



Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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July 15, 2021

WEEKLY HIGHLIGHTS

USDA/AMS Upgrades Its Agricultural Transportation Open Data Visualization Platform

On July 13, USDA's Agricultural Marketing Service (AMS) upgraded its [Agricultural Transportation Open Data Platform](#), marking the second major expansion to the platform launched in June 2019. The expansion features new datasets and dashboards on the four modes—rail, truck, barge, and ocean vessel—used to transport agricultural products. New and upgraded products on the updated platform include a [Grain Transportation Cost Indicators and Global Competitiveness Dashboard](#) with data on Brazil, Mexico, and Japan; an interactive report (and datasets) on the [Importance of Highways to U.S. Agriculture](#); an [Agricultural Rail Service Metrics Dashboard](#); an upgraded [Port Profiles Dashboard](#) with additional, more granular data; an upgraded [Barge Dashboard](#), including additional rivers and locks; new [Biofuels Dashboard](#), including new biodiesel datasets; new [Grain Trucking Indicators Dashboard](#); and a [web version](#) of the [2021 Agricultural Transportation Research Compendium](#), highlighting the main findings and methods from recent research between 2015 and 2021.

DOT Proposes "Rebuilding America" Funding To Support Transportation Infrastructure

Under its Infrastructure for Rebuilding America (INFRA) grant program, the U.S. Department of Transportation (DOT) [recently proposed awarding](#) \$905.25 million to 24 projects—including projects relevant to grain shippers—in 18 States. For example, the city of Dubuque, IA, would receive \$5 million to increase capacity and improve transloading among barge, rail, and truck for fertilizer, grain, and other bulk products at the Port of Dubuque. According to the U.S. Army Corps of Engineers' Waterborne Commerce Statistics, the Port of Dubuque handled an annual average of 873,080 tons of grain by barge between 2015 and 2019. In addition, North Dakota's Department of Transportation would receive \$16.75 million to construct passing lanes along approximately 165 miles of two-lane US-52 between Carrington, ND, and slightly north of Kenmare, ND. This highway segment is part of the Minot, ND, to Chicago, IL, corridor that a [December 2020 USDA report](#) flagged as having long and unreliable travel times. The corridor is key to farm-to-elevator soybean shipments and eastward wheat movements to Minneapolis and Chicago. Congress has 60 days to review DOT's proposed project recipients, after which DOT can begin obligating funding.

Soybeans Imported by China—Forecast at Record High—Suggest Possible Shift in U.S. Transportation Demand

On June 30, USDA's Foreign Agriculture Service (FAS) published its latest [Chinese soybean import estimate](#) for marketing year (MY) 2021/22. FAS estimates China—the largest importer of U.S. soybeans—will import a record 102 million metric tons (mmt) of soybeans from around the globe, up from 100 mmt in MY 2020/21. FAS reports China's declining planted acres and increased crush demand could support record Chinese imports. At the same time, USDA projects total U.S. soybean exports to decline by 5.3 mmt from MY 2020/21 to MY 2021/22. Amid these overall export declines, the projected increase in Chinese soybean demand could increase soybeans sent by rail to Pacific Northwest (PNW) ports and decrease soybeans sent by barge to the Gulf. PNW ports accounted for 42 percent of U.S. oceangoing soybean exports to China, whereas PNW ports accounted for only 3 percent of soybean exports to non-China destinations, according to USDA grain inspections data from 2016 through 2020. From MY 2010/11, China has annually averaged 53 percent of the total U.S. annual soybean export volume.

Snapshots by Sector

Export Sales

For the week ending July 1, [unshipped balances](#) of wheat, corn, and soybeans totaled 19.6 mmt. This was 3 percent lower than last week and 7 percent lower than the same time last year. Net [corn export sales](#) were 0.173 mmt, up significantly from the past week. Net [soybean export sales](#) were 0.064 mmt, down 31 percent from the previous week. Net weekly [wheat export sales](#) for MY 2021/22, which began June 1, were 0.291 mmt.

Rail

U.S. Class I railroads originated 19,863 [grain carloads](#) during the week ending July 3. This was a 10-percent decrease from the previous week, 4 percent less than last year, and 12 percent less than the 3-year average.

Average July shuttle [secondary railcar](#) bids/offers (per car) were \$197 below tariff for the week ending July 8. This was \$111 more than last week and \$259 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending July 10, [barged grain movements](#) totaled 698,380 tons. This was 10 percent less than the previous week and 6 percent higher than the same period last year.

For the week ending July 10, 473 grain barges [moved down river](#)—38 fewer barges than the previous week. There were 533 grain barges [unloaded in New Orleans](#), 5 percent fewer than the previous week.

Ocean

For the week ending July 8, 23 [oceangoing grain vessels](#) were loaded in the Gulf—23 percent fewer than the same period last year. Within the next 10 days (starting July 9), 38 vessels were expected to be loaded—3 percent more than the same period last year.

As of July 8, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$85.00. This was 4 percent more than the previous week. The rate from PNW to Japan was \$46.25 per mt, 1 percent more than the previous week.

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Feature Article/Calendar

Bulk Ocean Freight Rates Continued To Rise in Second Quarter 2021

In second quarter 2021, ocean freight rates for shipping bulk commodities, including grain, continued to rise. The rise was fueled by sustained global optimism from the ongoing reopening of major economies and successful COVID-19 vaccine deployments. Also fueling the rise in rates, major economies, such as China and United States, have continued expansionary monetary policies and in some cases enacted stimulus packages to address the COVID-19 pandemic. Strong movements of grain and other bulk items like coal and iron ore have likewise supported rising ocean freight rates. This article breaks down second-quarter ocean freight rates and describes developments around the world that have influenced those rates.

Changes in Ocean Freight Rates by Destination and Route

Second-quarter ocean freight rates for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan averaged \$65.94—26 percent more than the previous quarter (quarter to quarter), 82 percent more than the same period last year (year to year), and 64 percent more than the 4-year average. The cost of shipping from the Pacific Northwest (PNW) to Japan averaged \$38.34 per mt—up 28 percent quarter to quarter, up 102 percent year to year, and 77 percent more than the 4-year average. On average, shipping grain from the U.S. Gulf to Europe cost \$23.19 per mt in the second quarter, up 17 percent quarter to quarter, up 76 percent year to year, and up 43 percent from the 4-year average. The spread—i.e., the

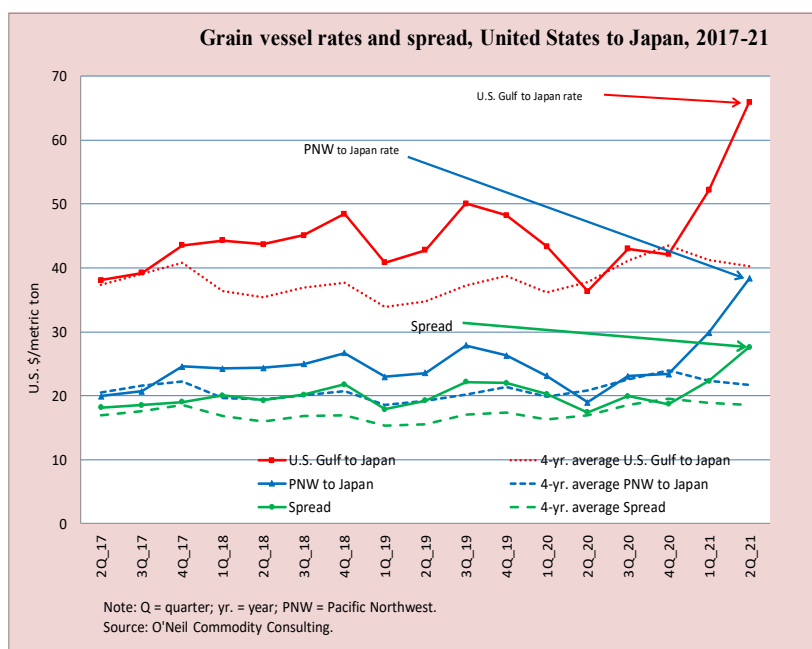
Ocean freight rates for grain routes during the second quarter 2021							
Route	Apr.	May	Jun.	2nd quarter 2021	Change from		
					1st qtr. '21	2nd qtr. '20	4-yr. avg.
	--\$/mt--			--\$/mt--	Percent		
U.S. Gulf to Japan	61.20	66.00	70.63	65.94	26	82	64
PNW to Japan	35.70	38.63	40.69	38.34	28	102	77
Spread	25.50	27.37	29.94	27.60	24	59	49
U.S. Gulf to Europe	22.95	24.50	22.13	23.19	17	76	43

Note: qtr. = quarter; avg = average; mt = metric ton; yr = year; PNW = Pacific Northwest.
 *Spread is the difference between ocean freight rates for shipping grain from the U.S. Gulf to Japan and PNW to Japan.
 Source: O'Neil Commodity Consulting.

difference between the U.S. Gulf- and PNW-to-Japan rates—was also up quarter to quarter, year to year, and from the 4-year average.

Strong Global Commodity Movements Raised Vessel Demand

Although weather-related uncertainty in Australia and Brazil somewhat suppressed demand for Panamax and Supramax vessels, April ocean freight rates increased slightly from March. Significantly supporting rate increases throughout the quarter, China's iron ore imports remained



strong, driven by increased construction and manufacturing activities.

