USDA United States Department of Agriculture

Grain Transportation Report

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March 10, 2022

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WEEKLY HIGHLIGHTS

U.S. Average Diesel Fuel Prices Reach Record Level

During the week ending March 7, U.S. average **diesel fuel prices** increased 74.5 cents from the previous week to a record $4.849 per gallon—$1.706 above the same week last year. Current diesel fuel prices outpace by 8.5 cents the previous record set in 2008. Diesel prices are closely tied to crude oil prices. According to the Energy Information Administration's (EIA) *Short-Term Energy Outlook*, "Brent crude oil spot prices averaged $97 per barrel (b) in February, an $11/b increase from January. Daily spot prices for Brent closed at almost $124/b in the first week of March as the further invasion of Ukraine by Russia and subsequent sanctions on Russia and other actions created significant market uncertainties about the potential for oil supply disruptions. These events are occurring against a backdrop of low oil inventory and persistent upward oil price pressures." EIA's spot crude oil prices have trended upward since September 2021, closely paralleling diesel fuel prices.

STB Publishes Updated Rail Rate Study

On February 24, the Surface Transportation Board (STB) posted an updated *Rail Rate Index Study*, showing real (adjusted for inflation) and nominal rail rates (measured as revenue per ton-mile) from 1985 to 2020. With the addition of 2020 data, the February 24 release updates the version released in December 2021. From 2019 to 2020, real rail rates fell moderately (about 2 to 3 percentage points) for grain, intermodal, and food and kindred products. On a percentage basis, rates decreased most for coal and non-grain farm products. Real rates remained relatively flat for chemicals and lumber and wood products. The publication follows STB's release of the 2020 waybill data. An interactive version of the public waybill, along with visuals based on the data, can also be found on USDA's AgTransport Open Data Platform.

FMCSA Extends Emergency HOS Waiver for Feed and Fuel

The Federal Motor Carrier Safety Administration (FMCSA) has extended, through May 31, its waiver on hours-of-service (HOS) requirements for trucks transporting feed and ethanol. FMCSA cautions the waiver may end sooner if conditions warrant. Originally issued in 2020 to help address the national COVID-19 emergency, the current waiver still exempts property-carrying vehicles from FMCSA-mandated maximum driving times. Like previous iterations, the waiver forbids motor carriers from asking truckers to haul loads when they say they are tired. The waiver does not cover routine commercial deliveries—including mixed loads—with nominal amounts of waiver-qualifying materials.

Snapshots by Sector

Export Sales

For the week ending February 24, **unshipped balances** of wheat, corn, and soybeans for marketing year 2021/22 totaled 35.8 million metric tons (mmt), down 23 percent from the same time last year, and down 3 percent from the previous week. Net **corn export sales** were 0.485 mmt, down 53 percent from the previous week. Net **soybean export sales** were 0.857 mmt, down 30 percent from the previous week. Net weekly **wheat export sales** were 0.300 mmt, down 42 percent from the previous week.

Rail

U.S. Class I railroads originated 22,168 **grain carloads** during the week ending February 26. This was an 11-percent decrease from the previous week, 6 percent fewer than last year, and 1 percent more than the 3-year average.

Average March shuttle **secondary railcar** bids/offers (per car) were $554 above tariff for the week ending March 3. This was $404 more than last week and $185 more than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending March 5, **barged grain movements** totaled 634,100 tons. This was 19 percent higher than the previous week and 25 percent lower than the same period last year.

For the week ending March 5, 395 grain barges **moved down river**—65 more barges than the previous week. There were 750 grain barges **unloaded** in the New Orleans Region, 2 percent higher than last week.

Ocean

For the week ending March 3, 33 **oceangoing grain vessels** were loaded in the Gulf—8 percent fewer than the same period last year. Within the next 10 days (starting March 4), 38 vessels were expected to be loaded—28 percent fewer than the same period last year.

As of March 3, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $71.00. This was 4 percent more than the previous week. The rate from the Pacific Northwest to Japan was $39.25 per mt, 3 percent more than the previous week.

Preferred citation: U.S. Department of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* March 10, 2022.
Web: http://dx.doi.org/10.9752/TS056.03-10-2022

Fourth-Quarter Landed Costs Rose, Despite Slight Drop in Wheat Transportation Costs

From third to fourth quarter 2021 (quarter to quarter), wheat shipping costs decreased from Kansas (KS) and North Dakota (ND) to Japan—both via the Pacific Northwest (PNW routes)—and via the U.S. Gulf (Gulf routes) (tables 1 and 2). From fourth quarter 2020 to fourth quarter 2021 (year to year), wheat shipping costs increased for most of the PNW and Gulf routes, except for shipping North Dakota wheat to Japan through the U.S. Gulf by rail. Year to year, wheat inspections decreased 40 percent, and quarter to quarter, inspections decreased 51 percent (USDA Federal Grain Inspection Service (FGIS)).

Transportation Costs

PNW routes. Fourth-quarter transportation costs for shipping wheat totaled $120/metric ton (mt) via the KS-PNW route and $114/mt via the ND-PNW route. Quarter to quarter, the costs were down roughly 1 percent for each PNW route, due to lower ocean vessel rates, despite higher truck and rail rates (table 1). Year to year, wheat shipping costs rose 25 percent via both PNW routes. Fourth-quarter wheat transportation costs as a share of landed costs were 25 percent and 30 percent for the Kansas and North Dakota PNW routes, respectively (table 1).

