USDA United States Department of Agriculture

Grain Transportation Report

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

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January 21, 2021

Contents

The next release is January 28, 2021

WEEKLY HIGHLIGHTS

FMCSA Provides HOS Relief to Railroad Drivers

The Federal Motor Carrier Safety Administration (FMCSA) granted railroad drivers a 5-year exemption from FMCSA's 14-hour, 60-hour, and 70-hour rules, based on an application submitted by the Association of American Railroads, American Short Line and Regional Railroad Association, and member railroads. Current hours-of-service (HOS) rules prohibit driving after the 14th hour from the start of a work shift (the 14-hour rule). Current rules also prohibit accumulating 60 hours of on-duty time within 7 consecutive days (60-hour rule), or accumulating 70 hours of on-duty time within 8 consecutive days (70-hour rule). The exemption will enable railroad employees subject to HOS rules to respond to unplanned events that occur beyond an employee's normal work hours. FMCSA expects the exemption will result in a similar or greater level of safety than without the exemption. The exemption is effective from December 23, 2020, through December 18, 2025.

Diesel Fuel Prices Continue To Rise

During the week ending January 18, U.S. Average On-Highway Diesel Fuel Prices increased 2.6 cents to reach $2.696 per gallon. Diesel fuel prices have risen for 11 consecutive weeks as demand for truck and other transportation services climbed and fuel oil inventories fell. The Department of Energy's Energy Information Administration forecasts diesel prices will average $2.71 per gallon in 2021 and $2.74 per gallon in 2022. These forecasts are based on expectations U.S. gross domestic product will rise in 2021, boosting demand for fuel energy.

Grain Inspections Receded but Soybeans Continued To Rise

For the week ending January 14, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions totaled 3.3 million metric tons (mmt). Total grain inspections were down 6 percent from the previous week, up 51 percent from last year, and up 61 percent above the 3-year average. The decrease in inspections mainly reflected a 33-percent drop in corn inspections. Corn shipments were down, primarily to Asia. Wheat inspections decreased slightly, and soybean inspections increased 11 percent from the past week. Total grain inspections were down 14 percent from the previous week in the Pacific Northwest (PNW), and in the Mississippi Gulf.

Snapshots by Sector

Export Sales

For the week ending January 7, **unshipped balances** of wheat, corn, and soybeans totaled 49.5 million metric tons (mmt). This was 3 percent lower than last week, but still represented a significant increase in outstanding sales from the same time last year. Net **corn export sales** were 1.438 mmt, up 92 percent from the past week. Net **soybean export sales** were 0.908 mmt, up significantly from the previous week. Net **wheat export sales** were 0.222 mmt, down 19 percent from the previous week.

Rail

U.S. Class I railroads originated 27,650 **grain carloads** during the week ending January 9. This was a 12-percent increase from the previous week, 51 percent more than last year, and 32 percent more than the 3-year average.

Average January shuttle **secondary railcar** bids/offers (per car) were $475 above tariff for the week ending January 14. This was $269 more than last week. There were no shuttle bids/offers this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending January 16, **barge grain movements** totaled 914,831 tons. This was 40 percent higher than the previous week and 76 percent more than the same period last year.

For the week ending January 16, 563 grain barges **moved down river**—154 barges more than the previous week. There were 968 grain barges **unloaded in New Orleans**, 9 percent fewer than the previous week.

Ocean

For the week ending January 14, 43 **oceangoing grain vessels** were loaded in the Gulf—54 percent more than the same period last year. Within the next 10 days (starting January 15, 2021), 68 vessels were expected to be loaded—42 percent more than the same period last year.

As of January 14, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $46.00. This was 6 percent more than the previous week. The rate from PNW to Japan was $26.50 per mt, 8 percent more than the previous week.

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Feature Article/Calendar

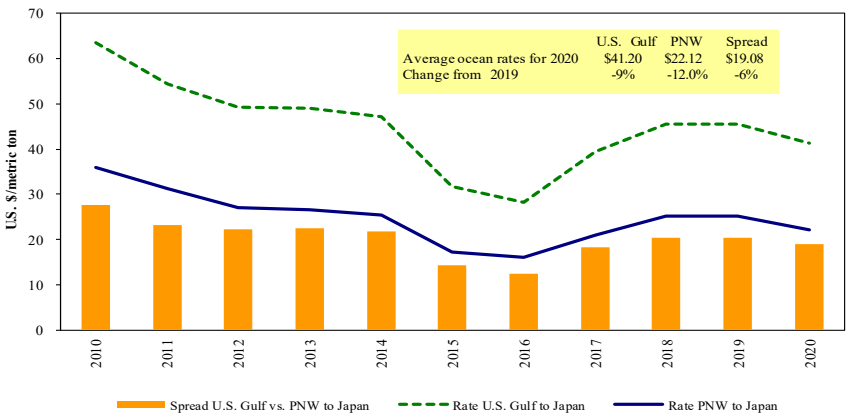
Bulk Ocean Freight Rates: A Review of 2020 and Outlook for 2021

Ocean freight rates and vessel-loading activities are typically reliable indicators for forecasting cargo exports. However, in 2020, volatility in the bulk ocean shipping market spawned similar turbulence in ocean freight rates for shipping bulk commodities, including grain. In a year marked by trade disputes and negotiations, as well as the COVID-19 pandemic, rates fluctuated continuously, culminating in the lowest yearly average of the last 3 years.

In 2020, the average ocean freight rate for shipping bulk grain from the U.S. Gulf to Japan was $41.20 per metric ton (mt), 9 percent lower than in 2019. From the Pacific Northwest (PNW) to Japan, the rate was $22.12 per mt, 12 percent lower than in 2019 (fig. 1). The spread—i.e., the difference between the U.S. Gulf- and PNW-to-Japan rates—averaged $19.08 per mt, 6 percent less than in 2019. The cost of shipping grain from the U.S. Gulf to Europe was $16.61 per mt, 8 percent less than in 2019. This article considers what caused the quarter-to-quarter fluctuations in ocean freight rates in 2020 and what lies ahead.

Ocean Rates in 2020

Figure 1. Grain vessel rates, United States to Japan.



Note: PNW = Pacific Northwest.
Source: O'Neil Commodity Consulting.

First Quarter. In the first quarter of 2020, ocean freight rates for shipping bulk commodities, including grains, fell from the previous quarter. However, the dip was not severe, as these rates were still above the same period in 2019 and the 4-year average (*Grain Transportation Report (GTR)* April 16, 2020). Many factors combined to slow the global dry bulk trade in the first quarter. These included holidays (New Year and Chinese Lunar Year), weather-related supply disruptions, and the COVID-19 outbreak, which delayed manufacturing activities in China and other parts of the world. These delays, in turn, slowed movements of bulk items globally.

Second Quarter. Continuing to fall in the second quarter, ocean freight rates for shipping bulk grains were below the previous quarter, below the same period in 2019, and below the 4-year average (*GTR*, July 23, 2020). Weak demand for commodities in Europe and Asia contributed to this decline. Also, the widening impacts of the pandemic dampened ocean freight rates for the first 2 months of the second quarter. In addition, COVID-19-related restrictions in South Asia discouraged shipyards from scrapping. The reduced demolition of older ships increased the vessel supply and further softened rates.

Third Quarter. In the third quarter, ocean freight rates were up from the previous quarter, down from a year earlier, and up from the 4-year average (*GTR*, October 15, 2020). Rates started to increase by the end of the second quarter as the bulk market rallied from the COVID-19-induced slowdown (*GTR*, July 23, 2020). The market rally continued in July as the Chinese Government's efforts to support economic growth and infrastructure development fed the country's demand for steel and iron ore. Ocean freight rates ticked up in July. Rates continued to increase in August as activities in the bulk market began to resume globally (*GTR*, October 15, 2020).

Fourth Quarter. Although varying by route in the fourth quarter, ocean freight rates were relatively stable, fluctuating within a 2-percent range of the previous quarter (table 1 and fig. 2). Compared to the previous quarter, rates for movements from the U.S. Gulf to Japan and to Europe declined, while the rates from the Pacific Northwest (PNW) to Japan increased. Compared to a year earlier and the 4-year average, U.S. Gulf-to-Japan and PNW-to-Japan rates decreased. However, rates from the U.S. Gulf to Europe were unchanged from a year earlier and above the 4-year average. Firm crude steel production and expanding manufacturing activity in China continued to support China's iron ore imports.

According to Drewry Maritime Research (Drewry), China's purchasing manager's index (PMI) for manufacturing hovered around 51 points in the third quarter, which was fairly strong. A leading indicator of economic health, the manufacturing PMI

works on the assumption that manufacturing-sector purchases, sensitive to consumer demand, are often among the first signals of economic slowdown. China's PMI rose to 52.10 points in November, reflecting high domestic steel consumption.

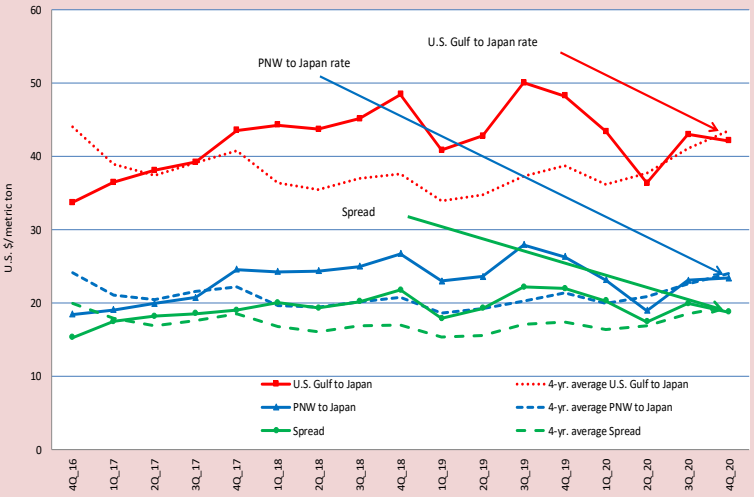
Table 1. Ocean freight rates for grain routes during fourth quarter 2020.

