>	<b>27,795</b>	<b>24,794</b>	<b>112</b>	<b>39</b>	<b>53</b>	<b>39,963</b>
<b>Mississippi Gulf</b>									
Wheat	17	0	n/a	2,322	3,008	77	4	5	3,422
Corn	192	196	98	31,196	21,227	147	30	30	28,781
Soybeans	319	158	202	12,150	19,124	64	14	19	38,013
<b>Total</b>	<b>528</b>	<b>355</b>	<b>149</b>	<b>45,668</b>	<b>43,359</b>	<b>105</b>	<b>18</b>	<b>22</b>	<b>70,215</b>
<b>Texas Gulf</b>									
Wheat	85	70	121	3,078	3,352	92	105	122	4,248
Corn	40	7	568	468	600	78	114	117	723
Soybeans	0	0	n/a	656	399	164	0	0	2,098
<b>Total</b>	<b>125</b>	<b>77</b>	<b>162</b>	<b>4,203</b>	<b>4,350</b>	<b>97</b>	<b>69</b>	<b>100</b>	<b>7,068</b>
<b>Interior</b>									
Wheat	42	93	45	2,391	1,663	144	239	219	2,263
Corn	230	193	119	7,094	6,354	112	106	108	8,683
Soybeans	50	65	77	4,166	4,742	88	58	57	7,274
<b>Total</b>	<b>322</b>	<b>351</b>	<b>92</b>	<b>13,651</b>	<b>12,759</b>	<b>107</b>	<b>106</b>	<b>105</b>	<b>18,220</b>
<b>Great Lakes</b>									
Wheat	1	10	11	317	628	50	22	20	891
Corn	0	0	n/a	94	54	174	138	248	111
Soybeans	0	0	n/a	67	385	17	0	0	1,111
<b>Total</b>	<b>1</b>	<b>10</b>	<b>11</b>	<b>478</b>	<b>1,066</b>	<b>45</b>	<b>22</b>	<b>25</b>	<b>2,113</b>
<b>Atlantic</b>									
Wheat	0	27	0	120	26	454	n/a	n/a	65
Corn	1	0	n/a	43	15	284	130	62	33
Soybeans	0	1	n/a	1,084	566	191	8	13	1,870
<b>Total</b>	<b>1</b>	<b>28</b>	<b>3</b>	<b>1,247</b>	<b>608</b>	<b>205</b>	<b>50</b>	<b>68</b>	<b>1,968</b>
<b>U.S. total from ports*</b>									
Wheat	301	594	51	19,669	20,949	94	74	90	26,854
Corn	509	397	128	51,262	36,409	141	41	43	48,301
Soybeans	464	292	159	22,110	29,579	75	18	24	64,394
<b>Total</b>	<b>1,274</b>	<b>1,283</b>	<b>99</b>	<b>93,041</b>	<b>86,937</b>	<b>107</b>	<b>36</b>	<b>45</b>	<b>139,548</b>

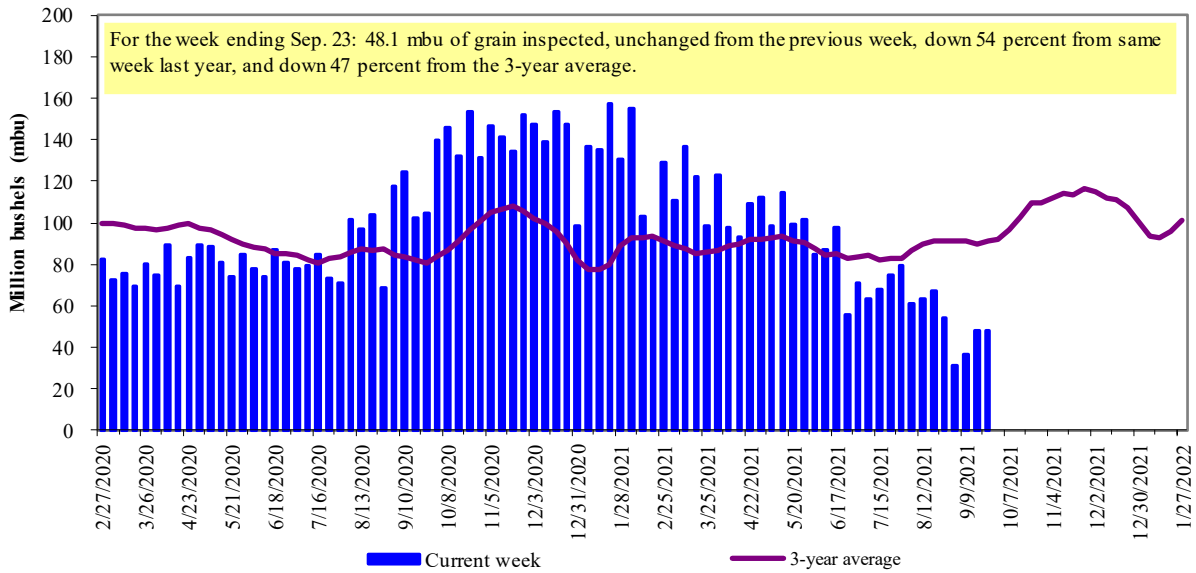
\*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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 2020.