Gulf routes. Fourth-quarter transportation costs totaled $136/mt by the KS-Gulf route and $149/mt by the ND-Gulf route. Quarter to quarter, the costs to ship wheat were down roughly 1 percent for KS-Gulf and down roughly 3 percent for ND-Gulf. Year to year, costs through the Gulf increased 42 percent from Kansas and rose 32 percent from North Dakota (table 2). Fourth-quarter wheat transportation costs as a share of landed costs were 30 percent and 32 percent for the Kansas and North Dakota Gulf routes, respectively (table 2).

Table 1: Quarterly rate comparisons for shipping Kansas and North Dakota wheat to Japan through the PNW

	Kansas					North Dakota				
Mode	2020 4th qtr	2021 3rd qtr	2021 4th qtr	Year-to-year change	Quarterly change	2020 4th qtr	2021 3rd qtr	2021 4th qtr	Year-to-year change	Quarterly change
	$/metric ton			%	%	$/metric ton			%	%
Truck	11.38	13.19	13.51	18.72	2.43	11.38	13.19	13.51	18.72	2.43
Rail[1]	60.81	63.43	63.83	4.97	0.63	56.37	57.24	58.10	3.07	1.50
Ocean vessel	23.40	44.56	42.49	81.58	-4.65	23.40	44.56	42.49	81.58	-4.65
Transportation costs	95.59	121.18	119.83	25.36	-1.11	91.15	114.99	114.10	25.18	-0.77
Farm value[2]	193.39	239.45	283.91	46.81	18.57	186.66	304.85	349.92	87.46	14.78
Total landed cost	288.98	360.63	403.74	39.71	11.95	277.81	419.84	464.02	67.03	10.52
Transport % of landed cost	33.08	33.60	29.68			32.81	27.39	24.59		

Table 2: Quarterly rate comparisons for shipping Kansas and North Dakota wheat to Japan through the U.S. Gulf

	Kansas					North Dakota				
Mode	2020 4th qtr	2021 3rd qtr	2021 4th qtr	Year-to-year change	Quarterly change	2020 4th qtr	2021 3rd qtr	2021 4th qtr	Year-to-year change	Quarterly change
	$/metric ton			%	%	$/metric ton			%	%
Truck	11.38	13.19	13.51	18.72	2.43	11.38	13.19	13.51	18.72	2.43
Rail[1]	42.07	42.07	43.80	4.11	4.11	59.23	58.18	56.81	-4.09	-2.35
Ocean vessel	42.11	81.71	78.50	86.42	-3.93	42.11	81.71	78.50	86.42	-3.93
Transportation costs	95.56	136.97	135.81	42.12	-0.85	112.72	153.08	148.82	32.03	-2.78
Farm value[2]	193.39	239.45	283.91	46.81	18.57	186.66	304.85	349.92	87.46	14.78
Total landed cost	288.95	376.42	419.72	45.26	11.50	299.38	457.93	498.74	66.59	8.91
Transport % of landed cost	33.07	36.39	32.36			37.65	33.43	29.84		

[1] Rail tariff rates include fuel surcharges and revisions for heavy-axle railcars and shuttle trains. The rail tariff rate is a base price of rail freight rates, but during periods of high rail demand or car shortages, high auction and secondary market rates could exceed the base rail tariffs per car.

[2] USDA, National Agricultural Statistics Service is the source for wheat prices for North Dakota (mainly hard red spring) and Kansas (mainly hard red winter).
Note: PNW = Pacific Northwest; qtr = quarter.
Source: USDA, Agricultural Marketing Service.

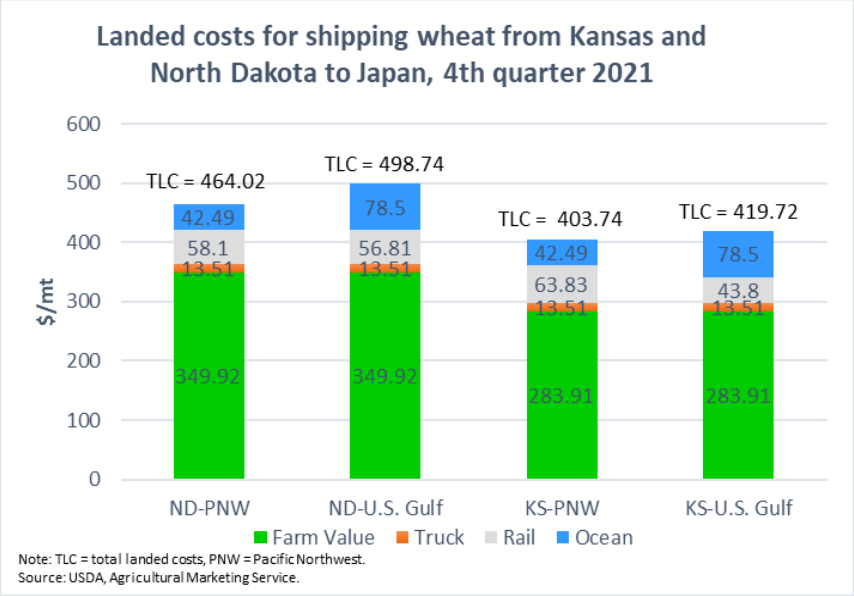
Total Landed Costs

With substantial rises in wheat farm values in both Kansas and North Dakota, total landed costs for shipping wheat increased for all routes, both from quarter to quarter and year to year. Rising farm values continued to be a large portion of total landed costs, more than offsetting any declines in transportation

costs. Landed costs ranged from $404/mt to $499/mt (see figure). Quarter to quarter, landed costs rose for all routes—by 12 percent for KS-PNW, 11 percent for ND-PNW, 12 percent for KS-Gulf, and 9 percent for ND-Gulf. Year to year, landed costs also rose for all routes—by 40 percent for KS-PNW, 67 percent for ND-PNW, 45 percent for KS-Gulf, and 67 percent for ND-Gulf.