Sustained high demand for iron ore, in both China and Europe, contributed to a sharp rise in ocean freight rates in May. Adding to May demand for vessels, iron ore supply from Brazil improved: the repair of a collapsed dam powering a major iron mine allowed production to recover. Similarly, in May, improved supply of soybeans from Brazil and strong grain exports from Australia continued to boost the demand for vessels.

Also, in second quarter 2021, rising coal exports from Columbia reflected the restoration of the coal supply chain from a protracted labor dispute spanning nearly the last 4 months of 2020. In June, peak summer season in India and other Asian countries drove the demand for electricity, which boosted import demand for coal and non-coking coal. After labor disputes in Argentina were resolved in May, a restored corn supply chain in the second quarter raised the country's June corn exports. For all of these commodities, higher movements and rising demand for vessels to transport them also contributed to high ocean freight rates.

Shifting global export patterns. Beyond receiving support from strong commodity movements internationally, the demand for vessels—especially Capesize, Panamax, and Supramax—has risen with shifting export patterns. In one such shift, Australia's exports were diverted from China to farther destinations, such as Saudi Arabia. This new export pattern has added to ton-mile demand and lengthened vessel turnaround, thereby shrinking supply and availability (and pushing up rates).¹ According to the May 2021 edition of *Shipping Insight* by Drewry, Australia exported close to 1.7 million tons of grain to Saudi Arabia in the first 2 months of 2021, compared to 0.2 million tons during the same period in 2020. In second quarter 2021, grain movements from Australia to Saudi Arabia and other Middle Eastern countries continued to rise.

Since halting coal imports from Australia in October 2020, China has significantly increased its imports from the United States, Canada, Colombia, Russia, and South Africa, thereby boosting ton-mile demand. Collectively, these countries contributed 10 percent of China's total coal imports in first quarter 2020—a share that rose to 24 percent in first quarter 2021 and is expected to continue rising throughout 2021 (according to Drewry). If this share of the long-haul trade continues to rise, more dry bulk vessels will be employed for longer duration, generating additional demand and putting upward pressure on rates.

Current Market Analysis and Outlook

As of July 8, 2021, the ocean freight rate from the U.S. Gulf to Japan was \$85.00 per mt of grain, 97 percent higher than the first available rate in the beginning of the year and 115 percent higher than the same period a year ago. The rate from PNW to Japan was \$46.25 per mt, 89 percent higher than the beginning of the year and 120 percent higher than a year ago. These rates were at their highest levels since September 19, 2008. According to Drewry, congestion at Chinese ports continues to squeeze vessel supply and put upward pressure on ocean freight rates. Other rate-raising factors already cited—such as shifting export patterns (more long-haul shipments) and high demand for iron ore imports by China and Europe—will also likely continue, at least in the near term. However, there is at least one reliable moderating effect that could exert downward pressure on rates: during periods of high ocean freight rates, owners are more likely to recall vessels from idling and to decrease scrapping or retirement of older vessels, thereby increasing vessel supply. surajudeen.olowolayemo@usda.gov

¹ A revenue “ton mile” measures revenue earned by a carrier per volume of freight transported. This basically translates to the revenue earned for transporting 1 ton of freight across 1 mile.

Grain Transportation Indicators

Table 1

Grain transport cost indicators¹

For the week ending	Truck		Rail		Barge	Ocean	
		Non-Shuttle	Shuttle			Gulf	Pacific
07/14/21	224	292	214		153	380	328
07/07/21	224	292	212		153	367	326

¹Indicator: 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)

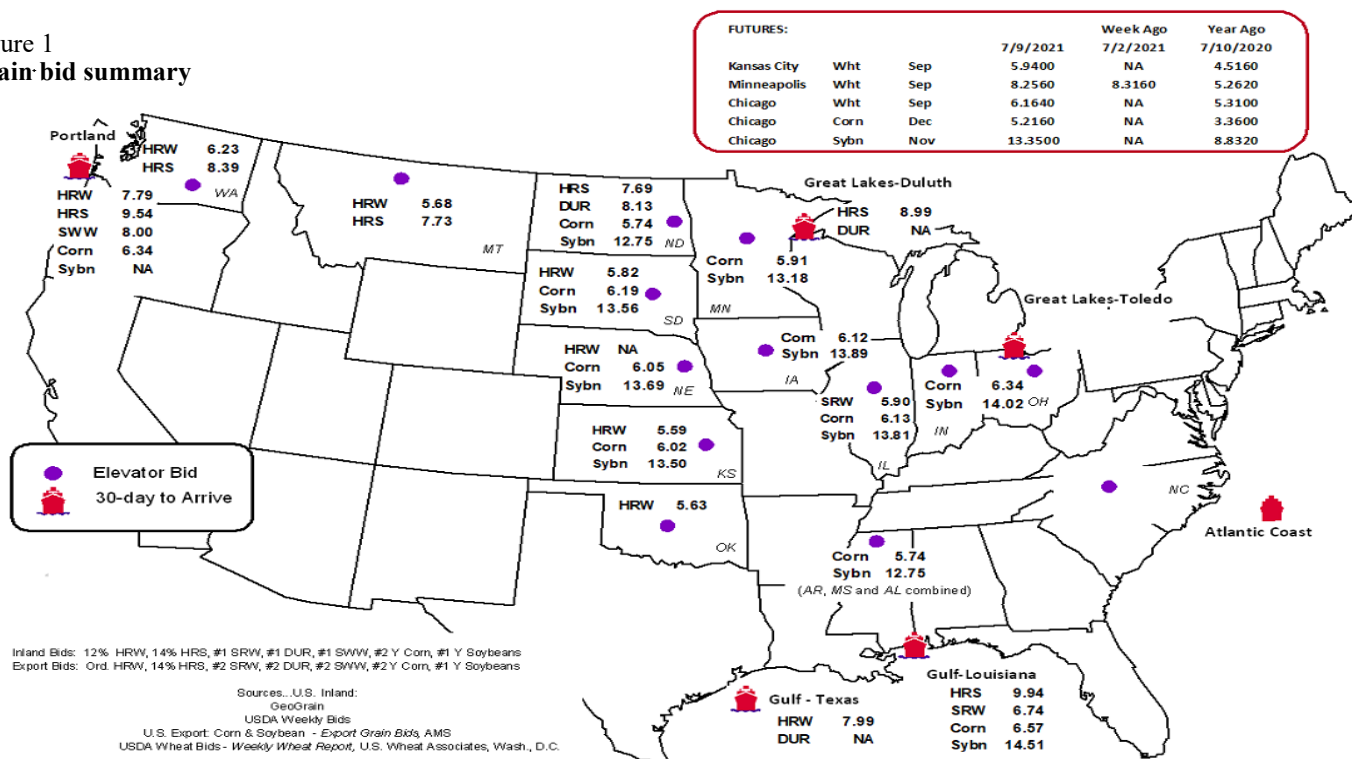
Commodity	Origin-destination	7/9/2021	7/2/2021
Corn	IL-Gulf	-0.44	-0.70
Corn	NE-Gulf	-0.52	-0.82
Soybean	IA-Gulf	-0.62	-0.69
HRW	KS-Gulf	-2.40	-2.14
HRS	ND-Portland	-1.85	-2.23

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		Pacific	Atlantic &	Total	Week ending	Cross-border Mexico ³
	Gulf	Texas Gulf	Northwest	East Gulf			
7/07/2021 ^p	106	659	2,960	0	3,725	7/3/2021	2,037
6/30/2021 ^r	355	1,008	3,697	0	5,060	6/26/2021	2,916
2021 YTD ^r	35,078	39,765	167,721	9,887	252,451	2021 YTD	74,566
2020 YTD ^r	10,974	23,383	125,984	5,313	165,654	2020 YTD	64,624
2021 YTD as % of 2020 YTD	320	170	133	186	152	% change YTD	115
Last 4 weeks as % of 2020 ²	128	88	83	0	83	Last 4wks. % 2020	116
Last 4 weeks as % of 4-year avg. ²	60	86	74	0	72	Last 4wks. % 4 yr.	112
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

¹Data is incomplete as it is voluntarily provided.

²Compared with same 4-weeks in 2020 and prior 4-year average.

³Cross-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.