Route	Oct.	Nov.	Dec.	4th quarter 2020	Change from 3rd qtr. '20	Change from 4th qtr. '19	Change from 4-yr. avg.
	--$/mt--			--$/mt--	Percent		
U.S. Gulf to Japan	42.90	41.67	41.75	42.11	-2	-13	-3
PNW to Japan	23.70	23.00	23.50	23.40	2	-11	-2
Spread	19.20	18.67	18.25	18.71	-6	-15	-4
U.S. Gulf to Europe	19.90	18.67	18.50	19.02	-2	0	5

Note: qtr. = quarter; avg = average; mt = metric ton; yr = year; PNW = Pacific Northwest.
Source: O'Neil Commodity Consulting.

China's grain consumption—especially of corn and soybeans—remained firm, as farmers replenished swine stocks. In addition, the Ethiopian Government granted license for importation of 3 million tons of cement, which supported bulk movements during the quarter (Drewry).

Figure 2. Grain vessel rates and spread, United States to Japan, 2016-20.



Note: mt = metric ton; Q = quarter; yr. = year; PNW = Pacific Northwest.
Source: O'Neil Commodity Consulting.

Current Market Analysis and Outlook

As of January 14, the rate for shipping 1 mt of grain from the U.S. Gulf to Japan was $46.00—6 percent more than the previous week and unchanged from a year earlier. The rate from PNW to Japan was $64.50 per mt—8 percent more than the previous week and 7 percent more than the same period in 2019. Typically, with slow trade activity in December and January, rates either drop or change very little during this time. Encouraged by large grain exports, rates have been increasing over the past 2 weeks (O'Neil Commodity Consulting). However, future freight rate changes depend on many factors, including how successive waves of COVID-19 and lockdowns could affect global bulk trade.

Events that could put downward pressure on ocean freight rates in 2021 include an ongoing dispute between China and Australia over restrictions of discharge of Australian coal cargo at Chinese ports. The dispute could squelch demand for Panamax vessels, according to Drewry.

On the other hand, about 7 percent of the dry bulk fleet are currently idle or inactive, restricting vessel supply and possibly leading to higher rates. In addition, Chinese traders are encouraged to import from the United States to satisfy Phase 1 of the U.S.–China trade deal (enacted in January 2020). As a result, U.S. soybean exports to China have been strong in the fourth quarter, with export inspections reaching 24.38 million metric tons (mmt), compared to 6.30 mmt during the third quarter (USDA, Grain Inspection Data). Drewry reported in December that vastly higher shipments on U.S.-China route were already causing congestion in the Panama Canal and depleting vessel supply in the region. The boom in shipments has put upward pressure on rates. Finally, India's improving economic activity could boost that country's imports of coking and non-coking coal in 2021. These imports by India will strengthen the demand for Panamax vessels and put more upward pressure on rates. *surajudeen.olowolayemo@ams.usda.gov*

Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit train	Shuttle		Gulf	Pacific
01/20/21	181	302	241	256	206	188
01/13/21	179	307	229	247	193	174

[1] Indicator: Base year 2000 = 100. Weekly updates include truck = diesel ($/gallon); rail = near-month secondary rail market bid and monthly tariff rate with fuel surcharge ($/car); barge = Illinois River barge rate (index = percent of tariff rate); ocean = routes to Japan ($/metric ton); n/a = not available.
Source: USDA, Agricultural Marketing Service.

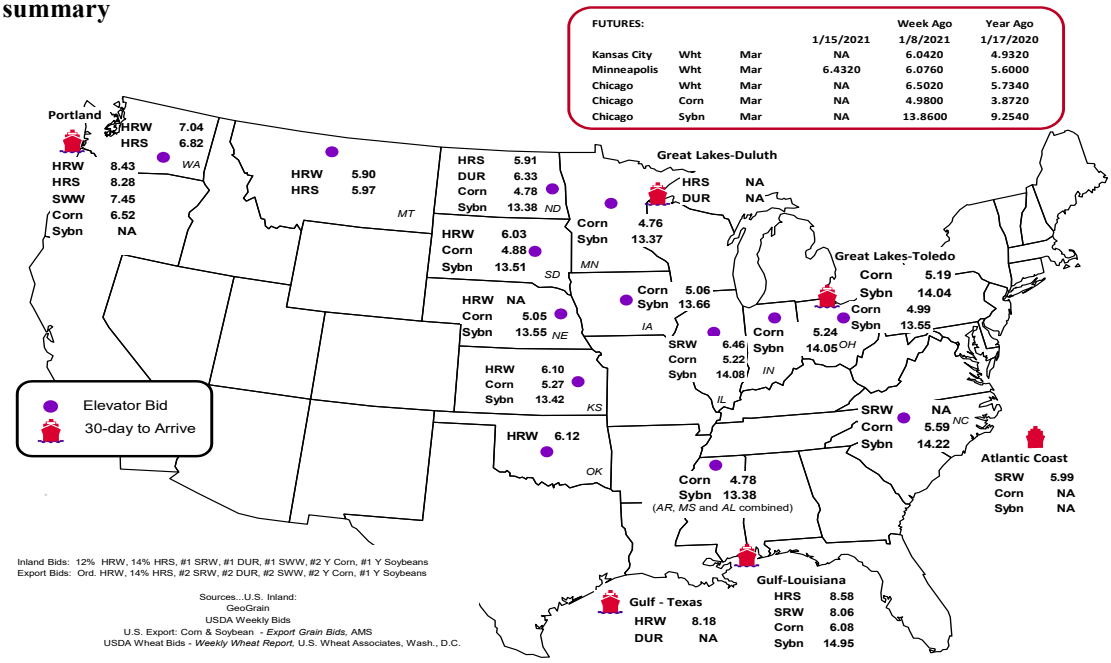
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	1/15/2021	1/8/2021
Corn	IL–Gulf	-0.86	-0.79
Corn	NE–Gulf	-1.03	-0.95
Soybean	IA–Gulf	-1.29	-1.25
HRW	KS–Gulf	-2.08	-2.11
HRS	ND–Portland	-2.37	-2.54

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

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

Figure 1
Grain bid summary



Rail Transportation

Table 3

Rail deliveries to port (carloads)[1]

For the week ending	Mississippi Gulf	Texas Gulf	Pacific Northwest	Atlantic & East Gulf	Total	Week ending	Cross-border Mexico[3]
1/13/2021[p]	1,796	2,246	6,757	1,084	11,883	1/9/2021	2,215
1/06/2021[r]	1,577	2,126	7,394	823	11,920	1/2/2021	1,450
2021 YTD[r]	3,373	4,372	14,151	1,907	23,803	2021 YTD	3,665
2020 YTD[r]	1,232	1,034	6,897	415	9,578	2020 YTD	4,969
2021 YTD as % of 2020 YTD	274	423	205	460	249	% change YTD	74
Last 4 weeks as % of 2020[2]	357	323	214	486	253	Last 4wks. % 2019	85
Last 4 weeks as % of 4-year avg.[2]	326	186	149	223	172	Last 4wks. % 4 yr.	106
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

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

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

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

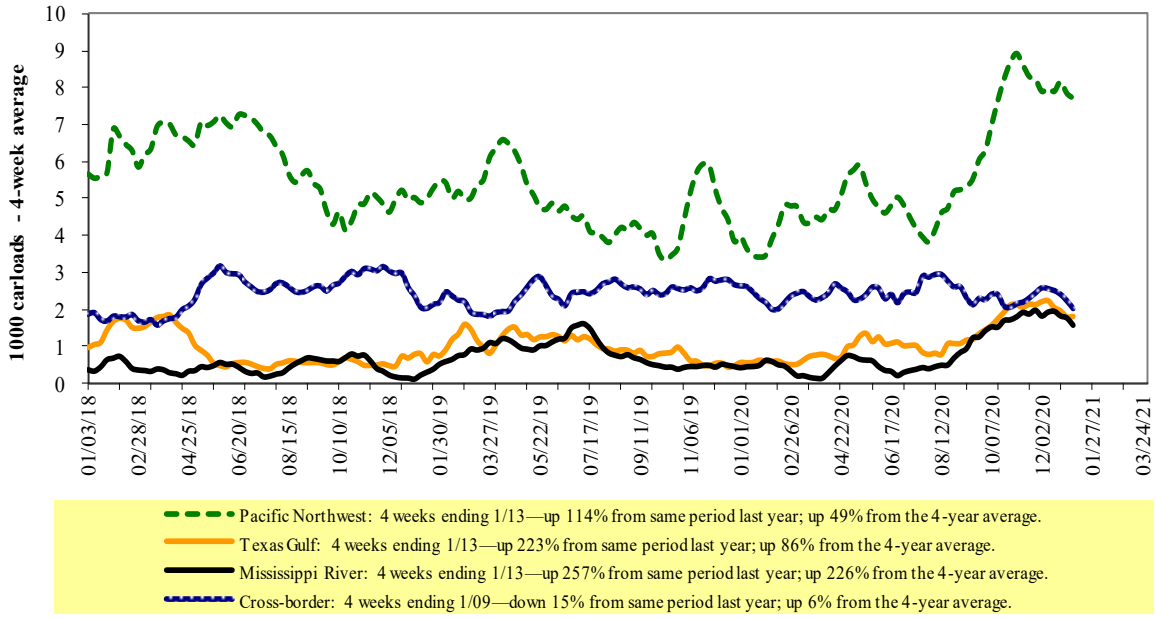
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

Source: USDA, Agricultural Marketing Service.