Ocean Freight Rates

Because of lower market activity during the holidays, ocean freight rates were down slightly in the PNW and the Gulf (*Grain Transportation Report*, January 20, 2022). Quarter to quarter, ocean freight rates for the PNW routes decreased 5 percent, but from year to year, increased 82 percent (table 1). Quarter to quarter, ocean freight rates for the Gulf routes decreased 4 percent, and year to year, increased 86 percent (table 2).



Rail and Truck Rates

Quarter to quarter, rail rates for shipping wheat via the PNW routes rose around 1 percent. Year to year, rail rates increased 5 percent for the KS-PNW route and rose 3 percent for the ND-PNW route. Quarter to quarter, rail rates increased 4 percent for the KS-Gulf route and fell 2 percent for the ND-Gulf route. Year to year, rail rates increased 4 percent for the KS-Gulf route and fell 4 percent for the ND-Gulf route.

Rising demand for wheat, rising diesel costs, and the lack of available truck drivers in the fourth quarter continued to push up each State's grain trucking rate—amounting to a 2-percent increase from the third quarter and a 19-percent increase from year to year.

Wheat Market Outlook

Fourth-quarter inspections of wheat destined to Japan reached .472 million metric tons (mmt) in 2021, according to FGIS. Fourth-quarter wheat exports to Japan—accounting for 13 percent of total U.S. wheat exports—decreased 17 percent from year to year. For all of 2021, annual exports of U.S. wheat to Japan totaled 2.3 mmt, 10 percent of total U.S. wheat exports. This total was down 9 percent from 2020.

In 2021, total U.S. wheat inspected for export totaled 23 mmt, down 10 percent from 2020, reflecting decreased demand in Asia, according to FGIS. According to USDA's March *World Agricultural Supply and Demand Estimates*, wheat exports for marketing year (MY) 2021/22 are projected to decrease 19 percent from MY 2020/21.

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Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
03/09/22	325	298	246	496	318	278
03/02/22	275	298	233	343	306	271

[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.

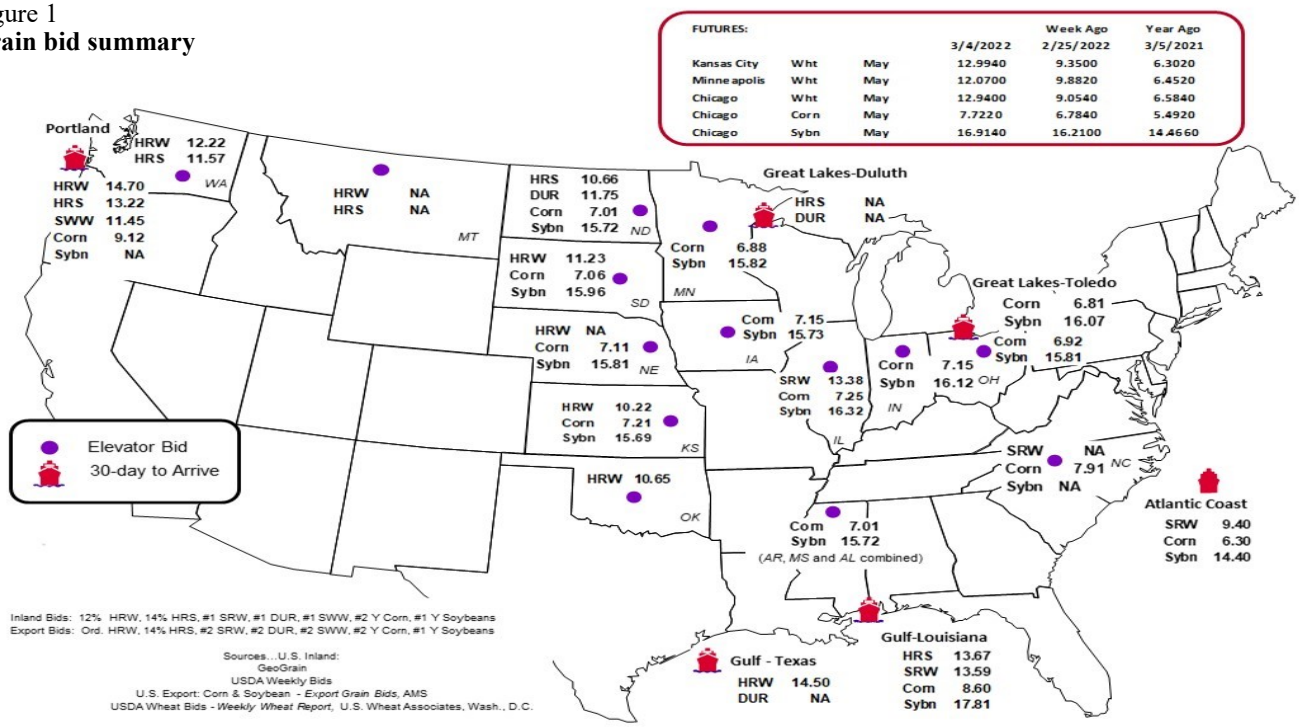
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	3/4/2022	2/25/2022
Corn	IL–Gulf	-1.35	-1.05
Corn	NE–Gulf	-1.49	-1.11
Soybean	IA–Gulf	-2.08	-1.70
HRW	KS–Gulf	-4.28	-2.57
HRS	ND–Portland	-2.56	-2.14