Figure 14

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

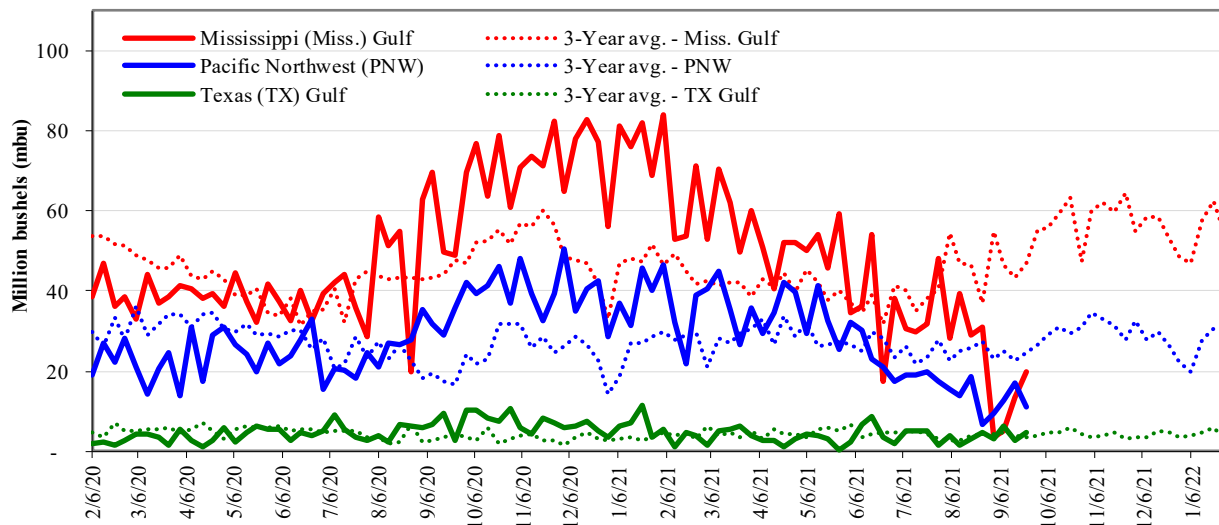


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

**U.S. Grain inspections: U.S. Gulf and PNW<sup>1</sup> (wheat, corn, and soybeans)**



Week ending 09/23/21 inspections (mbu):		Percent change from:				
		Last wk:	MS Gulf	TX Gulf	U.S. Gulf	PNW
MS Gulf:	19.9	up 47	up 65	up 50	down 35	
PNW:	11.0	Last Year (same wk):	down 59	up 77	down 52	down 69
TX Gulf:	4.7	3-yr avg.(4-wk. mov. Avg):	down 58	up 13	down 53	down 54

Source: USDA, Federal Grain Inspection Service.