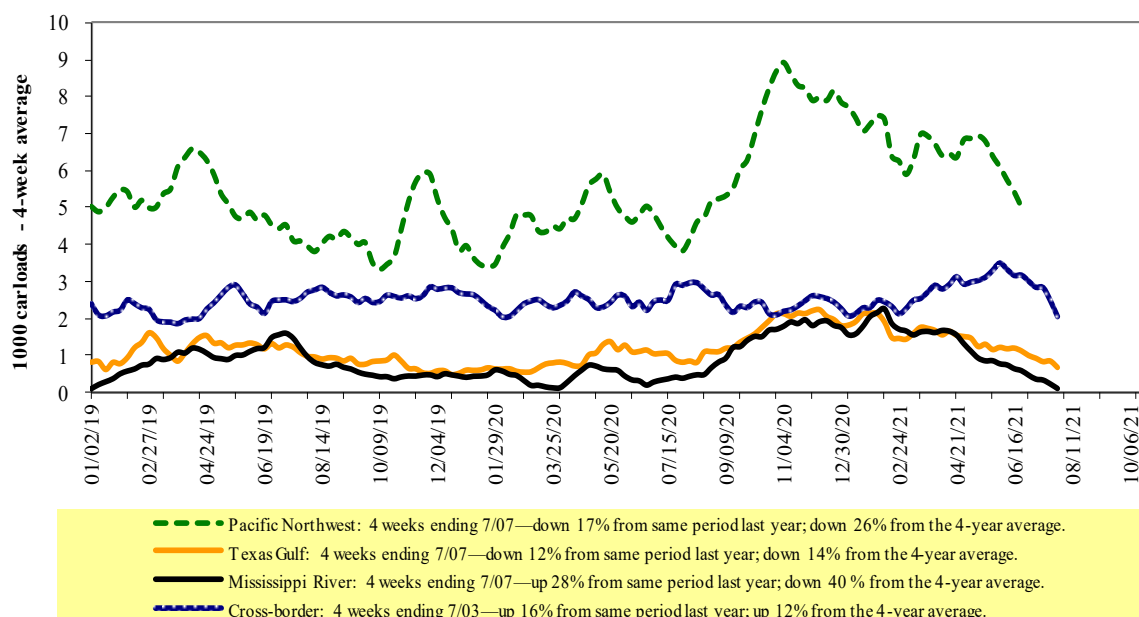
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

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: 7/3/2021	East		West			U.S. total	Canada	
	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,216	2,167	9,808	1,002	5,670	19,863	2,804	3,968
This week last year	1,391	2,474	10,565	957	5,270	20,657	4,300	4,849
2021 YTD	49,909	67,162	327,876	29,077	167,943	641,967	118,443	137,836
2020 YTD	44,713	63,055	288,503	27,932	133,850	558,053	106,975	120,583
2021 YTD as % of 2020 YTD	112	107	114	104	125	115	111	114
Last 4 weeks as % of 2020*	111	96	100	128	110	104	80	90
Last 4 weeks as % of 3-yr. avg.**	92	89	91	119	109	97	86	94
Total 2020	91,659	130,522	613,630	57,782	296,701	1,190,294	238,564	261,778

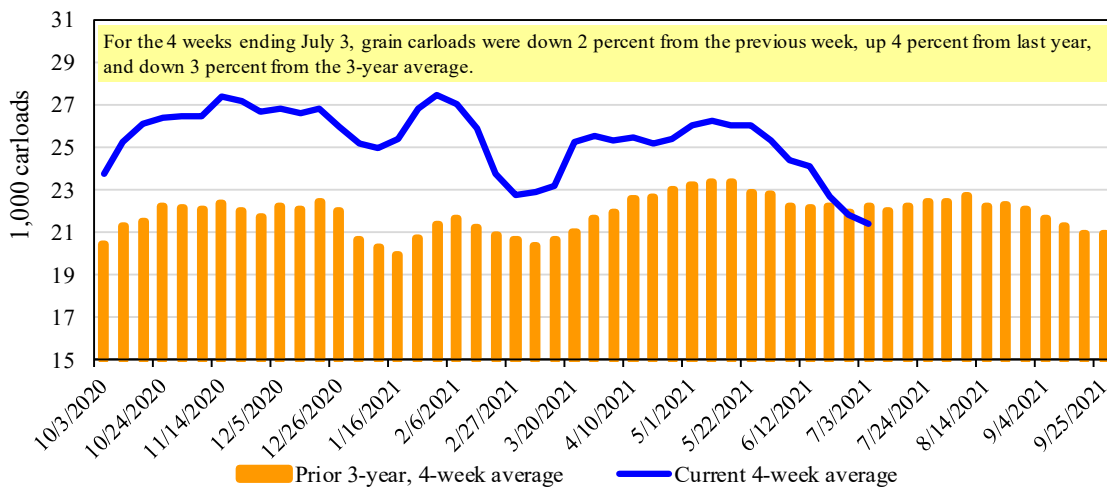
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

**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 offerings¹ (\$/car)²

For the week ending: 7/8/2021		Delivery period							
		Jul-21	Jul-20	Aug-21	Aug-20	Sep-21	Sep-20	Oct-21	Oct-20
BNSF ³	COT grain units	no offer	no bids	no bids	0	no bids	0	no bids	no bids
	COT grain single-car	no offer	0	0	0	0	8	0	1
UP ⁴	GCAS/Region 1	no offer	10	no offer	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	no offer	no bid	no offer	no bid	no offer	no bid	n/a	n/a

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

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

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

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

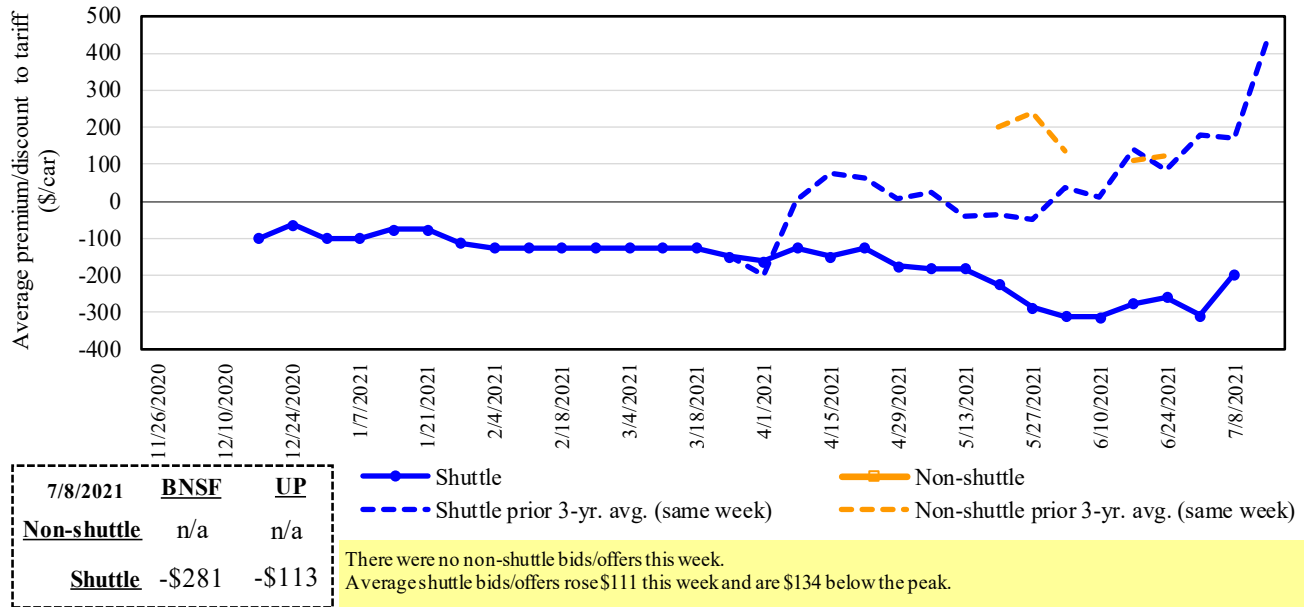
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

Source: USDA, Agricultural Marketing Service.

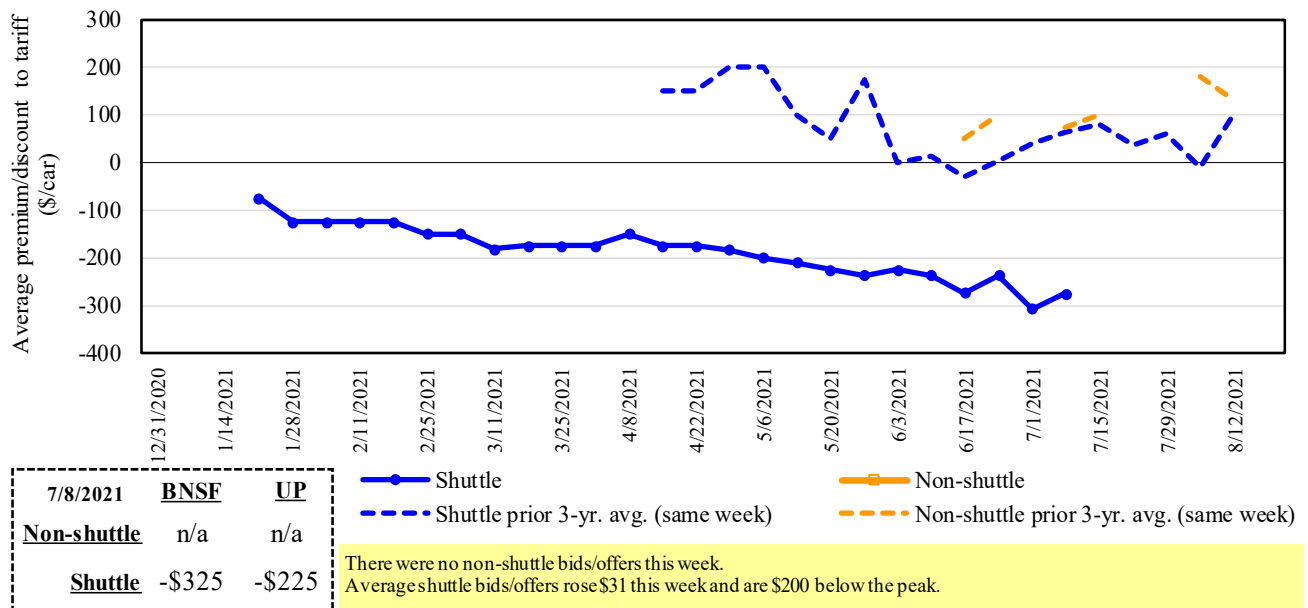
The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/supply.