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]
3/2/2022[p]	2,098	43	5,092	436	7,669	2/26/2022	2,741
2/23/2022[r]	1,719	120	5,996	574	8,409	2/19/2022	3,284
2022 YTD[r]	13,530	9,806	52,419	5,606	81,361	2022 YTD	23,165
2021 YTD[r]	15,147	14,347	54,158	6,566	90,218	2021 YTD	17,557
2022 YTD as % of 2021 YTD	89	68	97	85	90	% change YTD	132
Last 4 weeks as % of 2021[2]	102	63	96	100	92	Last 4wks. % 2021	134
Last 4 weeks as % of 4-year avg.[2]	224	73	112	183	120	Last 4wks. % 4 yr.	135
Total 2021	54,982	69,213	311,407	22,567	458,169	Total 2021	147,859
Total 2020	45,294	64,116	299,882	24,458	433,750	Total 2020	128,714

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

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

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

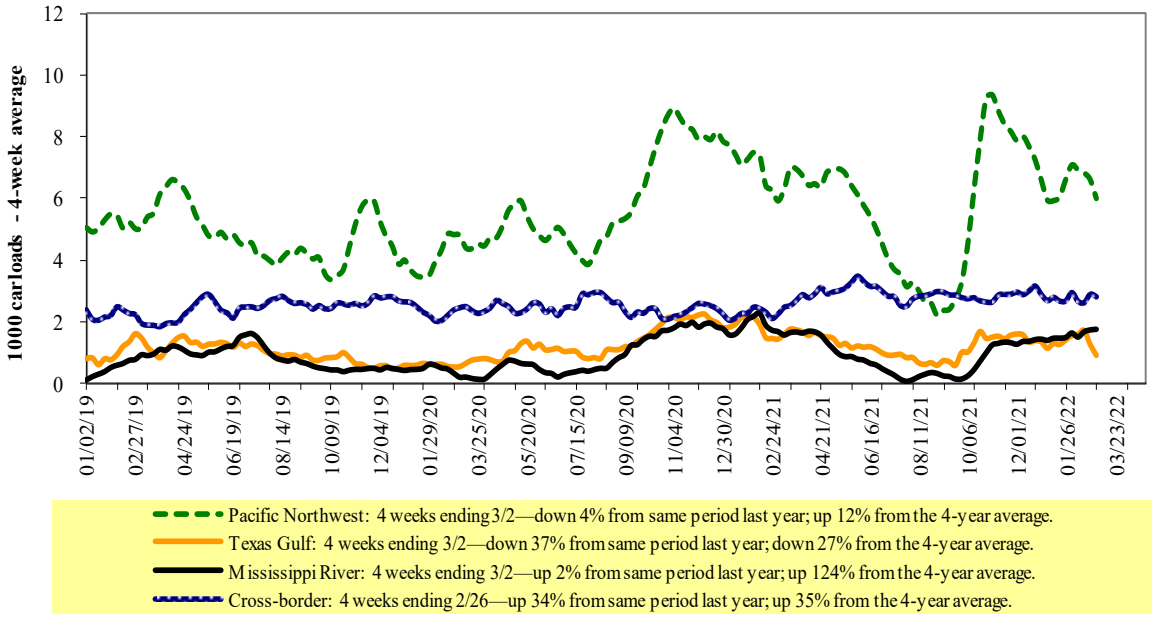
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

Source: USDA, Agricultural Marketing Service.

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

Figure 2

Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

Table 4

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

For the week ending:	East		West			U.S. total	Canada	
2/26/2022	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,887	2,533	10,584	1,452	5,712	22,168	4,061	3,293
This week last year	1,927	2,480	12,049	1,171	5,948	23,575	4,105	4,934
2022 YTD	14,599	18,001	94,437	10,956	51,488	189,481	28,394	28,561
2021 YTD	16,896	21,762	102,974	7,937	51,640	201,209	38,423	37,355
2022 YTD as % of 2021 YTD	86	83	92	138	100	94	74	76
Last 4 weeks as % of 2021*	93	92	100	153	113	104	89	87
Last 4 weeks as % of 3-yr. avg.**	95	94	108	131	129	112	97	98
Total 2021	93,935	120,911	609,890	64,818	318,002	1,207,556	210,313	242,533

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

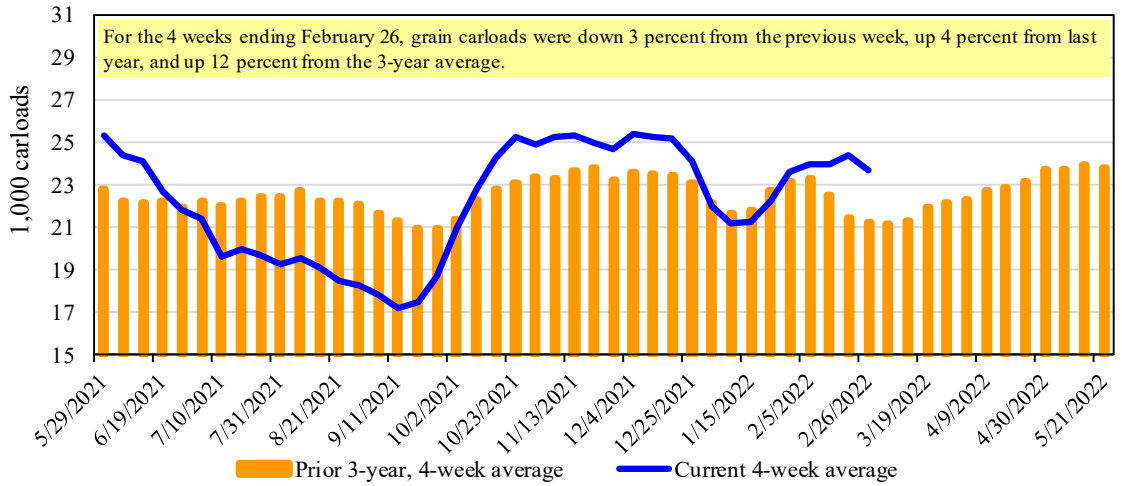
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 5