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

Figure 2

Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

Table 4

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

For the week ending:	East		West			U.S. total	Canada	
1/9/2021	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	2,437	3,587	13,904	1,484	6,238	27,650	4,973	4,387
This week last year	1,659	2,449	9,149	1,238	3,769	18,264	4,212	3,943
2021 YTD	2,437	3,587	13,904	1,484	6,238	27,650	4,973	4,387
2020 YTD	3,221	5,063	19,393	2,397	7,771	37,845	7,792	7,086
2021 YTD as % of 2020 YTD	76	71	72	62	80	73	64	62
Last 4 weeks as % of 2020*	134	112	132	104	157	134	133	134
Last 4 weeks as % of 3-yr. avg.**	120	105	121	120	138	123	132	130
Total 2020	91,659	130,855	613,630	57,782	296,701	1,190,627	239,304	261,778

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

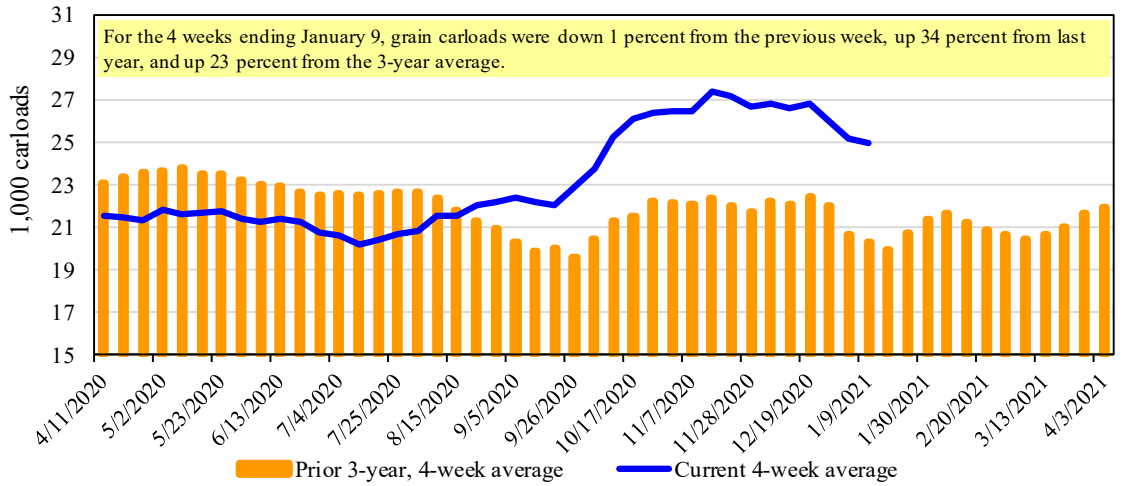
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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[1] ($/car)[2]

For the week ending:		Delivery period							
1/14/2021		Jan-21	Jan-20	Feb-21	Feb-20	Mar-21	Mar-20	Apr-21	Apr-20
BNSF[3]	COT grain units	no bids	n/a	14	0	0	0	no bids	0
	COT grain single-car	no bids	n/a	9	36	0	0	0	0
UP[4]	GCAS/Region 1	no offer	n/a	no offer	no offer	no offer	no offer	n/a	no offer
	GCAS/Region 2	no offer	n/a	no offer	no bid	no offer	no bid	n/a	no bid

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

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

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

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

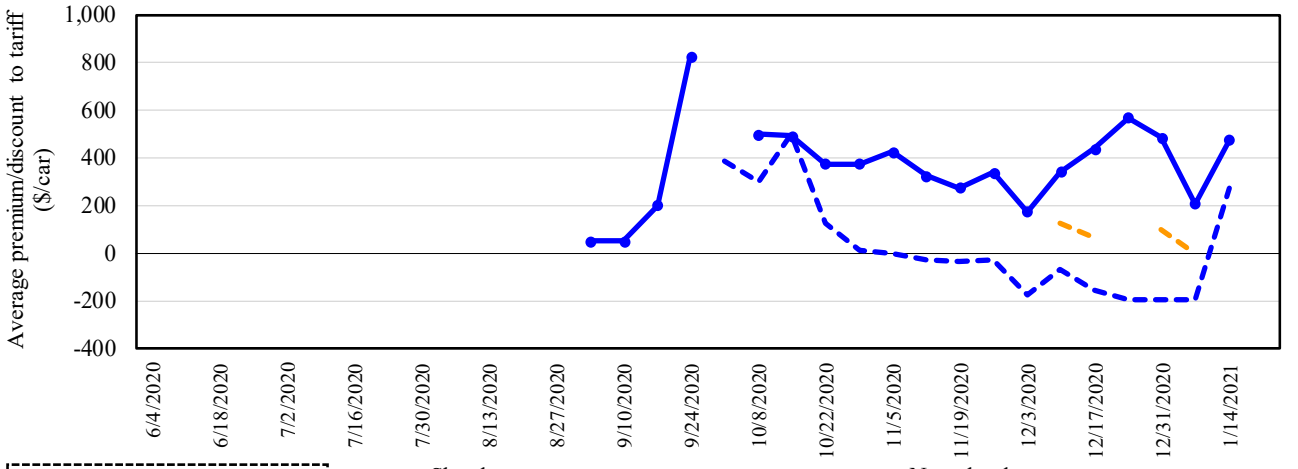
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

Source: USDA, Agricultural Marketing Service.

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

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

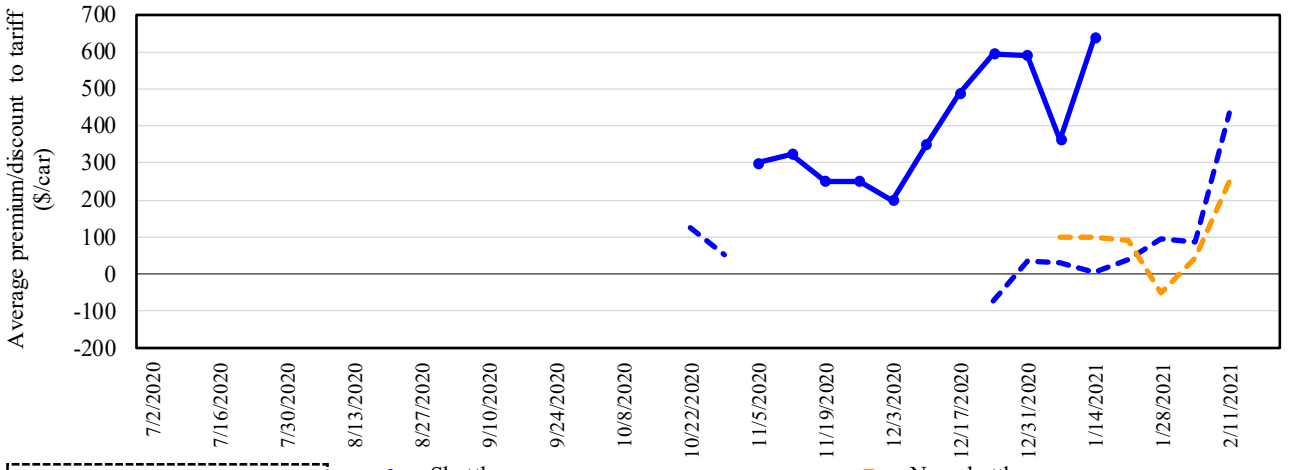


1/14/2021	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$450	$500

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $269 this week and are $350 below the peak.

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

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



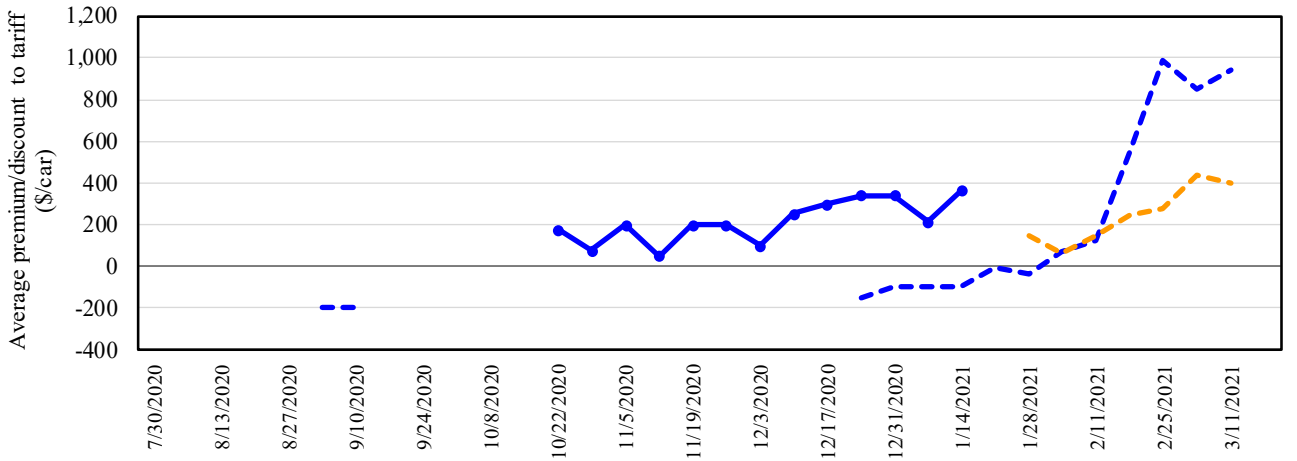
1/14/2021	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$713	$563

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $275 this week and are at the peak.