# Ocean Transportation

Table 17

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

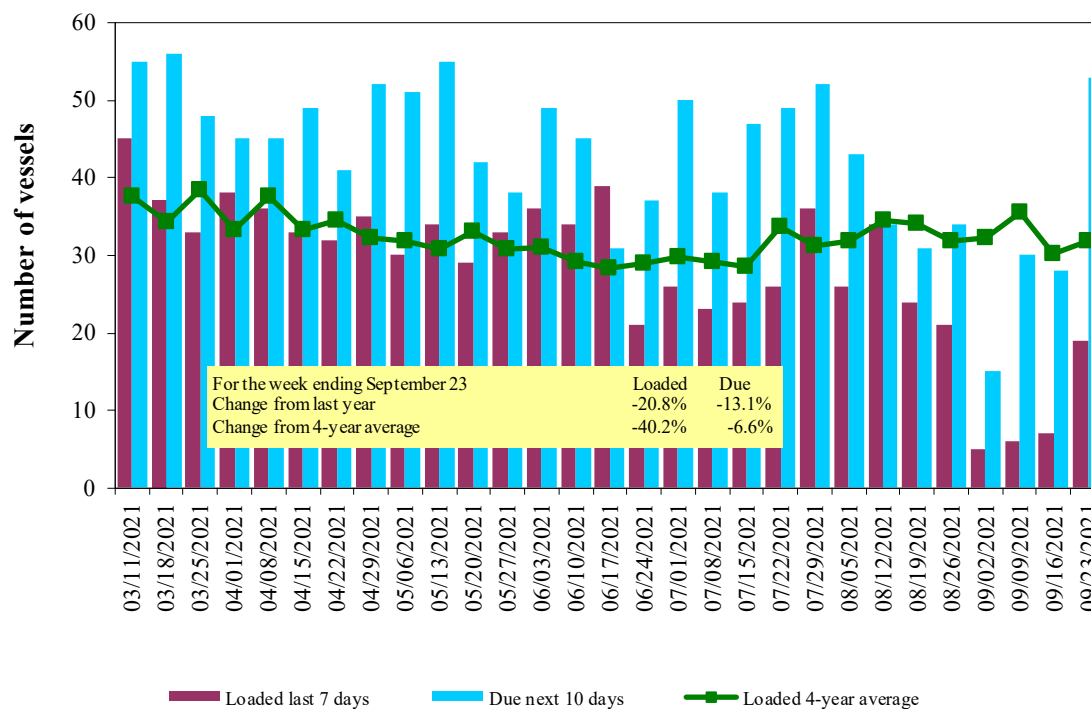
Date	Gulf			Pacific Northwest
	In port	Loaded	Due next	In port
		7-days	10-days	
9/23/2021	57	19	53	11
9/16/2021	32	7	28	9
2020 range	(22...60)	(23...46)	(34...68)	(7...24)
2020 average	37	33	49	15

Note: n/a = not available due to holiday; \*Incomplete data due to Hurricane Ida

Source: USDA, Agricultural Marketing Service.