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

For the week ending:		Delivery period							
3/3/2022		Mar-22	Mar-21	Apr-22	Apr-21	May-22	May-21	Jun-22	Jun-21
BNSF[3]	COT grain units	no bids	0	0	0	0	no bids	0	no bids
	COT grain single-car	1	7	0	0	0	0	0	0
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	no offer	no offer	no offer	no offer	no offer	no offer	n/a	n/a

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

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

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

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

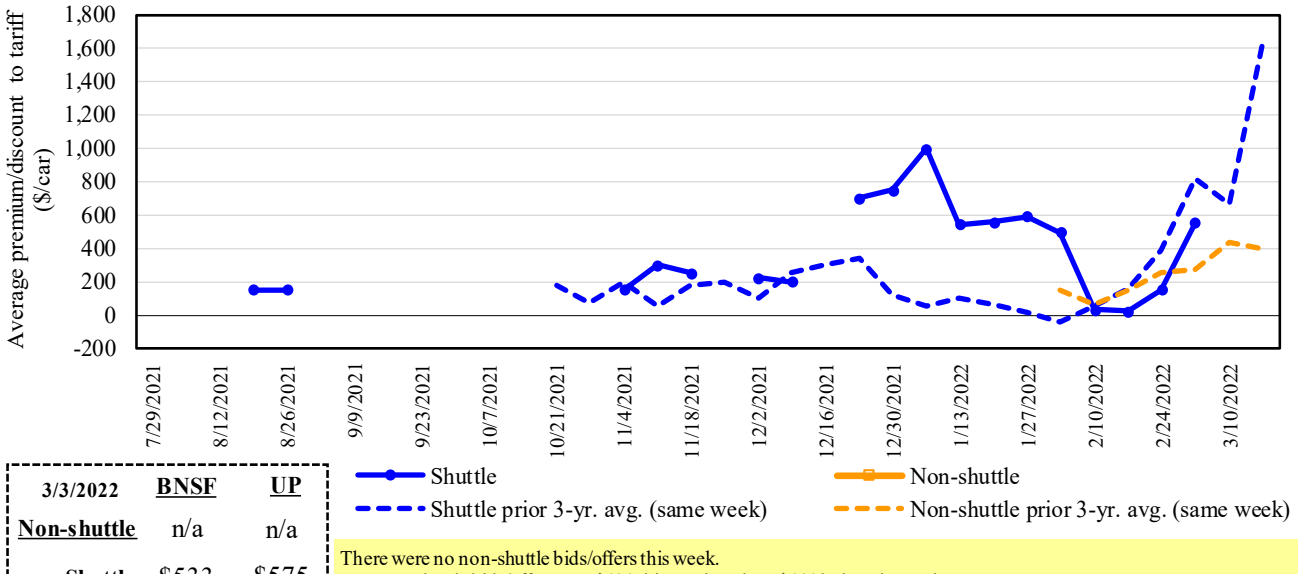
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

Source: USDA, Agricultural Marketing Service.

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

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

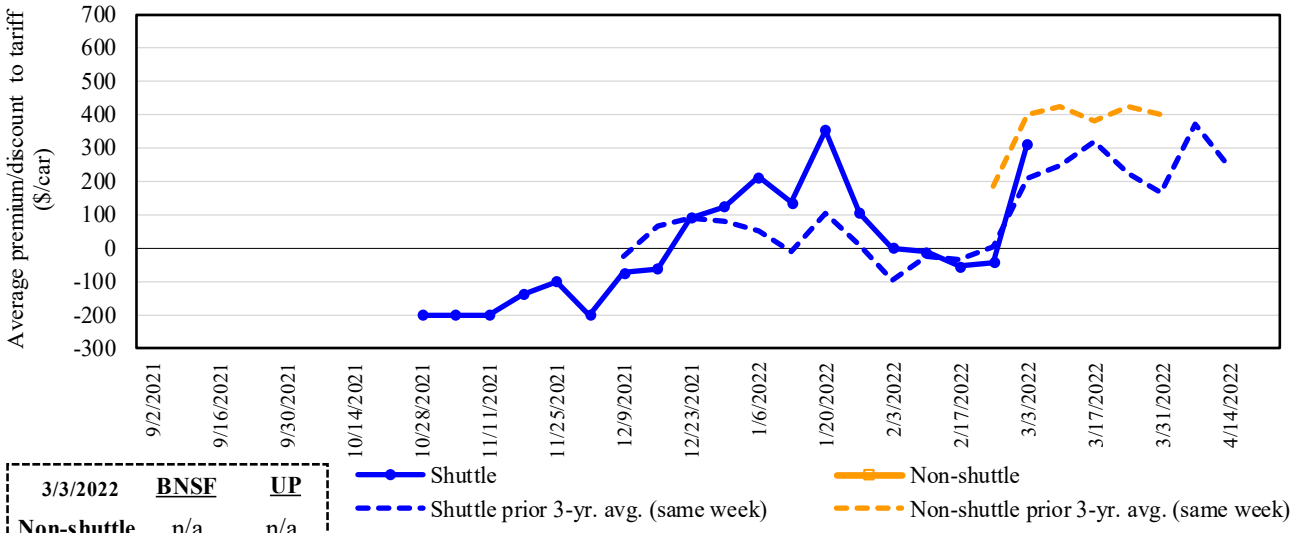


3/3/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$533	$575

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $404 this week and are $444 below the peak.