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

Figure 6

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



1/14/2021	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$425	$300

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $150 this week and are at 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: 1/14/2021	Delivery period					
		Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-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**	**450**	**713**	**425**	**175**	**(38)**	**(125)**
	Change from last week	319	300	200	100	30	n/a
	Change from same week 2020	n/a	638	n/a	300	n/a	n/a
	UP-Pool	**500**	**563**	**300**	**25**	**n/a**	**n/a**
	Change from last week	219	250	100	0	n/a	n/a
	Change from same week 2020	n/a	663	450	n/a	n/a	n/a

[1]Average premium/discount to tariff, $/car-last week.

Note: Bids listed are market indicators only and are not guaranteed prices. n/a = not available; GF = guaranteed freight; Pool = guaranteed pool; BNSF = BNSF Railway; UP = Union Pacific Railroad.

Data from James B. Joiner Co., Tradewest Brokerage Co.

Source: USDA, Agricultural Marketing Service.

The **tariff rail rate** is the base price of freight rail service. Together with **fuel surcharges** and any **auction and secondary rail** values, the tariff rail rate constitutes the full cost of shipping by rail. Typically, auction and secondary rail values are a small fraction of the full cost of shipping by rail relative to the tariff rate. However, during times of high rail demand or short supply, high auction and secondary rail values can exceed the cost of the tariff rate plus fuel surcharge.

Table 7

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

January 2021	Origin region[3]	Destination region[3]	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per: metric ton	Tariff plus surcharge per: bushel[2]	Percent change Y/Y[4]
Unit train							
Wheat	Wichita, KS	St. Louis, MO	$3,983	$35	$39.90	$1.09	-2
	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	$62	$45.55	$1.24	-2
	Sioux Falls, SD	Galveston-Houston, TX	$6,851	$0	$68.03	$1.85	-2
	Colby, KS	Galveston-Houston, TX	$4,801	$68	$48.35	$1.32	-3
	Amarillo, TX	Los Angeles, CA	$5,121	$95	$51.80	$1.41	-3
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,900	$70	$39.43	$1.00	-3
	Toledo, OH	Raleigh, NC	$7,833	$0	$77.79	$1.98	15
	Des Moines, IA	Davenport, IA	$2,455	$15	$24.53	$0.62	1
	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	$44	$39.16	$0.99	0
	Des Moines, IA	Los Angeles, CA	$5,780	$128	$58.67	$1.49	-2
Soybeans	Minneapolis, MN	New Orleans, LA	$5,771	$37	$57.68	$1.57	52
	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	$70	$46.83	$1.27	-3
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	$112	$60.81	$1.66	-3
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	$70	$38.63	$0.98	-3
	Lincoln, NE	Galveston-Houston, TX	$3,880	$0	$38.53	$0.98	0
	Des Moines, IA	Amarillo, TX	$4,320	$55	$43.45	$1.10	0
	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	$81	$49.22	$1.34	-3
	Toledo, OH	Huntsville, AL	$4,945	$0	$49.11	$1.34	3
	Grand Island, NE	Portland, OR	$5,260	$115	$53.37	$1.45	-13

[1]A unit train refers to shipments of at least 25 cars. Shuttle train rates are generally available for qualified shipments of 75-120 cars that meet railroad efficiency requirements.

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

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

[4]Percentage change year over year (Y/Y) calculated using tariff rate plus fuel surcharge.

Source: BNSF Railway, Canadian National Railway, CSX Transportation, and Union Pacific Railroad.

Table 8

Tariff rail rates for U.S. bulk grain shipments to Mexico

Date: January 2021							
	Origin		Tariff rate	Fuel surcharge	Tariff rate plus fuel surcharge per:		Percent change[4]
Commodity	state	Destination region	per car[1]	per car[2]	metric ton[3]	bushel[3]	Y/Y
Wheat	MT	Chihuahua, CI	$7,384	$0	$75.45	$2.05	-2
	OK	Cuautitlan, EM	$6,713	$49	$69.08	$1.88	-2
	KS	Guadalajara, JA	$7,471	$449	$80.93	$2.20	-3
	TX	Salinas Victoria, NL	$4,347	$29	$44.72	$1.22	-1
Corn	IA	Guadalajara, JA	$8,902	$358	$94.62	$2.40	-2
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	0
	NE	Queretaro, QA	$8,300	$99	$85.82	$2.18	-2
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,665	$97	$79.30	$2.01	-2
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	0
Soybeans	MO	Bojay (Tula), HG	$8,547	$338	$90.78	$2.47	-2
	NE	Guadalajara, JA	$9,157	$347	$97.10	$2.64	-2
	IA	El Castillo, JA	$9,410	$0	$96.15	$2.61	-1
	KS	Torreon, CU	$8,014	$228	$84.21	$2.29	-1
Sorghum	NE	Celaya, GJ	$7,772	$308	$82.56	$2.10	-2
	KS	Queretaro, QA	$8,108	$61	$83.46	$2.12	-1
	NE	Salinas Victoria, NL	$6,713	$49	$69.09	$1.75	-1
	NE	Torreon, CU	$7,092	$201	$74.52	$1.89	-3

[1]Rates are based upon published tariff rates for high-capacity shuttle trains. Shuttle trains are available for qualified shipments of 75-110 cars that meet railroad efficiency requirements.

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

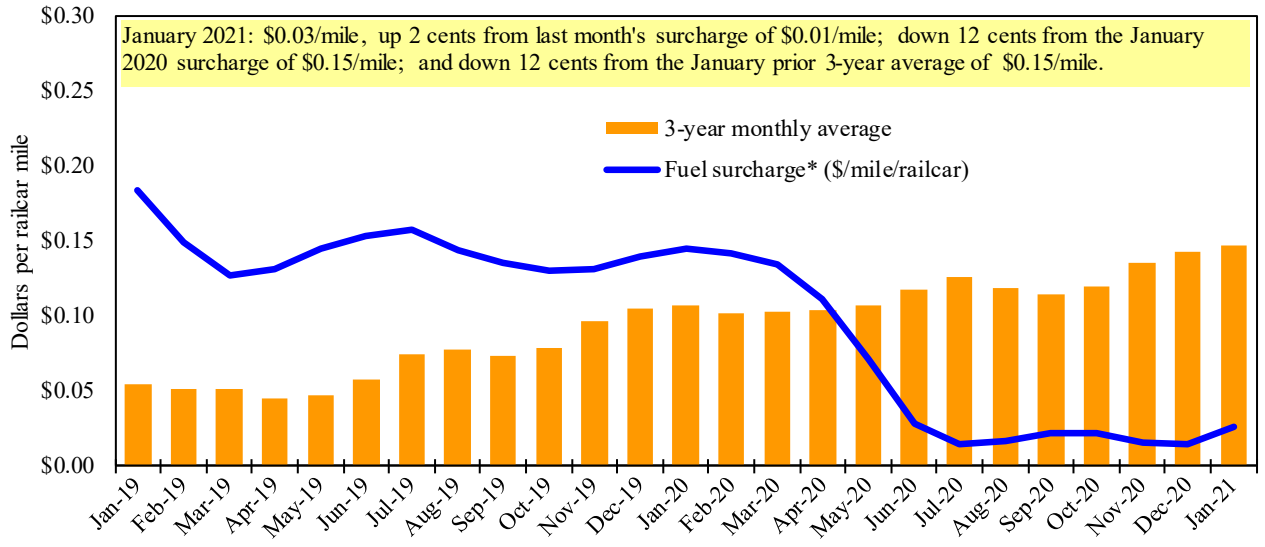
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

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

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

Figure 7

Railroad fuel surcharges, North American weighted average[1]



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

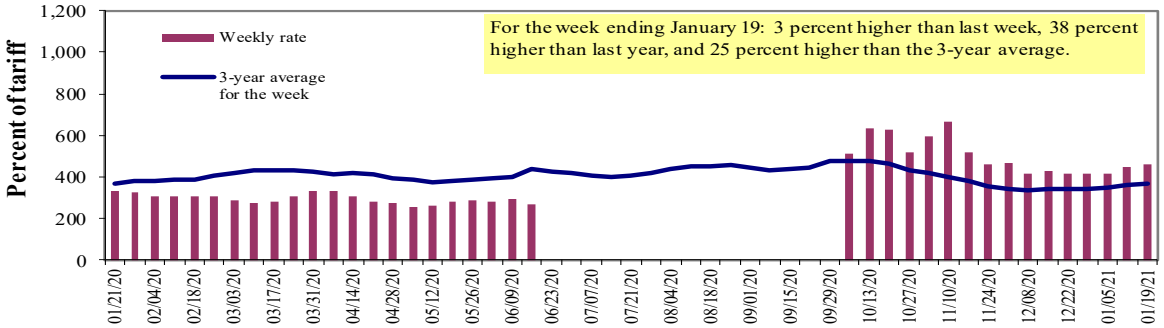
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

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

Sources: BNSF Railway, Canadian National Railway, CSX Transportation, Canadian Pacific Railway, Union Pacific Railroad, Kansas City Southern Railway, Norfolk Southern Corporation.