Figure 16

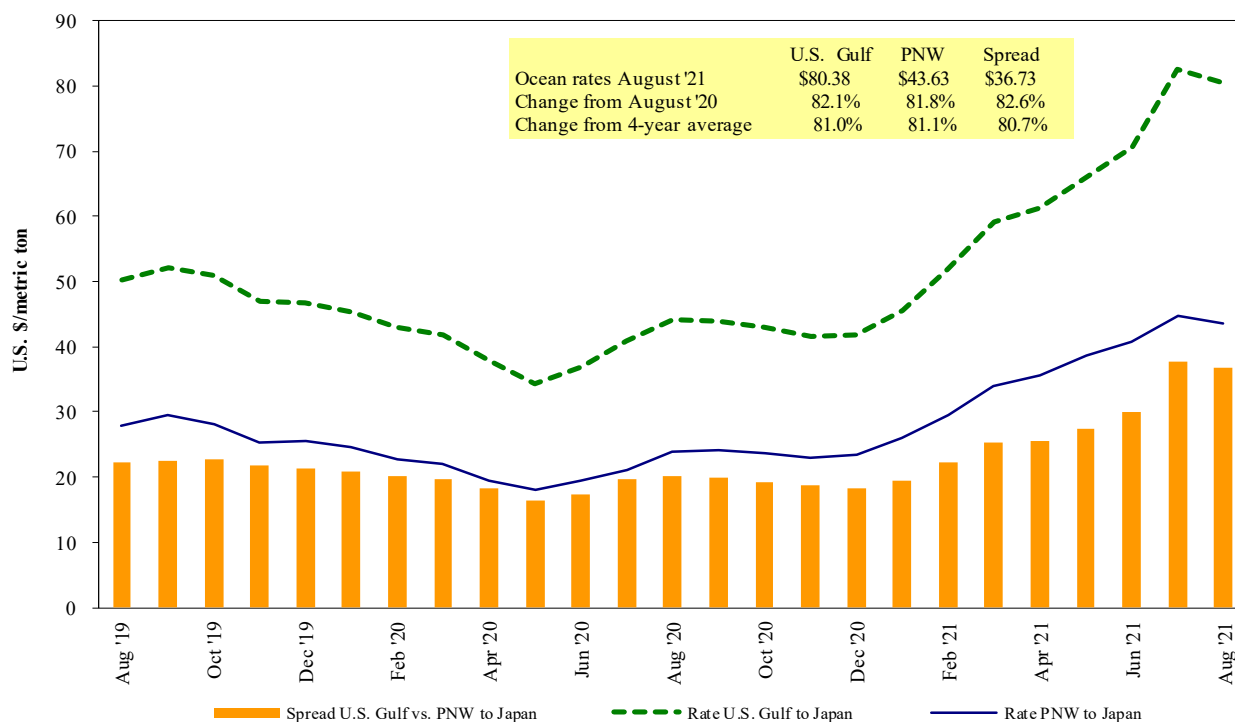
### U.S. Gulf<sup>1</sup> vessel loading activity



<sup>1</sup>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 09/25/2021

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US\$/metric ton)
U.S. Gulf	Japan	Heavy grain	Oct 1/10	48,000	70.10
U.S. Gulf	Japan	Heavy grain	Aug 21/Sep 9	50,000	60.90
U.S. Gulf	Japan	Heavy grain	Aug 1/10	50,000	69.75
U.S. Gulf	Japan	Heavy grain	Jul 1/15	50,000	64.10
U.S. Gulf	Japan	Grain	May 25/ Jun 25	50,000	46.85 op 47.85
U.S. Gulf	Japan	Heavy grain	Apr 15/May 15	50,000	47.00
U.S. Gulf	Sudan	Wheat	Sep 1/10	49,000	79.12*
U.S. Gulf	China	Heavy grain	Oct 1/10	55,000	81.50
U.S. Gulf	Djibouti	Wheat	Jul 6/16	5,880	85.70*
PNW	Japan	Wheat	Sep 1	52,170	56.55*
PNW	Japan	Wheat	Jul 25/ Aug 5	32,590	64.00
PNW	Japan	Wheat	Jul 16/31	30,250	64.35
PNW	Japan	Wheat	Jun 5/15	50,600	49.30
PNW	Yemen	Wheat	Jun 10/20	22,230	132.25*
PNW	Taiwan	Heavy grain	Aug 20/30	35,000	64.20*
PNW	Taiwan	Wheat	Aug 1/10	55,000	54.95
PNW	Taiwan	Wheat	May 29/ Jun 12	45,665	48.00
Australia	Japan	Barley	Nov 1/10	55,000	65.50
River Plate	South Korea	Corn	Oct 21	67,000	79.80