Figure 4
Bids/offers for railcars to be delivered in July 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.

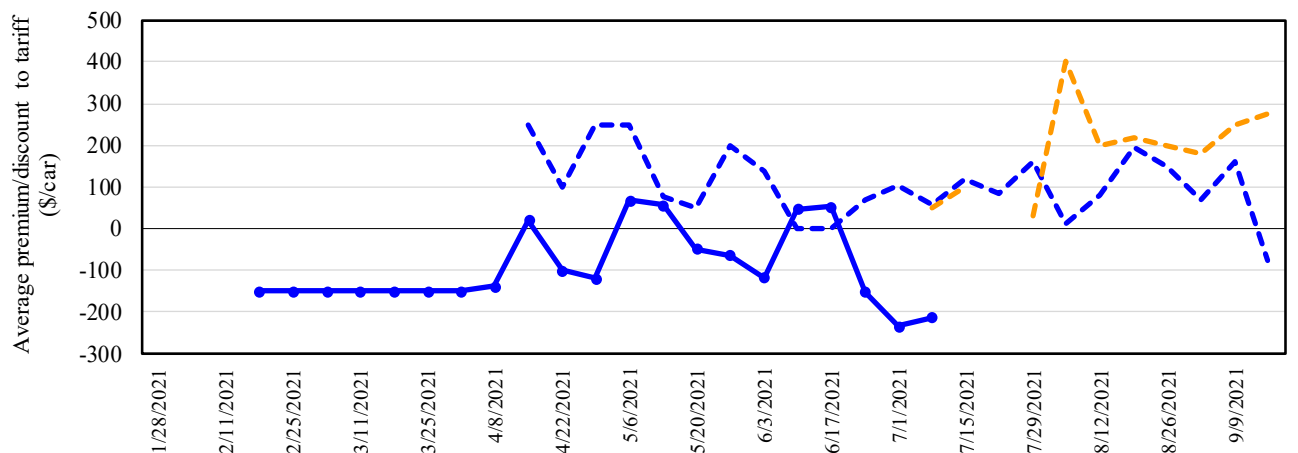
Figure 5
Bids/offers for railcars to be delivered in August 2021, secondary market



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 September 2021, secondary market



7/8/2021	BNSF	UP		
Non-shuttle	n/a	n/a		
Shuttle	-\$225	-\$200		

—●— Shuttle
- - - Shuttle prior 3-yr. avg. (same week)
—□— Non-shuttle
- - - Non-shuttle prior 3-yr. avg. (same week)

There were no non-shuttle bids/offers this week.
 Average shuttle bids/offers rose \$21 this week and are \$281 below the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
 Source: USDA, Agricultural Marketing Service.

Table 6

Weekly secondary railcar market (\$/car)¹

For the week ending:		Delivery period					
		7/8/2021	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
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 2020	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 2020	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	BNSF-GF	(281)	(325)	(225)	713	n/a	n/a
	Change from last week	(15)	38	42	(30)	n/a	n/a
	Change from same week 2020	(306)	(325)	(250)	238	n/a	n/a
	UP-Pool	(113)	(225)	(200)	688	n/a	n/a
	Change from last week	237	25	0	21	n/a	n/a
	Change from same week 2020	(213)	(250)	(163)	313	n/a	n/a

¹Average 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 shipments¹

July 2021	Origin region ³	Destination region ³	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per:		Percent change Y/Y ⁴
					metric ton	bushel ²	
Unit train							
Wheat	Wichita, KS	St. Louis, MO	\$3,695	\$116	\$37.85	\$1.03	5
	Grand Forks, ND	Duluth-Superior, MN	\$4,208	\$0	\$41.79	\$1.14	-3
	Wichita, KS	Los Angeles, CA	\$7,115	\$0	\$70.66	\$1.92	-2
	Wichita, KS	New Orleans, LA	\$4,525	\$205	\$46.97	\$1.28	3
	Sioux Falls, SD	Galveston-Houston, TX	\$6,851	\$0	\$68.03	\$1.85	-2
	Colby, KS	Galveston-Houston, TX	\$4,801	\$224	\$49.90	\$1.36	3
	Amarillo, TX	Los Angeles, CA	\$5,121	\$312	\$53.95	\$1.47	4
Corn	Champaign-Urbana, IL	New Orleans, LA	\$3,900	\$231	\$41.03	\$1.04	4
	Toledo, OH	Raleigh, NC	\$7,833	\$0	\$77.79	\$1.98	15
	Des Moines, IA	Davenport, IA	\$2,455	\$49	\$24.87	\$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
	Des Moines, IA	Little Rock, AR	\$3,900	\$144	\$40.16	\$1.02	5
	Des Moines, IA	Los Angeles, CA	\$5,780	\$419	\$61.56	\$1.56	7
Soybeans	Minneapolis, MN	New Orleans, LA	\$3,631	\$241	\$38.45	\$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	\$231	\$48.42	\$1.32	4
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	\$4,018	\$0	\$39.90	\$1.09	-3
	Wichita, KS	Galveston-Houston, TX	\$4,236	\$0	\$42.07	\$1.14	-3
	Chicago, IL	Albany, NY	\$6,376	\$0	\$63.32	\$1.72	-10
	Grand Forks, ND	Portland, OR	\$5,676	\$0	\$56.37	\$1.53	-2
	Grand Forks, ND	Galveston-Houston, TX	\$5,996	\$0	\$59.54	\$1.62	-2
	Colby, KS	Portland, OR	\$6,012	\$368	\$63.35	\$1.72	4
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	\$231	\$40.23	\$1.02	4
	Lincoln, NE	Galveston-Houston, TX	\$3,880	\$0	\$38.53	\$0.98	0
	Des Moines, IA	Amarillo, TX	\$4,320	\$181	\$44.70	\$1.14	5
	Minneapolis, MN	Tacoma, WA	\$5,180	\$0	\$51.44	\$1.31	0
	Council Bluffs, IA	Stockton, CA	\$5,100	\$0	\$50.65	\$1.29	2
Soybeans	Sioux Falls, SD	Tacoma, WA	\$5,850	\$0	\$58.09	\$1.58	0
	Minneapolis, MN	Portland, OR	\$5,900	\$0	\$58.59	\$1.59	0
	Fargo, ND	Tacoma, WA	\$5,750	\$0	\$57.10	\$1.55	0
	Council Bluffs, IA	New Orleans, LA	\$4,875	\$267	\$51.06	\$1.39	4
	Toledo, OH	Huntsville, AL	\$4,945	\$0	\$49.11	\$1.34	3
	Grand Island, NE	Portland, OR	\$5,260	\$377	\$55.97	\$1.52	5

¹A 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.

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

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

⁴Percentage 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: July 2021			Tariff rate per car ¹	Fuel surcharge per car ²	Tariff rate plus fuel surcharge per:		Percent change ⁴ Y/Y
Commodity	Origin state	Destination region			metric ton ³	bushel ³	
Wheat	MT	Chihuahua, CI	\$7,384	\$0	\$75.45	\$2.05	-2
	OK	Cuautitlan, EM	\$6,813	\$160	\$71.25	\$1.94	2
	KS	Guadalajara, JA	\$7,531	\$703	\$84.13	\$2.29	4
	TX	Salinas Victoria, NL	\$4,347	\$97	\$45.41	\$1.23	2
Corn	IA	Guadalajara, JA	\$8,902	\$604	\$97.13	\$2.46	3
	SD	Celaya, GJ	\$8,140	\$0	\$83.17	\$2.11	0
	NE	Queretaro, QA	\$8,300	\$330	\$88.18	\$2.24	3
	SD	Salinas Victoria, NL	\$6,905	\$0	\$70.55	\$1.79	0
	MO	Tlahpantla, EM	\$7,665	\$322	\$81.61	\$2.07	3
	SD	Torreón, CU	\$7,690	\$0	\$78.57	\$1.99	0
Soybeans	MO	Bojay (Tula), HG	\$8,547	\$567	\$93.12	\$2.53	3
	NE	Guadalajara, JA	\$9,157	\$593	\$99.61	\$2.71	3
	IA	El Castillo, JA	\$9,410	\$0	\$96.15	\$2.61	-1
	KS	Torreón, CU	\$8,014	\$411	\$86.08	\$2.34	3
Sorghum	NE	Celaya, GJ	\$7,772	\$535	\$84.88	\$2.15	3
	KS	Queretaro, QA	\$8,108	\$200	\$84.88	\$2.15	2
	NE	Salinas Victoria, NL	\$6,713	\$161	\$70.23	\$1.78	2
	NE	Torreón, CU	\$7,092	\$376	\$76.31	\$1.94	3

¹Rates 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.