Barge Transportation

Figure 8
Illinois River barge freight rate[1,2,3]



[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average of the 3-year average.
[3]No 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

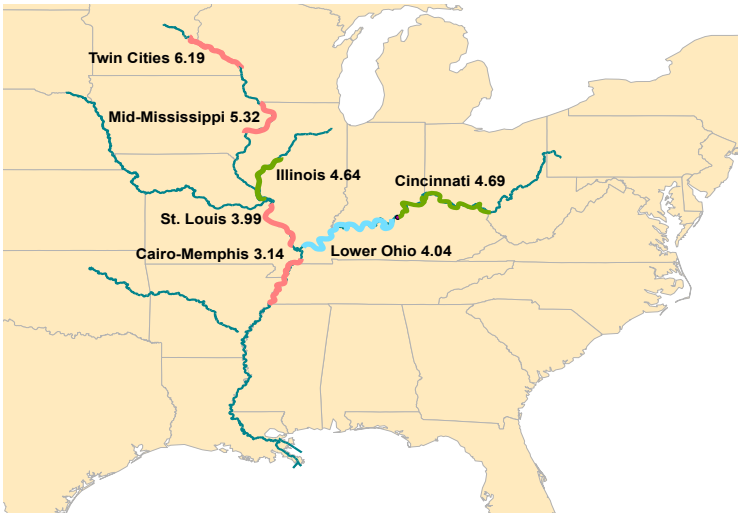
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	1/19/2021	-	-	460	336	363	363	284
	1/12/2021	-	-	445	303	336	336	256
$/ton	1/19/2021	-	-	21.34	13.41	17.02	14.67	8.92
	1/12/2021	-	-	20.65	12.09	15.76	13.57	8.04
Current week % change from the same week:								
	Last year	-	-	38	42	41	41	28
	3-year avg. [2]	-	-	25	21	18	18	18
Rate[1]	February	-	-	441	309	330	330	266
	April	490	390	369	285	294	294	255

[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; "-" not available due to closure.
Source: USDA, Agricultural Marketing Service.

Figure 9
Benchmark tariff rates

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

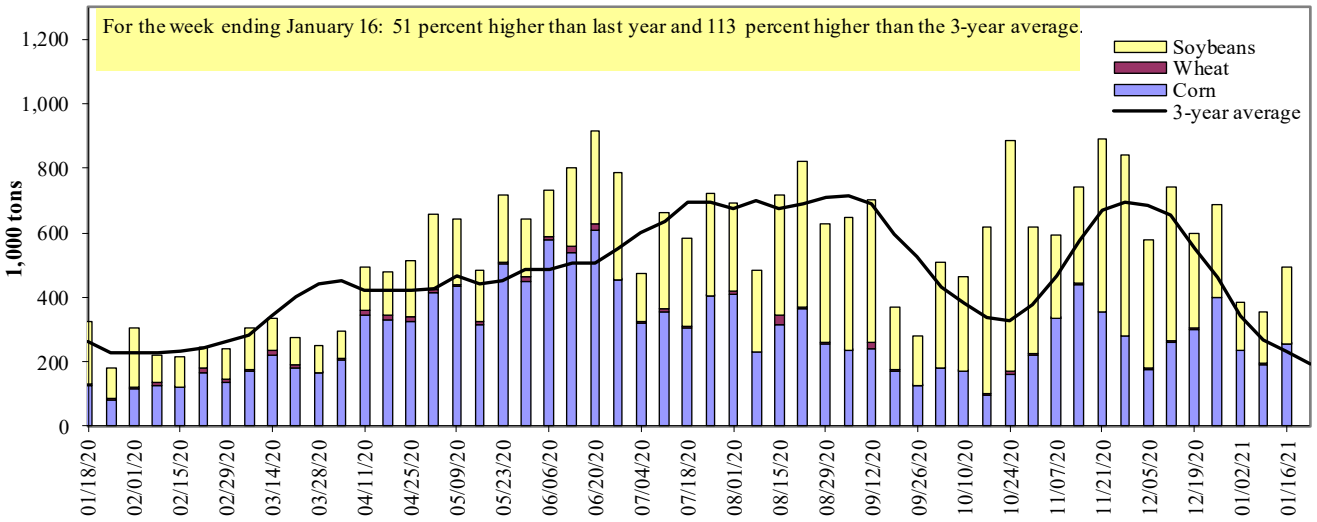
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 10

Barge movements on the Mississippi River[1] (Locks 27 - Granite City, IL)



[1] The 3-year average is a 4-week moving average.

Source: U.S. Army Corps of Engineers.

Table 10

Barge grain movements (1,000 tons)

For the week ending 01/16/2021	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	0	0	0	0	0
Alton, IL (L26)	287	2	233	0	521
Granite City, IL (L27)	254	2	236	0	491
Illinois River (La Grange)	251	2	192	0	444
Ohio River (Olmsted)	175	2	131	45	352
Arkansas River (L1)	0	13	59	0	71
Weekly total - 2021	429	16	425	45	915
Weekly total - 2020	245	14	262	0	521
2021 YTD[1]	749	29	743	47	1,568
2020 YTD[1]	393	51	605	0	1,049
2021 as % of 2020 YTD	190	58	123	-	149
Last 4 weeks as % of 2020[2]	190	69	129	3,283	154
Total 2020	18,942	1,765	19,205	237	40,149

[1] Weekly total, YTD (year-to-date), and calendar year total include MS/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye. L (as in "L15") refers to a lock or lock and dam facility. Olmsted = Olmsted Locks and Dam. La Grange = La Grange Lock and Dam.

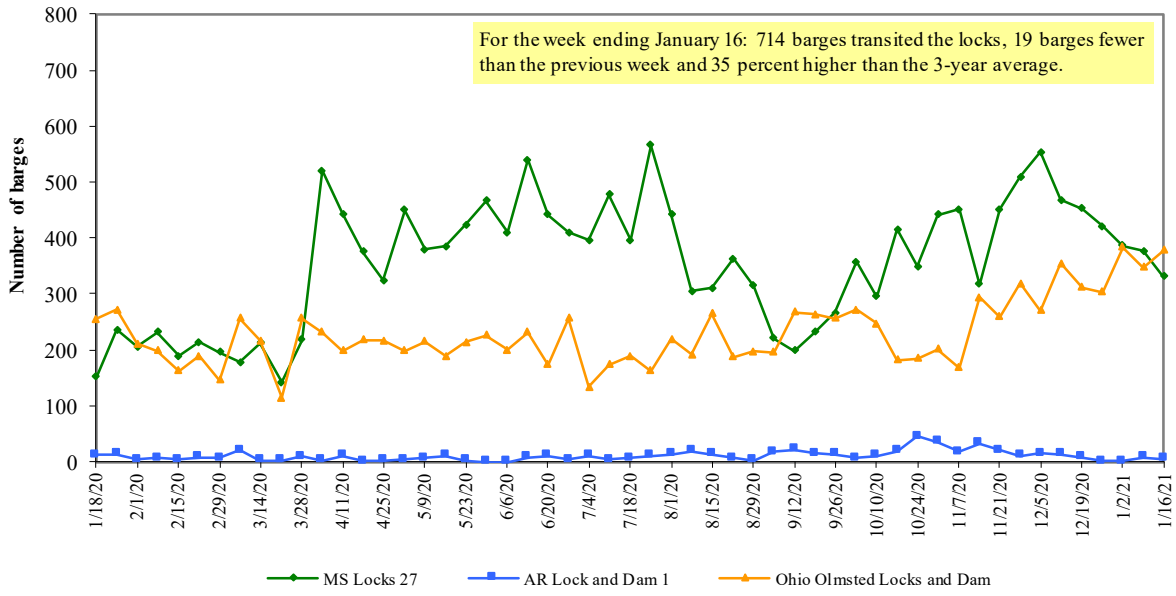
[2] As a percent of same period in 2020.

Note: Total may not add exactly due to rounding.

Source: U.S. Army Corps of Engineers.

Figure 11

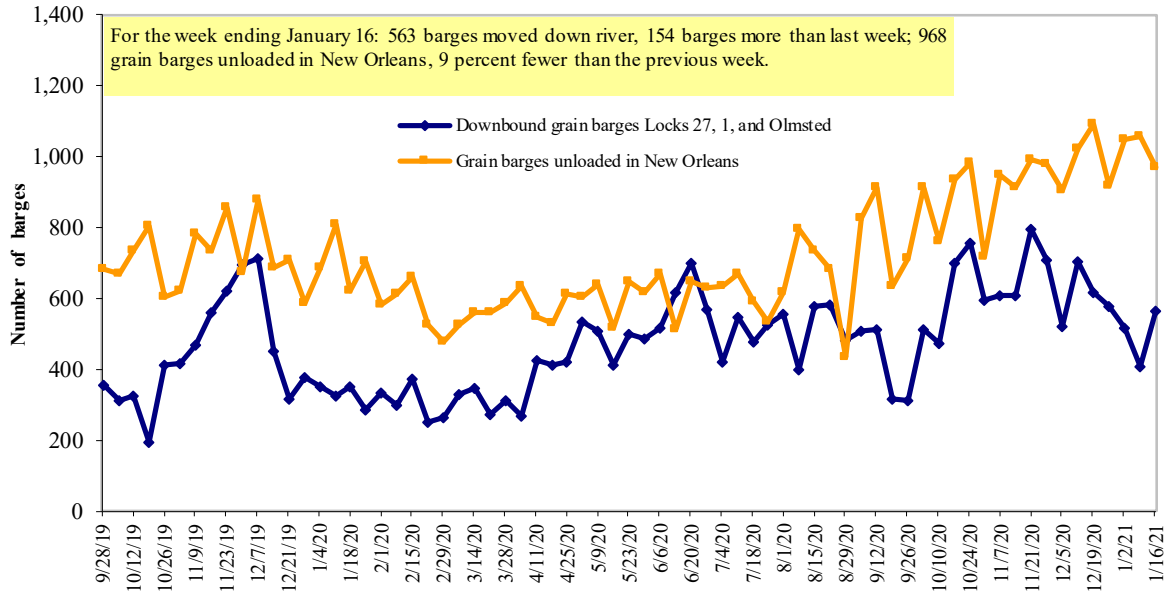
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 1/18/2021 (U.S. $/gallon)