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

Figure 5
Secondary market bids/offers for railcars to be delivered in April 2022



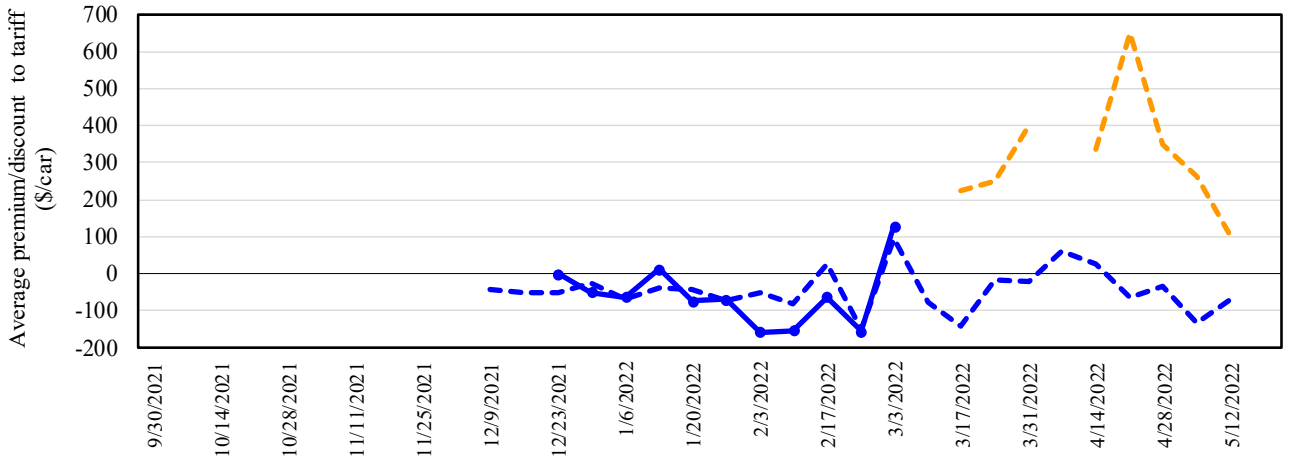
3/3/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$325	$300

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $356 this week and are $41 below the peak.

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

Figure 6

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



3/3/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$158	$100

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $285 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: 3/3/2022	Delivery period					
		Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22
Non-shuttle	**BNSF-GF**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2021	n/a	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2021	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**533**	**325**	**158**	**n/a**	**n/a**	**(75)**
	Change from last week	508	425	314	n/a	n/a	75
	Change from same week 2021	171	275	233	n/a	n/a	75
	UP-Pool	**575**	**300**	**100**	**n/a**	**n/a**	**n/a**
	Change from last week	300	287	n/a	n/a	n/a	n/a
	Change from same week 2021	200	94	150	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]

March 2022	Origin region[3]	Destination region[3]	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per: metric ton	Tariff plus surcharge per: bushel[2]	Percent change Y/Y[4]
Unit train							
Wheat	Wichita, KS	St. Louis, MO	$3,695	$167	$38.35	$1.04	3
	Grand Forks, ND	Duluth-Superior, MN	$3,658	$0	$36.33	$0.99	-13
	Wichita, KS	Los Angeles, CA	$7,290	$0	$72.39	$1.97	2
	Wichita, KS	New Orleans, LA	$4,436	$294	$46.97	$1.28	2
	Sioux Falls, SD	Galveston-Houston, TX	$7,026	$0	$69.77	$1.90	3
	Colby, KS	Galveston-Houston, TX	$4,712	$322	$49.99	$1.36	2
	Amarillo, TX	Los Angeles, CA	$5,121	$448	$55.30	$1.51	5
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$332	$43.02	$1.09	8
	Toledo, OH	Raleigh, NC	$8,130	$0	$80.73	$2.05	4
	Des Moines, IA	Davenport, IA	$2,505	$70	$25.57	$0.65	4
	Indianapolis, IN	Atlanta, GA	$6,227	$0	$61.84	$1.57	4
	Indianapolis, IN	Knoxville, TN	$5,247	$0	$52.11	$1.32	4
	Des Moines, IA	Little Rock, AR	$4,000	$207	$41.77	$1.06	6
	Des Moines, IA	Los Angeles, CA	$5,880	$602	$64.37	$1.63	8
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$479	$40.82	$1.11	10
	Toledo, OH	Huntsville, AL	$6,714	$0	$66.67	$1.81	2
	Indianapolis, IN	Raleigh, NC	$7,422	$0	$73.70	$2.01	4
	Indianapolis, IN	Huntsville, AL	$5,367	$0	$53.30	$1.45	2
	Champaign-Urbana, IL	New Orleans, LA	$4,665	$332	$49.62	$1.35	5
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,193	$0	$41.64	$1.13	4
	Wichita, KS	Galveston-Houston, TX	$4,411	$0	$43.80	$1.19	4
	Chicago, IL	Albany, NY	$6,670	$0	$66.24	$1.80	5
	Grand Forks, ND	Portland, OR	$5,851	$0	$58.10	$1.58	3
	Grand Forks, ND	Galveston-Houston, TX	$5,199	$0	$51.63	$1.41	-13
	Colby, KS	Portland, OR	$5,923	$528	$64.06	$1.74	4
Corn	Minneapolis, MN	Portland, OR	$5,380	$0	$53.43	$1.36	4
	Sioux Falls, SD	Tacoma, WA	$5,340	$0	$53.03	$1.35	4
	Champaign-Urbana, IL	New Orleans, LA	$3,920	$332	$42.22	$1.07	8
	Lincoln, NE	Galveston-Houston, TX	$4,080	$0	$40.52	$1.03	5
	Des Moines, IA	Amarillo, TX	$4,420	$260	$46.47	$1.18	6
	Minneapolis, MN	Tacoma, WA	$5,380	$0	$53.43	$1.36	4
	Council Bluffs, IA	Stockton, CA	$5,300	$0	$52.63	$1.34	4
Soybeans	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	$4,895	$383	$52.41	$1.43	5
	Toledo, OH	Huntsville, AL	$4,954	$0	$49.20	$1.34	0
	Grand Island, NE	Portland, OR	$5,280	$540	$57.80	$1.57	7