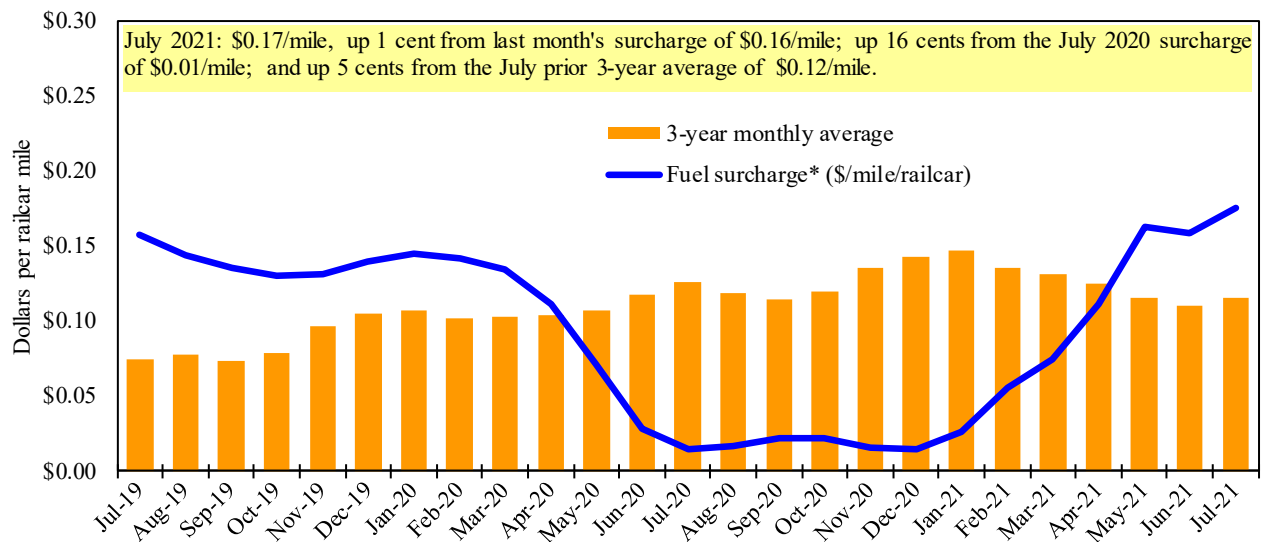
²Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009.

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

⁴Percentage 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 average¹

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.

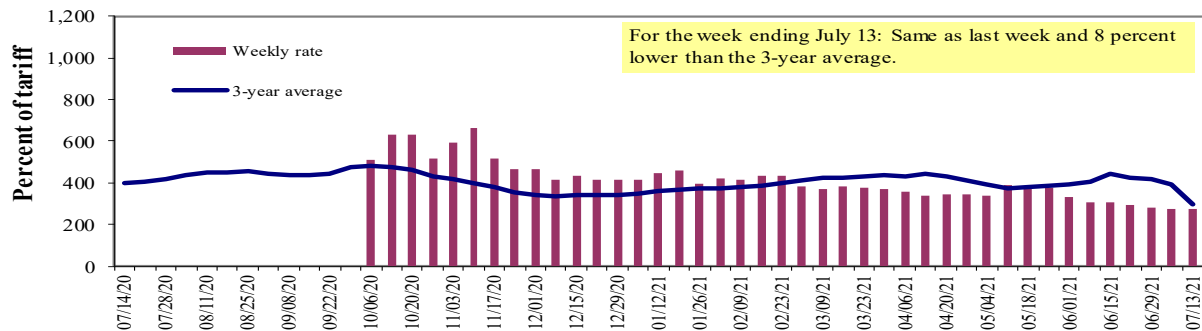
**CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1, 2015.

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^{1,2,3}



¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average.

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

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
Rate¹	7/13/2021	354	278	275	200	209	209	188
	7/6/2021	358	275	275	199	214	214	186
\$/ton	7/13/2021	21.91	14.79	12.76	7.98	9.80	8.44	5.90
	7/6/2021	22.16	14.63	12.76	7.94	10.04	8.65	5.84
Current week % change from the same week:								
	Last year	-5	-4	-	4	10	10	3
	3-year avg. ²	-19	-30	-39	-27	-23	-24	-24
Rate¹	August	398	313	304	244	263	263	240
	October	582	543	538	433	537	537	423

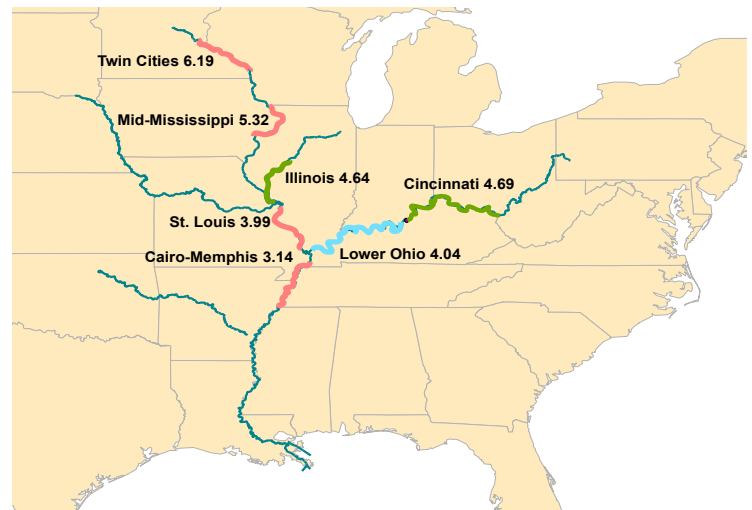
¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average; ton = 2,000 pounds; "-" not available due to lock closure.

Illinois River 3-year average is calculated by using the 4-week moving average of MY18 and MY19. Data for MY20 is unavailable.

Figure 9 Benchmark tariff rates

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

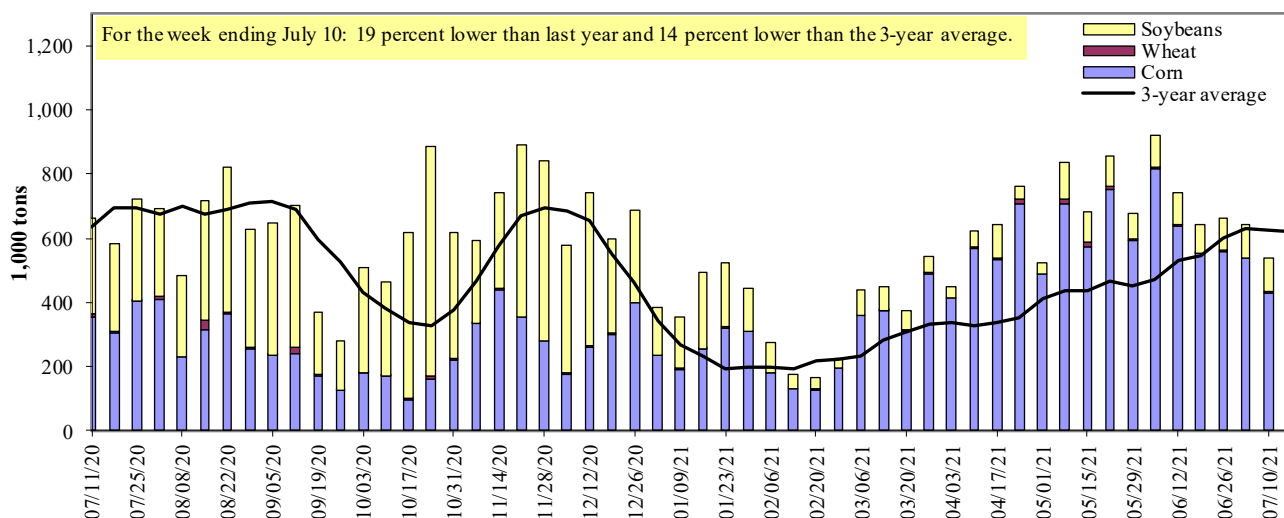
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 10

Barge movements on the Mississippi River¹ (Locks 27 - Granite City, IL)



¹ 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 07/10/2021	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	244	0	36	0	280
Winfield, MO (L25)	363	2	87	0	451
Alton, IL (L26)	417	5	126	0	547
Granite City, IL (L27)	430	5	102	0	536
Illinois River (La Grange)	0	0	0	0	0
Ohio River (Olmsted)	65	35	34	2	137
Arkansas River (L1)	0	25	0	0	25
Weekly total - 2021	496	65	136	2	698
Weekly total - 2020	351	95	212	0	659
2021 YTD ¹	16,550	774	4,649	193	22,166
2020 YTD ¹	9,831	949	6,225	90	17,096
2021 as % of 2020 YTD	168	82	75	214	130
Last 4 weeks as % of 2020 ²	123	70	41	59	88
Total 2020	18,942	1,765	19,205	237	40,149

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.