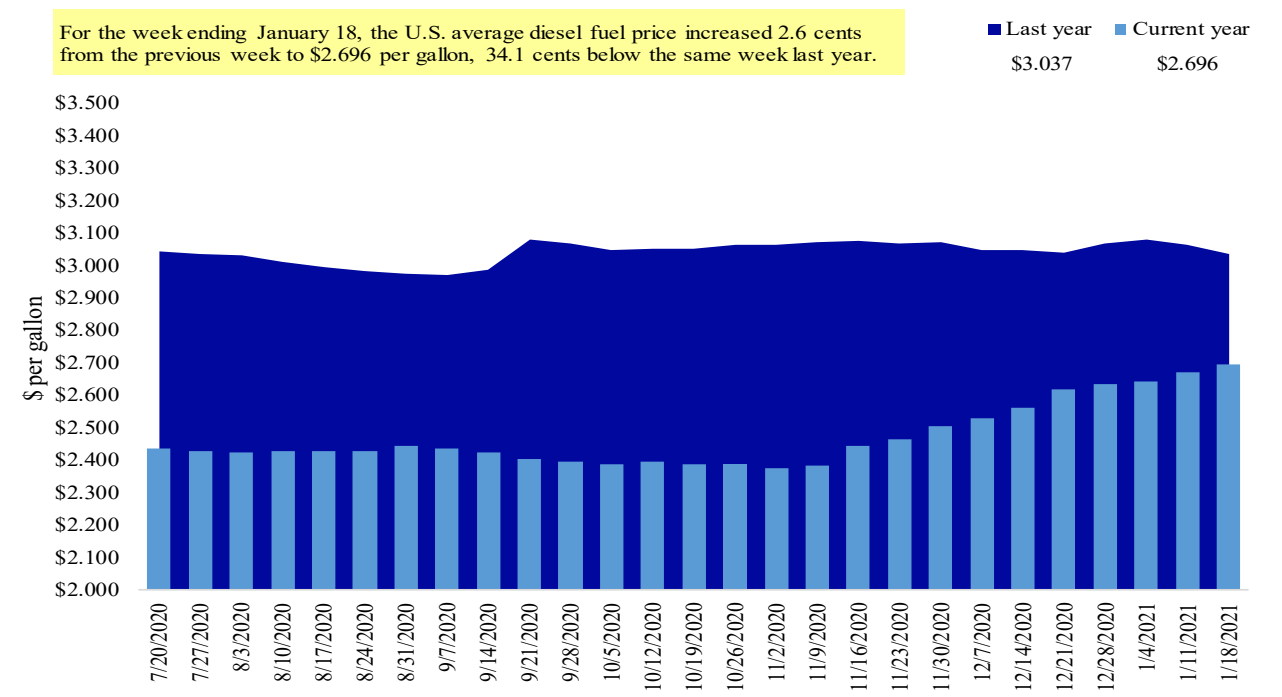
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	2.747	0.028	-0.328
	New England	2.764	0.064	-0.368
	Central Atlantic	2.924	0.033	-0.324
	Lower Atlantic	2.627	0.019	-0.321
II	Midwest	2.632	0.026	-0.305
III	Gulf Coast	2.461	0.032	-0.336
IV	Rocky Mountain	2.603	0.013	-0.407
V	West Coast	3.155	0.016	-0.419
	West Coast less California	2.804	0.011	-0.402
	California	3.448	0.021	-0.418
Total	United States	2.696	0.026	-0.341

[1]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)

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
1/7/2021	1,446	499	1,816	2,457	101	6,319	28,662	14,561	49,542
This week year ago	1,538	461	1,383	1,056	187	4,625	9,867	7,241	21,732
Cumulative exports-marketing year[2]									
2020/21 YTD	5,771	1,088	4,295	3,099	489	14,741	16,721	41,115	72,577
2019/20 YTD	5,612	1,663	4,201	2,860	624	14,960	9,434	23,173	47,568
YTD 2020/21 as % of 2019/20	103	65	102	108	78	99	177	177	153
Last 4 wks. as % of same period 2019/20*	101	108	124	247	58	140	293	231	240
Total 2019/20	9,526	2,318	6,960	4,751	922	24,477	42,622	43,994	111,094
Total 2018/19	8,591	3,204	6,776	5,164	479	24,214	48,924	46,189	119,327

[1] Current unshipped (outstanding) export sales to date.

[2] Shipped export sales to date; 2020/21 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[1] of U.S. corn

For the week ending 1/07/2021	Total commitments[2]		% change	Exports[3]
	2020/21 current MY	2019/20 last MY	current MY from last MY	3-yr. avg. 2017-19
		- 1,000 mt -		
Mexico	9,947	9,061	10	14,869
Japan	5,926	3,235	83	11,221
Columbia	2,183	1,658	32	4,830
Korea	1,063	77	1,274	4,011
China	11,769	60	19,515	909
Top 5 importers	**30,889**	**14,091**	**119**	**35,840**
Total U.S. corn export sales	**45,382**	**19,301**	**135**	**49,983**
% of projected exports	70%	43%		
Change from prior week[2]	**1,438**	**785**		
Top 5 importers' share of U.S. corn export sales	68%	73%		72%
USDA forecast January 2021	**64,885**	**45,242**	**43**	
Corn use for ethanol USDA forecast, January 2021	**125,730**	**123,241**	**2**	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; marketing year (MY) = Sep 1 - Aug 31.

[2] Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

[3] FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 14

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

For the week ending 1/7/2021	Total commitments[2] 2020/21 current MY	2019/20 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2017-19
		- 1,000 mt -		- 1,000 mt -
China	33,547	11,388	195	19,106
Mexico	3,530	2,966	19	4,591
Egypt	1,902	1,359	40	2,980
Indonesia	1,149	1,000	15	2,360
Japan	1,265	1,295	(2)	2,288
Top 5 importers	**41,394**	**18,008**	**130**	**31,324**
Total U.S. soybean export sales	**55,676**	**30,414**	**83**	**49,352**
% of projected exports	92%	66%		
change from prior week[2]	**908**	**642**		
Top 5 importers' share of U.S. soybean export sales	74%	59%		**63%**
USDA forecast, January 2021	**60,763**	**45,831**	**133**	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales and/or accumulated sales.

[3]FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 15

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

For the week ending 1/7/2021	Total commitments[2] 2020/21 current MY	2019/20 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2017-19
		1,000 mt -		- 1,000 mt -
Mexico	2,757	2,819	(2)	3,213
Philippines	2,649	2,550	4	2,888
Japan	1,939	1,946	(0)	2,655
Nigeria	1,066	1,114	(4)	1,433
Korea	1,418	1,052	35	1,372
Indonesia	832	741	12	1,195
Taiwan	941	979	(4)	1,175
Thailand	701	691	1	727
Italy	549	683	(20)	622
Colombia	302	548	(45)	618
Top 10 importers	**13,154**	**13,122**	0	**15,897**
Total U.S. wheat export sales	**21,060**	**19,585**	8	**23,821**
% of projected exports	78%	74%		
change from prior week[2]	**222**	**651**		
Top 10 importers' share of U.S. wheat export sales	62%	67%		67%
USDA forecast, January 2021	**26,839**	**26,294**	2	

[1] Based on USDA, Foreign Agricultural Service(FAS) marketing year ranking reports for 2018/19; Marketing year (MY) = Jun 1 - May 31.

[2] Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from the previous week's outstanding and/or accumulated sales.

[3] FAS marketing year final reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number.

Source: USDA, Foreign Agricultural Service.