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

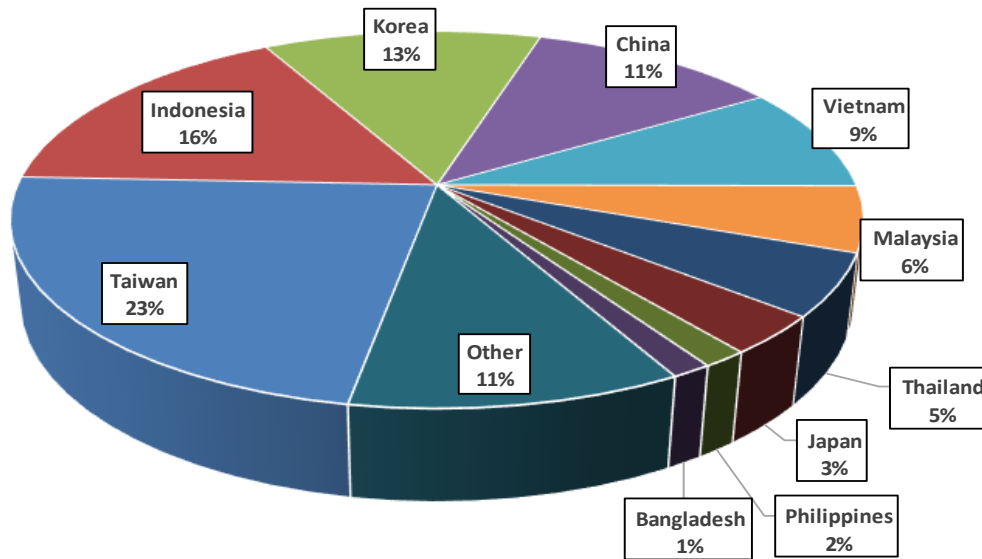
Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated;

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.

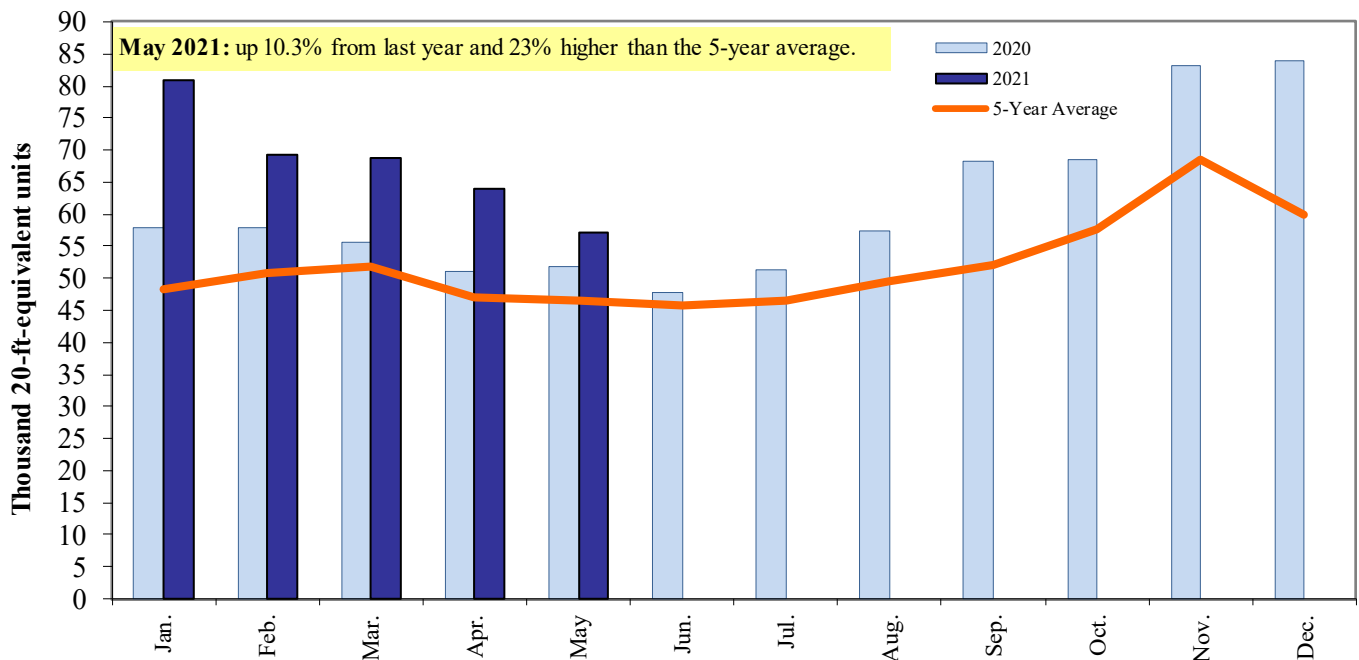
**Figure 18**  
**Top 10 destination markets for U.S. containerized grain exports, Jan-May 2021**



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

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: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 110220, 110290, 1201, 120100, 120190, 120810, 230210, 230310, 230330, and 230990.

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

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