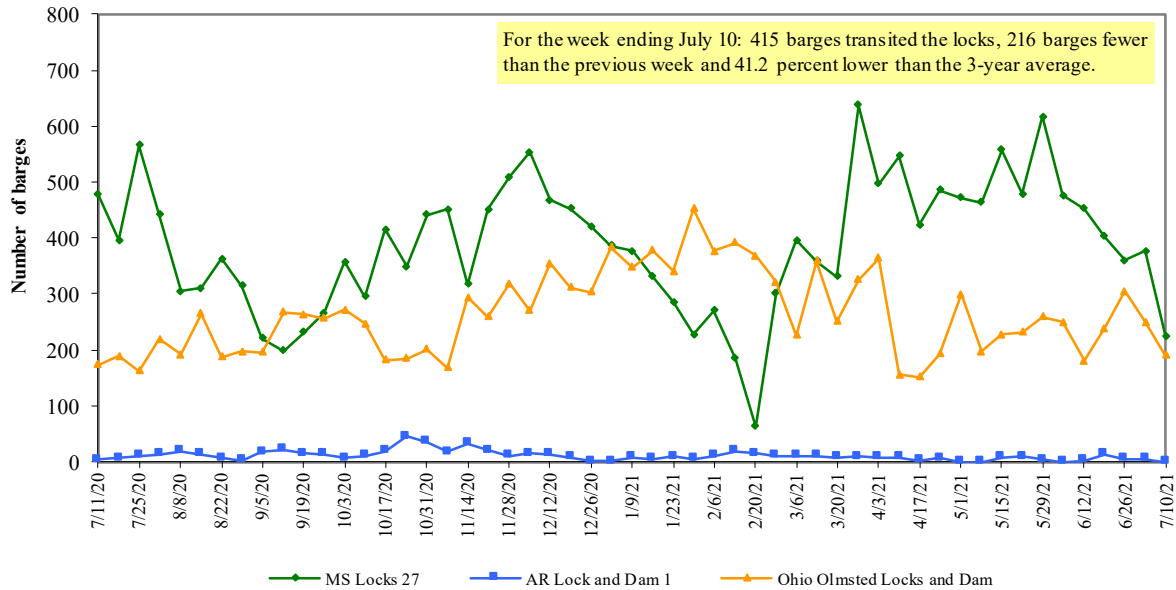
² As a percent of same period in 2020.

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

Source: U.S. Army Corps of Engineers.

Figure 11

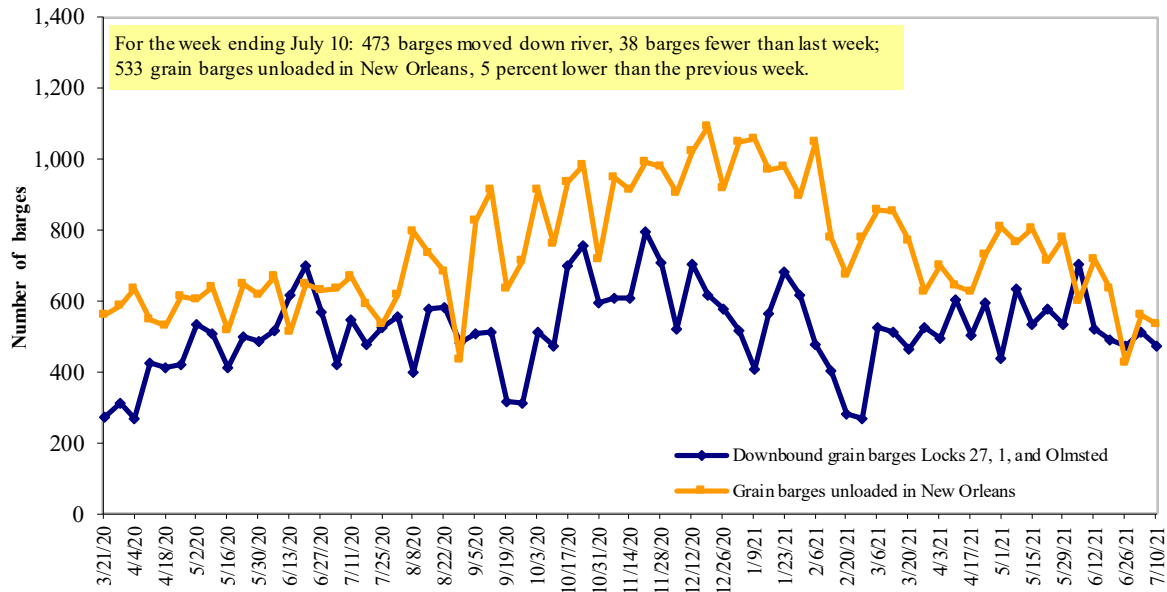
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 7/12/2021 (U.S. \$/gallon)

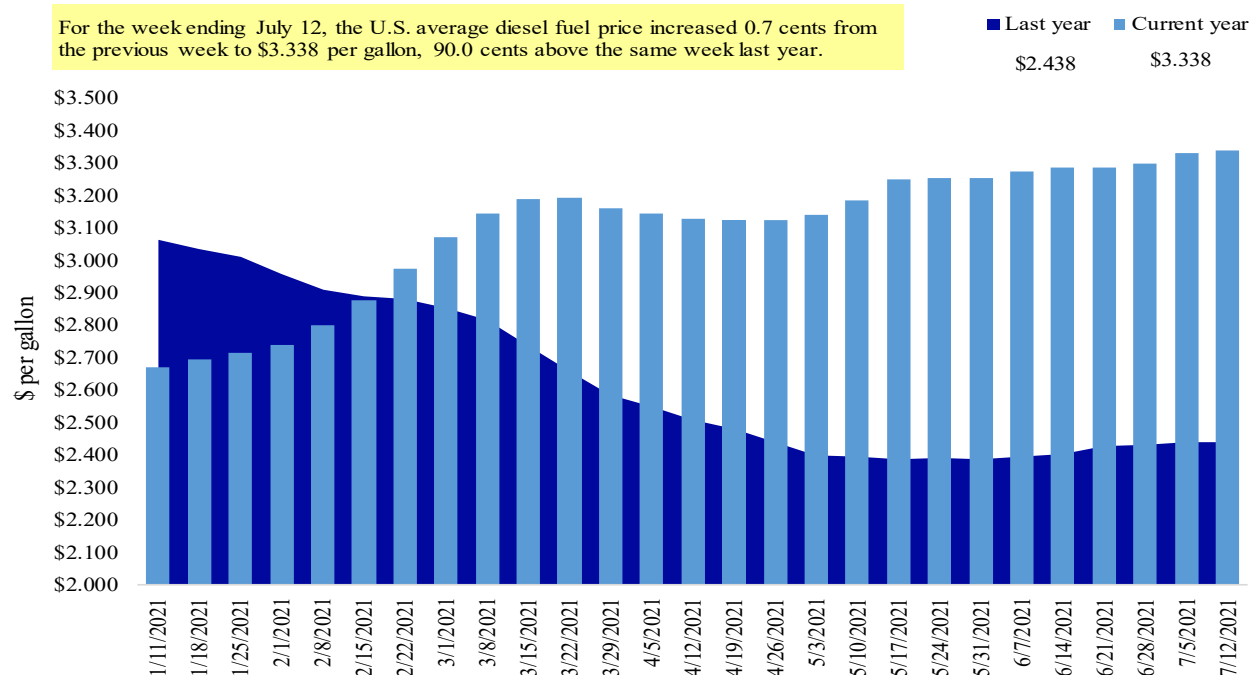
Region	Location	Price	Change from	
			Week ago	Year ago
I	East Coast	3.312	0.006	0.781
	New England	3.245	0.003	0.595
	Central Atlantic	3.477	0.002	0.770
	Lower Atlantic	3.213	0.009	0.826
II	Midwest	3.261	-0.003	0.948
III	Gulf Coast	3.083	0.007	0.885
IV	Rocky Mountain	3.594	0.078	1.249
	West Coast	3.905	0.009	0.951
V	West Coast less California	3.568	0.018	0.974
	California	4.187	0.002	0.936
Total	United States	3.338	0.007	0.900

¹Diesel 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.

Table 14

Top 5 importers¹ of U.S. soybeans

For the week ending 07/01/2021	Total commitments ²			% change current MY from last MY	Exports ³ 3-yr. avg. 2017-19
	2021/22 next MY	2020/21 current MY	2019/20 last MY		
			1,000 mt -		- 1,000 mt -
China	4,130	35,827	16,237	121	19,106
Mexico	563	4,785	4,675	2	4,591
Egypt	0	2,777	3,487	(20)	2,980
Indonesia	10	2,257	2,063	9	2,360
Japan	152	2,313	2,378	(3)	2,288
Top 5 importers	4,855	47,959	28,840	66	31,324
Total U.S. soybean export sales	9,398	61,904	45,774	35	49,352
% of projected exports	17%	100%	100%		
change from prior week ²	119	64	952		
Top 5 importers' share of U.S. soybean export sales	52%	77%	63%		63%
USDA forecast, July 2021	56,540	61,853	45,749	135	

¹Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2019/20; marketing year (MY) = Sep 1 - Aug 31.

²Cumulative 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.

³FAS 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 15

Top 10 importers¹ of all U.S. wheat

For the week ending 07/01/2021	Total Commitments ²		% change current MY from last MY	Exports ³ 3-yr. avg. 2018-20
	2021/22 current MY	2020/21 last MY		
		1,000 mt -		- 1,000 mt -
Mexico	1,118	722	55	3,388
Philippines	1,001	1,119	(11)	3,121
Japan	753	737	2	2,567
Korea	448	549	(18)	1,501
Nigeria	515	393	31	1,490
China	339	561	(40)	1,268
Taiwan	239	356	(33)	1,187
Indonesia	2	188	(99)	1,131
Thailand	124	174	(29)	768
Italy	44	231	(81)	681
Top 10 importers	4,582	5,029	(9)	17,102
Total U.S. wheat export sales	6,691	7,490	(11)	24,617
% of projected exports	28%	28%		
change from prior week ²	291	326		
Top 10 importers' share of U.S. wheat export sales	68%	67%		69%
USDA forecast, July 2021	23,842	27,030	(12)	

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

²Cumulative 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.