Table 16

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

Port regions	For the week ending 01/14/21	Previous week*	Current week as % of previous	2021 YTD*	2020 YTD*	2021 YTD as % of 2020 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2020 total*
Pacific Northwest									
Wheat	170	210	81	380	825	46	90	109	15,966
Corn	100	337	30	437	51	860	n/a	169	9,969
Soybeans	571	433	132	1,004	631	159	253	240	14,028
Total	**841**	**980**	**86**	**1,821**	**1,507**	**121**	**202**	**169**	**39,963**
Mississippi Gulf									
Wheat	23	11	209	34	244	14	31	31	3,422
Corn	593	851	70	1,444	967	149	231	199	28,781
Soybeans	1,155	1,188	97	2,343	2,462	95	138	157	38,013
Total	**1,771**	**2,050**	**86**	**3,821**	**3,673**	**104**	**156**	**163**	**70,215**
Texas Gulf									
Wheat	39	58	67	96	331	29	33	40	4,248
Corn	0	0	n/a	0	22	0	23	43	723
Soybeans	158	115	138	273	0	n/a	n/a	n/a	2,098
Total	**197**	**172**	**114**	**369**	**352**	**105**	**142**	**180**	**7,068**
Interior									
Wheat	59	17	347	76	117	65	154	167	2,263
Corn	168	103	164	271	367	74	109	114	8,683
Soybeans	176	138	127	315	404	78	116	152	7,274
Total	**404**	**258**	**156**	**662**	**888**	**75**	**117**	**136**	**18,220**
Great Lakes									
Wheat	0	0	n/a	0	1	n/a	1	1	891
Corn	0	0	n/a	0	0	n/a	n/a	n/a	111
Soybeans	0	0	n/a	0	0	n/a	121	93	1,111
Total	**0**	**0**	**n/a**	**0**	**1**	**n/a**	**69**	**63**	**2,113**
Atlantic									
Wheat	0	0	n/a	0	0	n/a	n/a	n/a	65
Corn	0	0	n/a	0	0	n/a	n/a	0	33
Soybeans	106	71	150	177	80	222	389	258	1,870
Total	**106**	**71**	**150**	**177**	**80**	**222**	**389**	**250**	**1,968**
U.S. total from ports*									
Wheat	291	296	99	587	1,518	39	74	85	26,854
Corn	861	1,291	67	2,152	1,407	153	237	174	48,301
Soybeans	2,167	1,945	111	4,111	3,577	115	168	186	64,394
Total	**3,319**	**3,531**	**94**	**6,850**	**6,501**	**105**	**162**	**163**	**139,548**

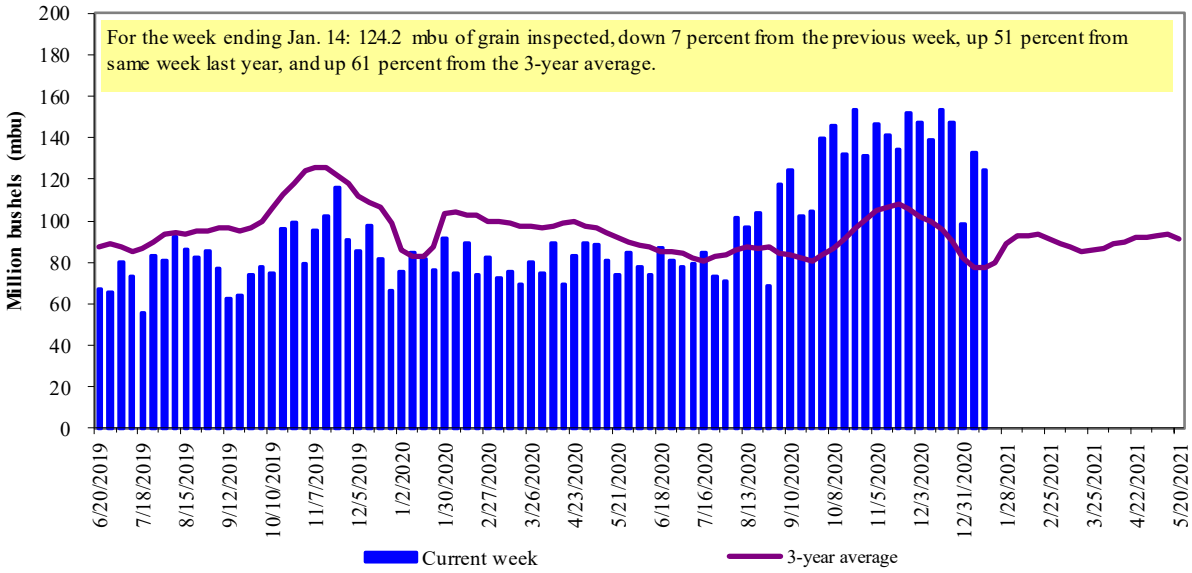
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

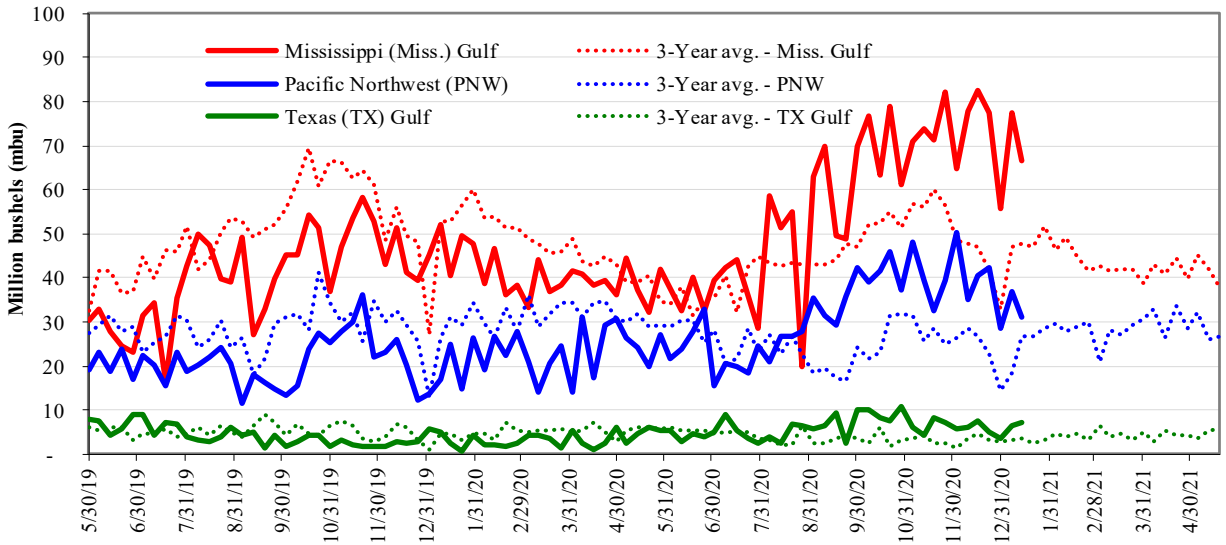


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 01/14/21 inspections (mbu):	
MS Gulf:	66.6
PNW:	31.2
TX Gulf:	7.2

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 14	up 14	down 12	down 15
Last Year (same wk):	up 65	up 202	up 73	up 26
3-yr avg. (4-wk. mov. Avg):	up 57	up 132	up 62	up 51

Source: USDA, Federal Grain Inspection Service.

Table 17

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

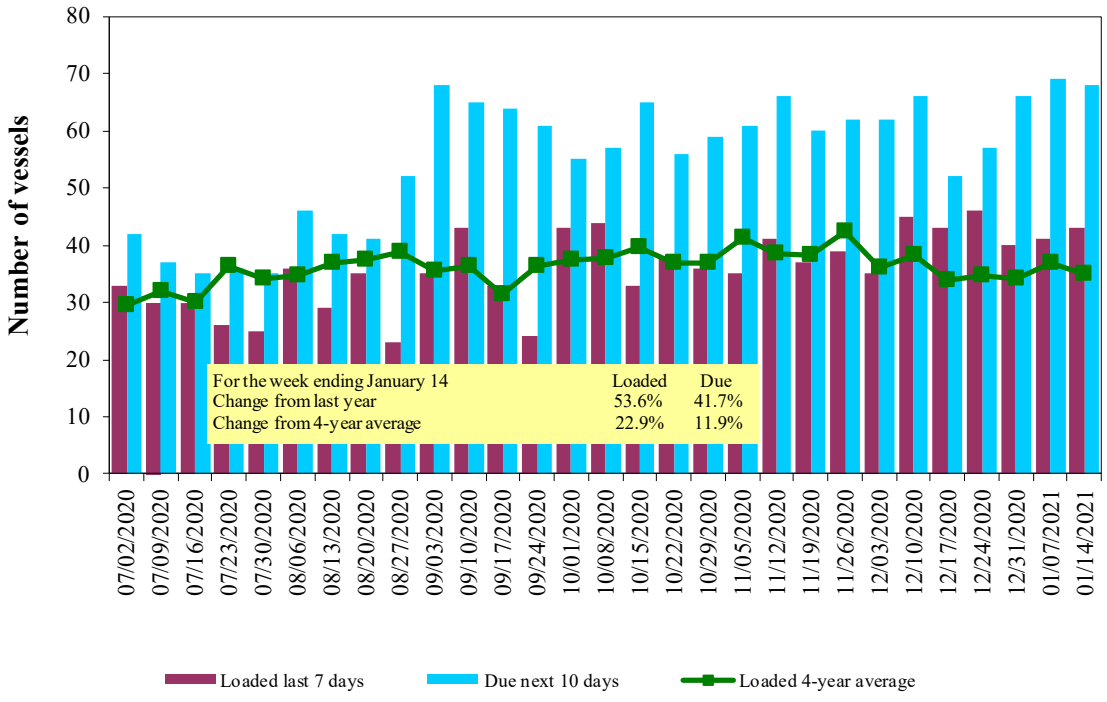
	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
1/14/2021	46	43	68	17
1/7/2021	39	41	69	16
2020 range	(22…60)	(23...46)	(34...68)	(7…24)
2020 average	37	33	49	15

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

Source: USDA, Agricultural Marketing Service.