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

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

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

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

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

Table 8

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

Date: December 2021							
Commodity	Origin state	Destination region	Tariff rate per car[1]	Fuel surcharge per car[2]	Tariff rate plus fuel surcharge per: metric ton[3]	bushel[3]	Percent change[4] Y/Y
Wheat	MT	Chihuahua, CI	$7,699	$0	$78.67	$2.14	4
	OK	Cuautitlan, EM	$6,900	$230	$72.85	$1.98	6
	KS	Guadalajara, JA	$7,619	$719	$85.19	$2.32	7
	TX	Salinas Victoria, NL	$4,420	$138	$46.57	$1.27	4
Corn	IA	Guadalajara, JA	$9,102	$663	$99.77	$2.53	6
	SD	Celaya, GJ	$8,300	$0	$84.81	$2.15	2
	NE	Queretaro, QA	$8,322	$462	$89.75	$2.28	5
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,687	$450	$83.14	$2.11	5
	SD	Torreon, CU	$7,825	$0	$79.95	$2.03	2
Soybeans	MO	Bojay (Tula), HG	$8,647	$614	$94.63	$2.57	5
	NE	Guadalajara, JA	$9,207	$646	$100.67	$2.74	5
	IA	El Castillo, JA	$9,510	$0	$97.17	$2.64	1
	KS	Torreon, CU	$8,109	$466	$87.61	$2.38	5
Sorghum	NE	Celaya, GJ	$7,932	$597	$87.15	$2.21	6
	KS	Queretaro, QA	$8,108	$287	$85.77	$2.18	3
	NE	Salinas Victoria, NL	$6,713	$231	$70.94	$1.80	3
	NE	Torreon, CU	$7,225	$438	$78.29	$1.99	6

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

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

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

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

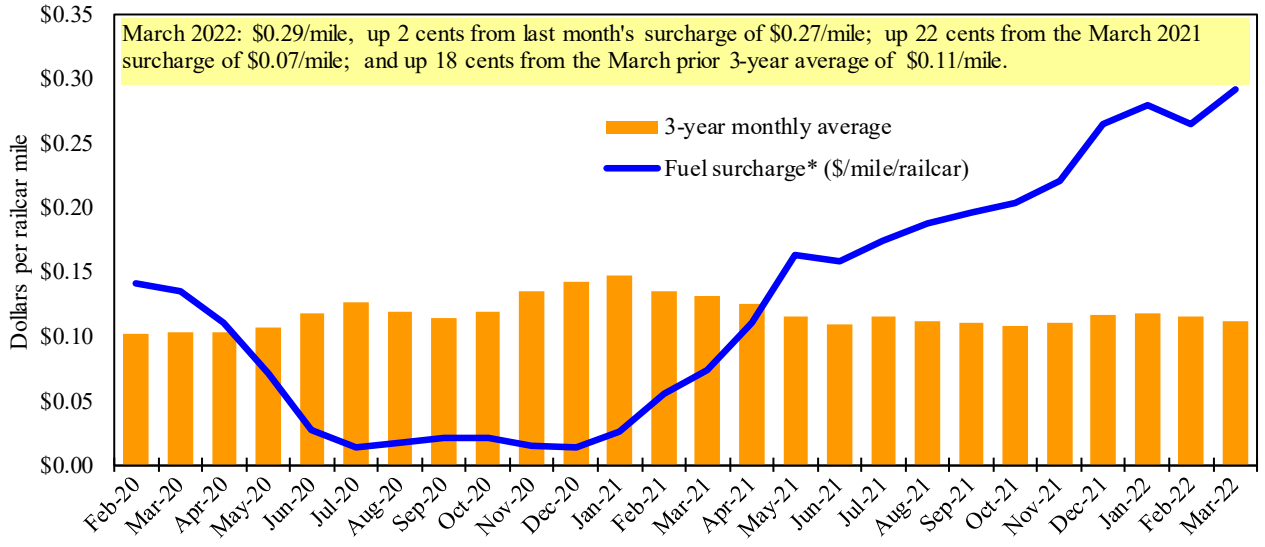
[5] As of January 1, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

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

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

Figure 7

Railroad fuel surcharges, North American weighted average[1]