³FAS 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 07/08/21	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.	
Pacific Northwest									
Wheat	172	129	133	8,336	8,414	99	56	65	15,966
Corn	322	320	101	11,401	5,722	199	107	102	9,969
Soybeans	0	3	0	3,758	2,759	136	30	2	14,028
Total	494	452	109	23,495	16,896	139	82	74	39,963
Mississippi Gulf									
Wheat	114	120	95	1,421	2,076	68	79	107	3,422
Corn	528	726	73	26,475	16,048	165	124	134	28,781
Soybeans	157	130	121	10,503	11,333	93	32	27	38,013
Total	799	976	82	38,399	29,456	130	90	91	70,215
Texas Gulf									
Wheat	134	49	275	2,164	2,432	89	86	105	4,248
Corn	0	0	n/a	271	428	63	58	82	723
Soybeans	0	0	n/a	656	7	n/a	n/a	0	2,098
Total	135	49	273	3,092	2,868	108	83	100	7,068
Interior									
Wheat	26	83	31	1,466	1,201	122	126	146	2,263
Corn	126	168	75	5,037	4,465	113	87	94	8,683
Soybeans	44	81	54	3,276	3,364	97	80	64	7,274
Total	195	332	59	9,779	9,029	108	90	88	18,220
Great Lakes									
Wheat	0	0	n/a	229	321	71	57	45	891
Corn	0	0	n/a	39	0	n/a	n/a	27	111
Soybeans	8	0	n/a	34	61	56	n/a	26	1,111
Total	8	0	n/a	301	382	79	136	32	2,113
Atlantic									
Wheat	1	0	n/a	77	5	n/a	n/a	734	65
Corn	0	0	n/a	14	8	174	n/a	0	33
Soybeans	3	5	60	1,057	416	254	92	16	1,870
Total	4	5	77	1,148	429	268	103	17	1,968
U.S. total from ports*									
Wheat	447	381	117	13,693	14,449	95	72	86	26,854
Corn	976	1,215	80	43,237	26,671	162	112	116	48,301
Soybeans	212	219	97	19,285	17,939	108	44	29	64,394
Total	1,635	1,815	90	76,214	59,060	129	87	83	139,548

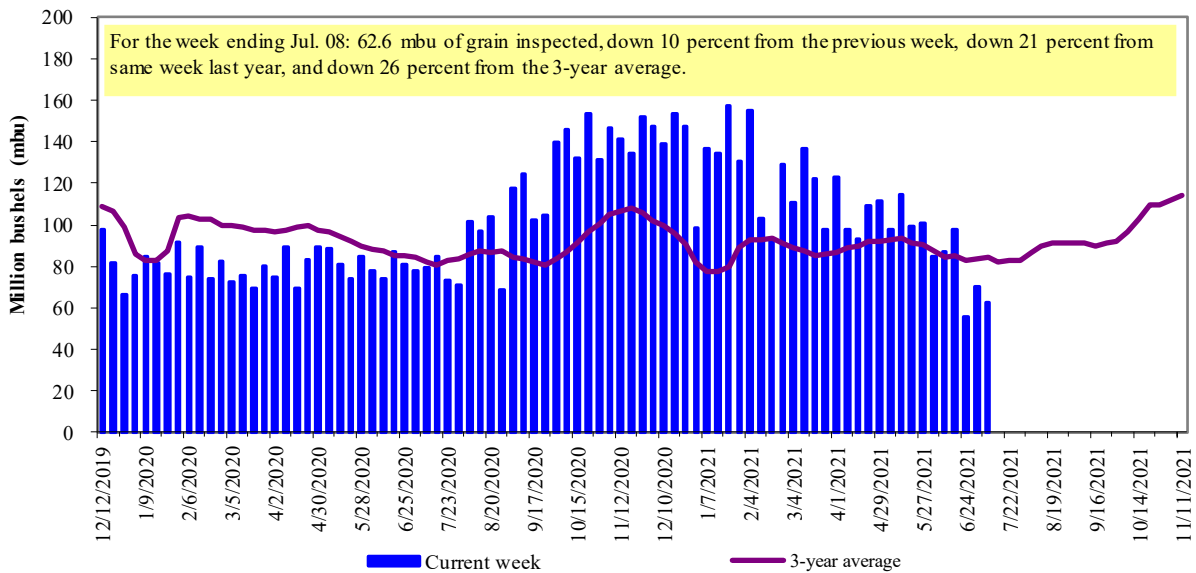
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

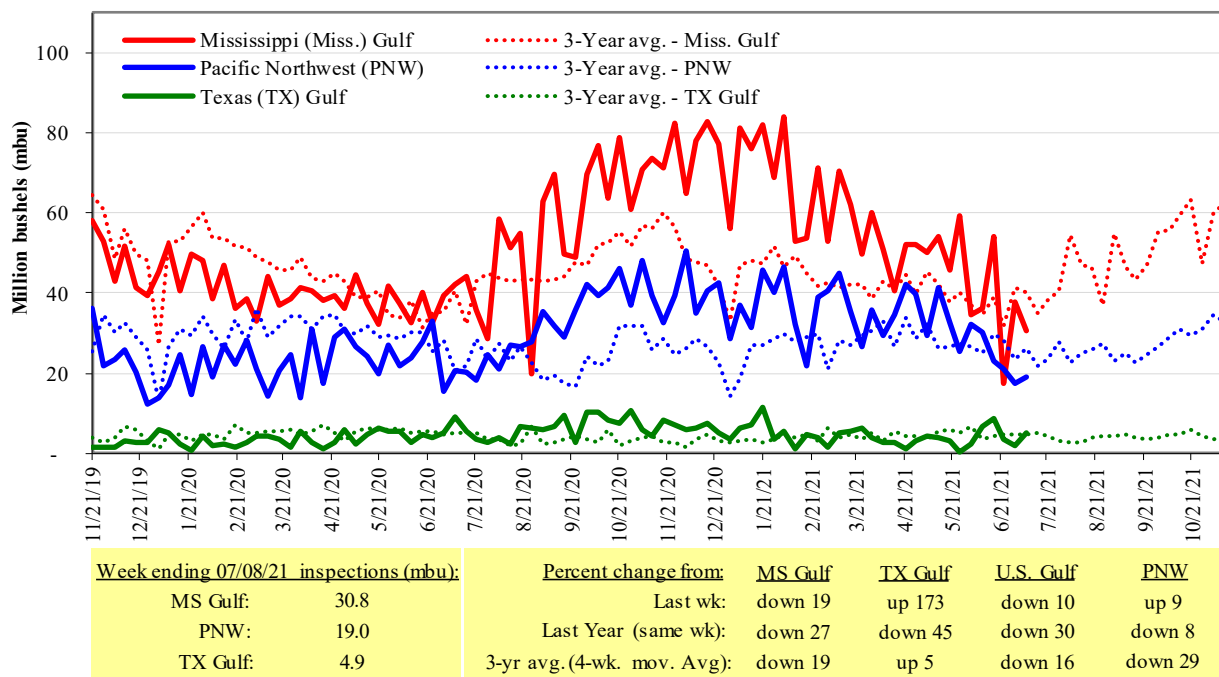


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

U.S. Grain inspections: U.S. Gulf and PNW¹ (wheat, corn, and soybeans)



Source: USDA, Federal Grain Inspection Service.

Ocean Transportation

Table 17

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

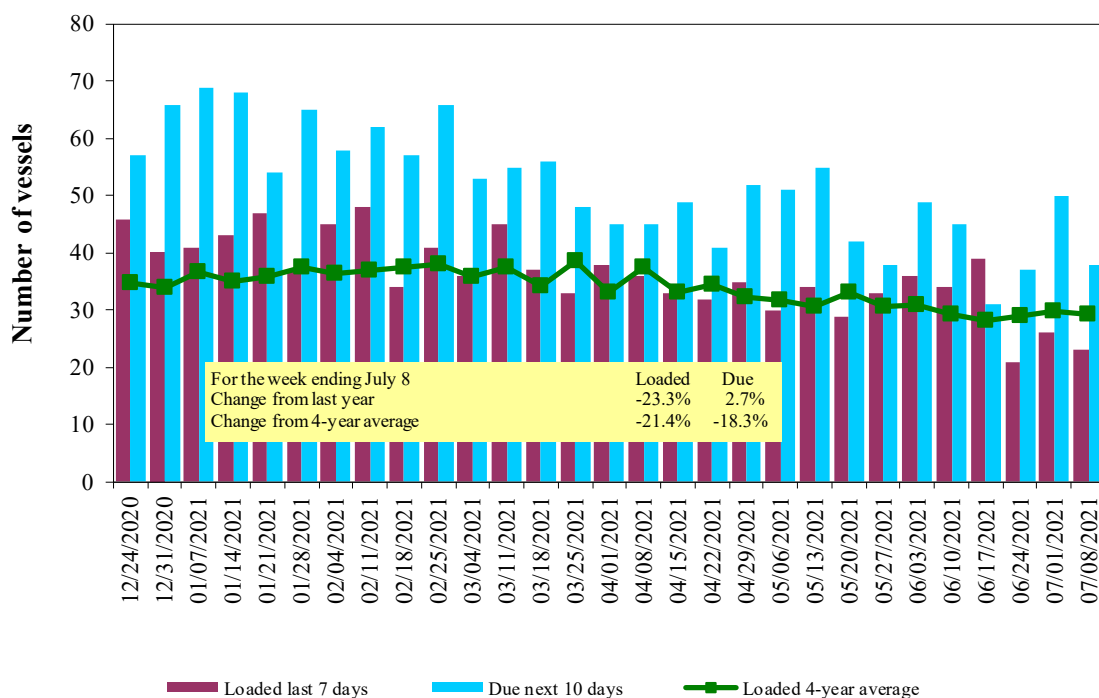
Date	Gulf			Pacific Northwest
	In port	Loaded	Due next	In port
		7-days	10-days	
7/8/2021	20	23	38	5
7/1/2021	11	26	50	7
2020 range	(22...60)	(23...46)	(34...68)	(7...24)
2020 average	37	33	49	15

Note: n/a = not available due to holiday.