Figure 16

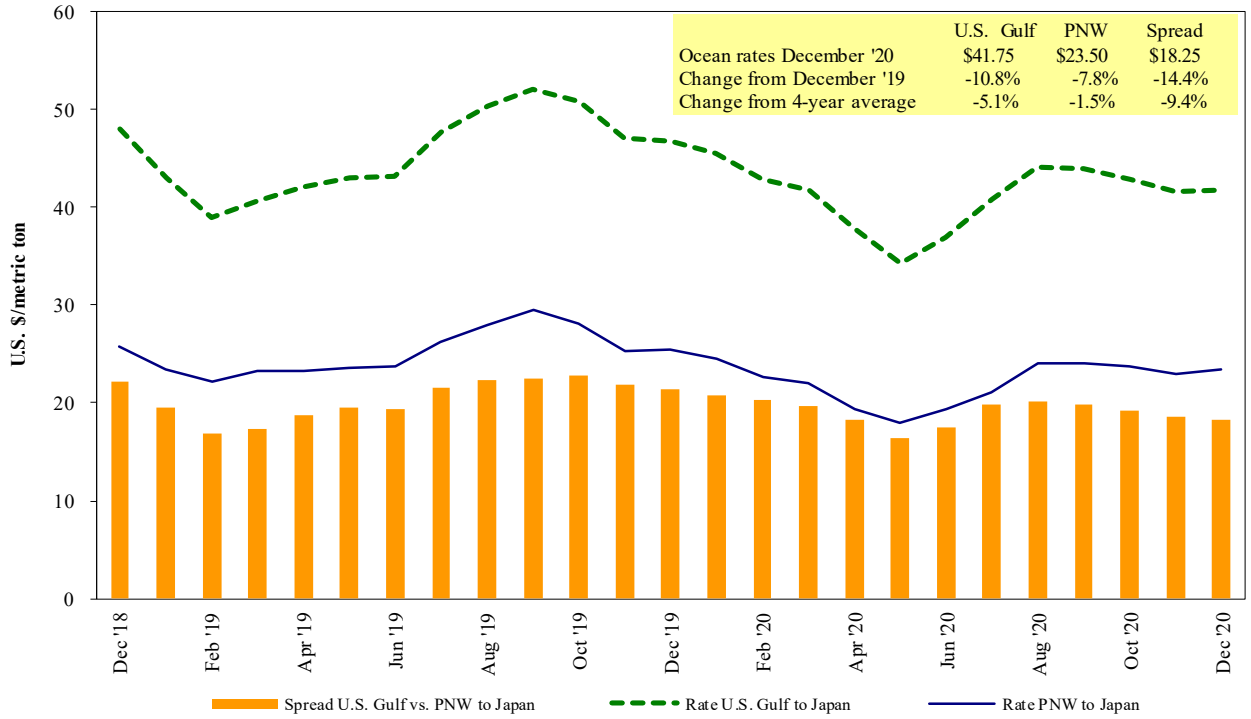
U.S. Gulf[1] vessel loading activity



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

Figure 17

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest

Source: O'Neil Commodity Consulting

Table 18

Ocean freight rates for selected shipments, week ending 01/16/2021

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	China	Heavy grain	Dec 6/11	66,000	39.25
U.S. Gulf	China	Heavy grain	Nov 20/30	65,000	37.25
U.S. Gulf	China	Heavy grain	Oct 16/25	66,000	41.75
U.S. Gulf	Djibouti	Wheat	Oct 16/26	12,180	94.48*
PNW	Taiwan	Wheat	Feb 18/Mar 4	40,925	35.24*
PNW	Taiwan	Corn	Feb 20/Mar 15	65,000	24.90
PNW	China	Soybeans	Sep 1/30	63,000	22.10 op 22.60
PNW	Indonesia	Soybean Meal	Nov 10/20	8,600	37.86*
PNW	Yemen	Wheat	Aug 4/14	15,000	42.95*
Vancouver	Japan	Wheat	Sep 15/30	20,000	24.30
Vancouver	Japan	Canola	Sep 15/30	30,000	24.30
Brazil	Japan	Corn	Sep 11/20	49,000	34.75
Brazil	Japan	Corn	Sep 1/10	60,000	34.00

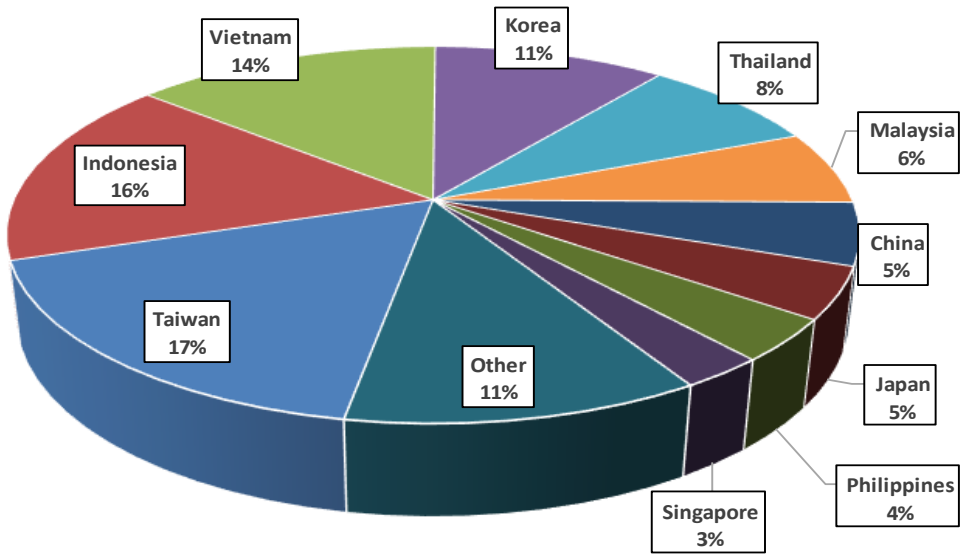
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

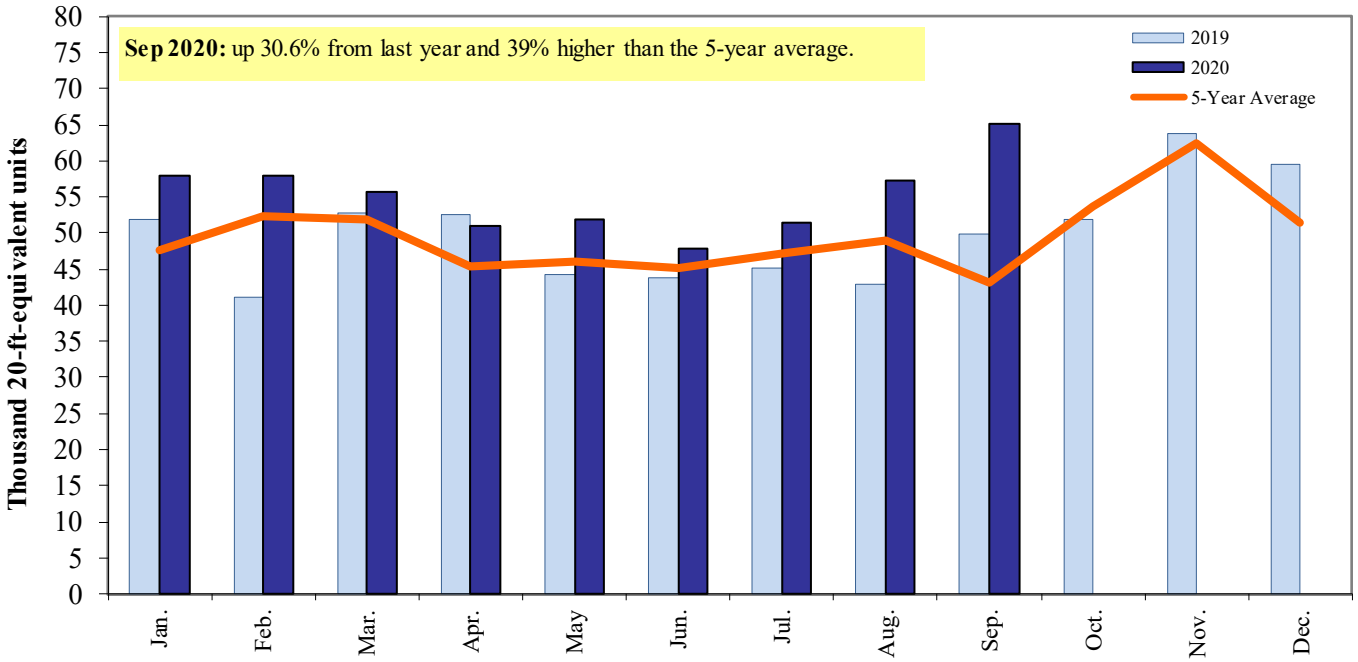
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Sep 2020



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 containerized grain to Asia



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.

Contacts and Links

Coordinators		
Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
Maria Williams	maria.williams@usda.gov	(202) 690 - 4430
Bernadette Winston	bernadette.winston@usda.gov	(202) 690 - 0487
Matt Chang	matt.chang@usda.gov	(202) 720 - 0299
Grain Transportation Indicators		
Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
Rail Transportation		
Johnny Hill	johnny.hill@usda.gov	(202) 690 - 3295
Jesse Gastelle	jesse.gastelle@usda.gov	(202) 690 - 1144
Peter Caffarelli	petera.caffarelli@usda.gov	(202) 690 - 3244
Barge Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Bernadette Winston	bernadette.winston@usda.gov	(202) 690 - 0487
Matt Chang	matt.chang@usda.gov	(202) 720 - 0299
Truck Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Kranti Mulik	kranti.mulik@usda.gov	(202) 756 - 2577
Matt Chang	matt.chang@usda.gov	(202) 720 - 0299
Grain Exports		
Johnny Hill	johnny.hill@usda.gov	(202) 690 - 3295
Kranti Mulik	kranti.mulik@usda.gov	(202) 756 - 2577
Ocean Transportation		
Surajudeen (Deen) Olowolayemo (Freight rates and vessels)	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
April Taylor (Container movements)	april.taylor@usda.gov	(202) 720 - 7880
Editor		
Maria Williams	maria.williams@usda.gov	(202) 690-4430

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