Source: USDA, Agricultural Marketing Service.

Figure 16

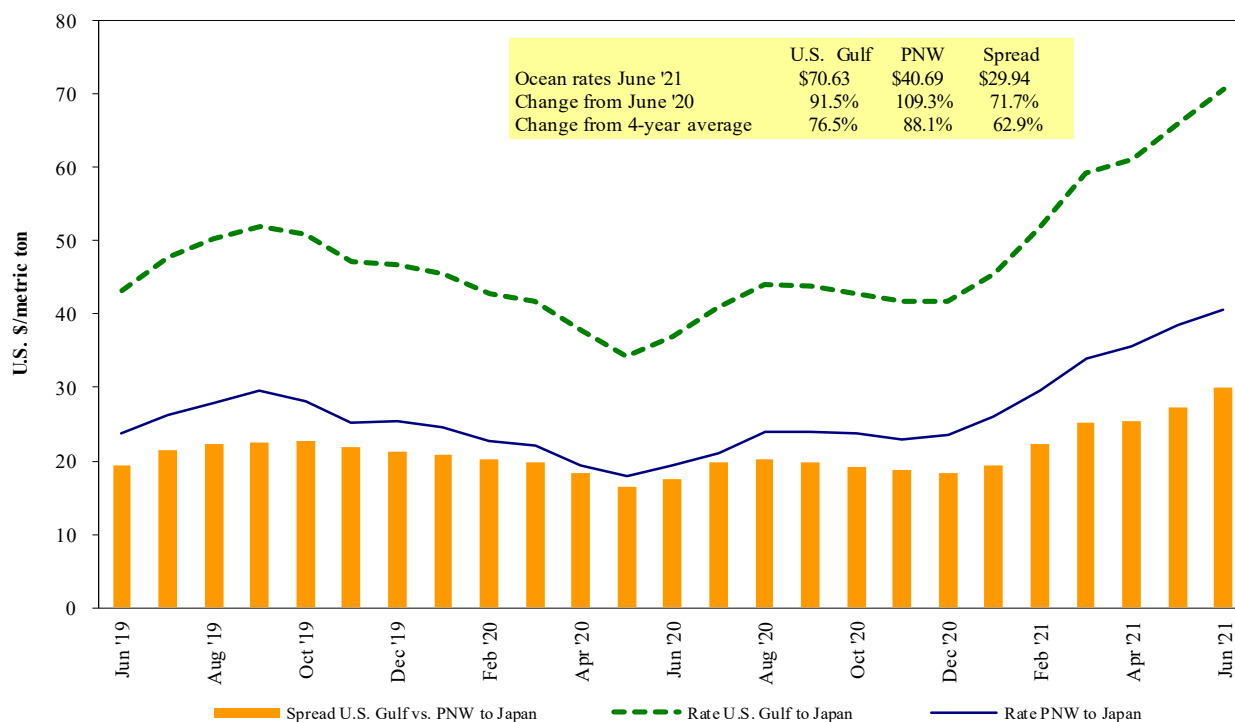
U.S. Gulf¹ vessel loading activity



¹U.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 07/10/2021

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	May 20/30	48,000	112.75*
U.S. Gulf	Djibouti	Wheat	Jul 6/16	5,880	85.70*
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

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

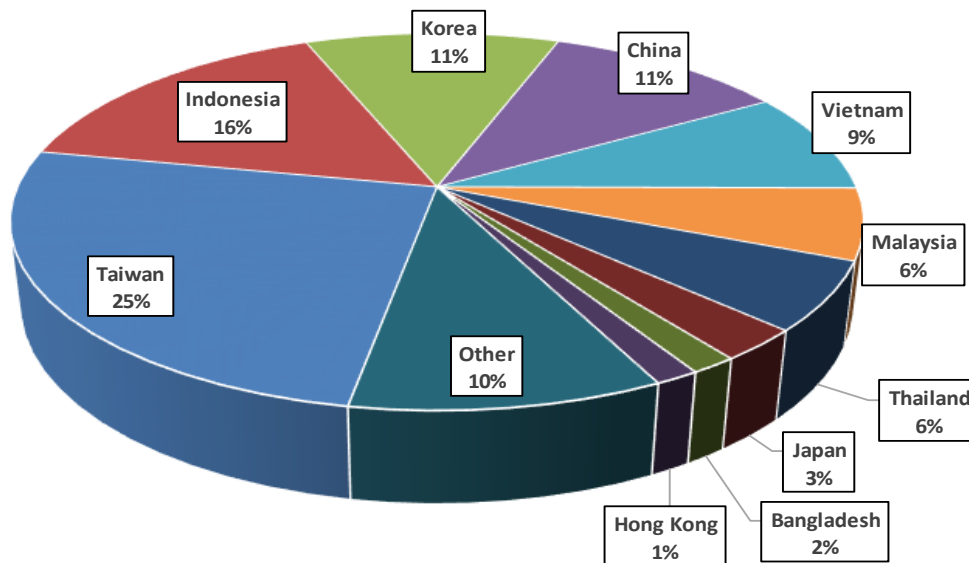
Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated;

op = option.

Source: Maritime Research, Inc.

In 2019, containers were used to transport 9 percent of total U.S. waterborne grain exports. Approximately 60 percent of U.S. waterborne grain exports in 2019 went to Asia, of which 14 percent were moved in containers. Approximately 94 percent of U.S. waterborne containerized grain exports were destined for Asia.

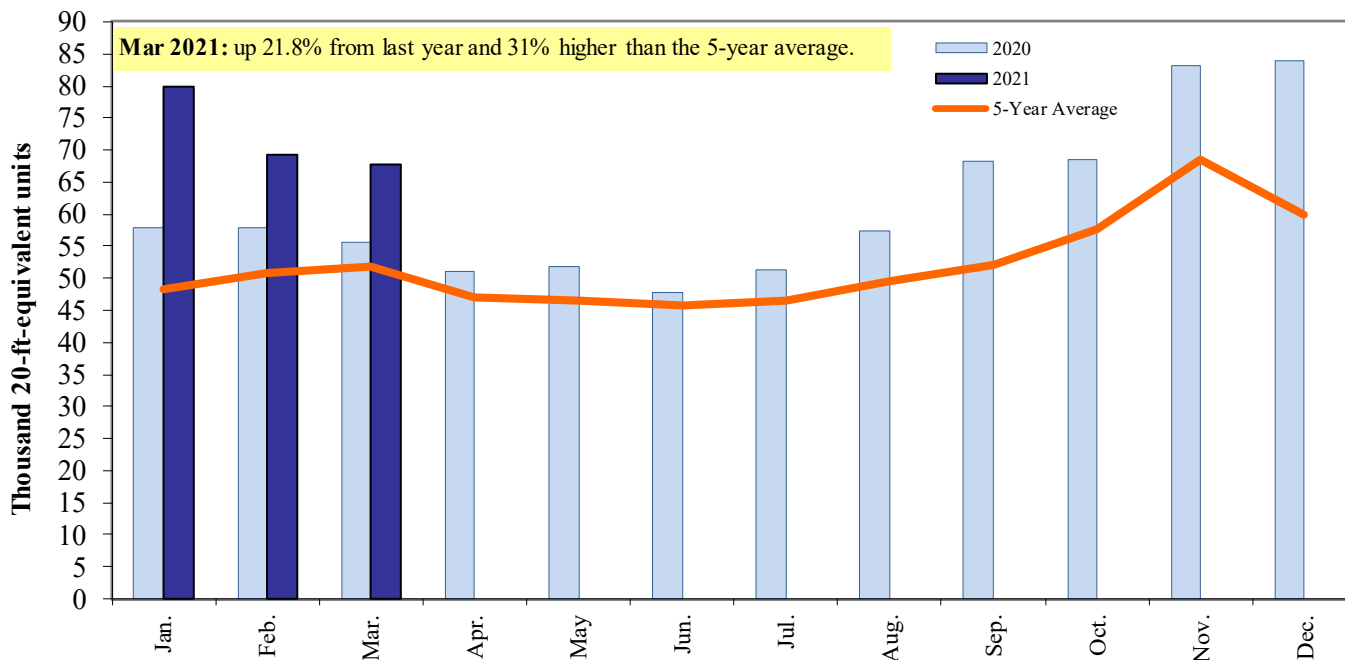
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Mar 2021



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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