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

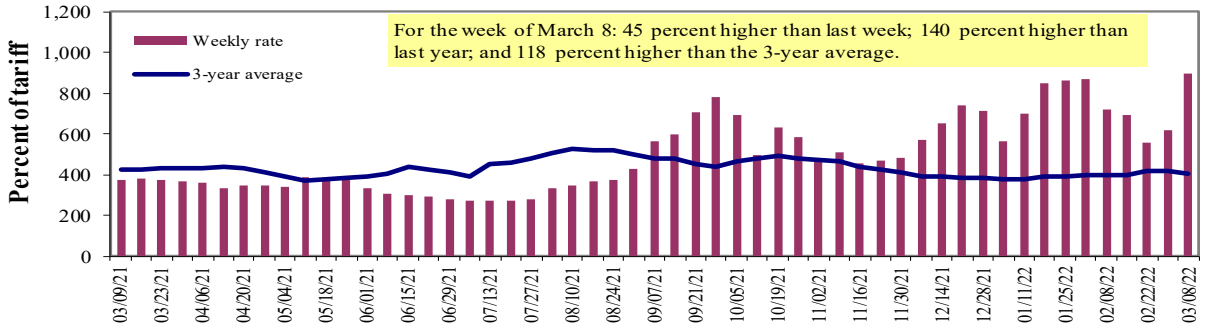
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

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

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

Barge Transportation

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



[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average of the 3-year average.
*Source: USDA, Agricultural Marketing Service.

Table 9
Weekly barge freight rates: Southbound only

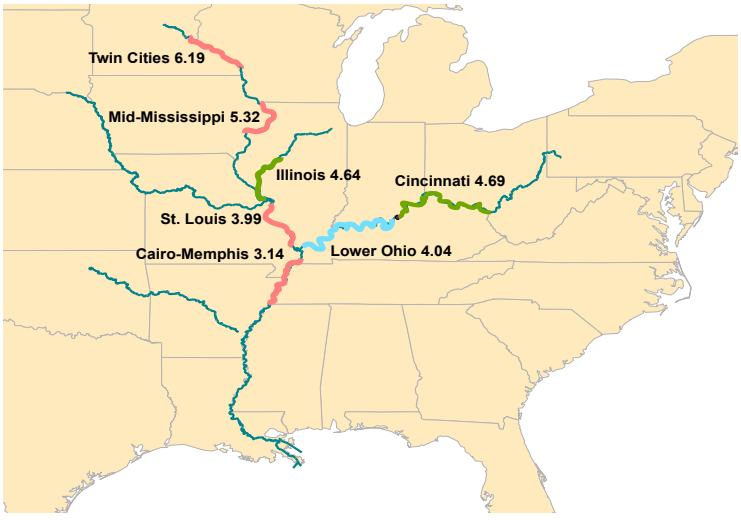
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	3/8/2022	-	882	893	768	904	904	664
	3/1/2022	-	620	617	480	520	520	430
$/ton	3/8/2022	-	46.92	41.44	30.64	42.40	36.52	20.85
	3/1/2022	-	32.98	28.63	19.15	24.39	21.01	13.50
Current week % change from the same week:								
	Last year	-	-	140	191	207	207	170
	3-year avg. [2]	-	-	118	162	170	168	144
Rate[1]	April	833	800	782	679	757	757	566
	June	638	604	589	500	543	543	421

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

Figure 9
Benchmark tariff rates

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

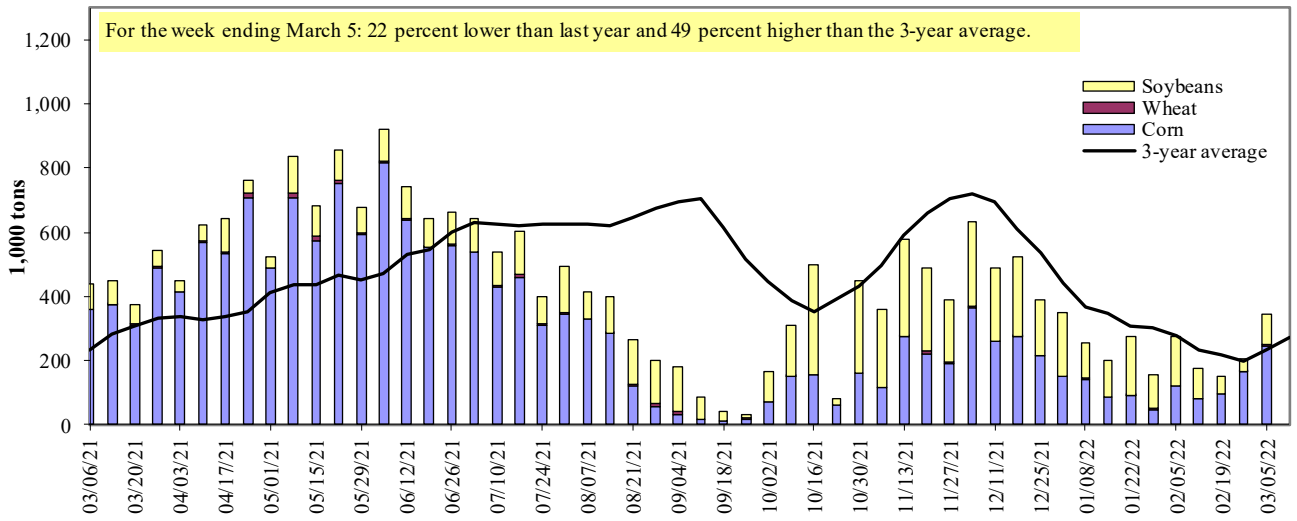
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 10

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



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

Source: U.S. Army Corps of Engineers.

Table 10

Barge grain movements (1,000 tons)

For the week ending 03/05/2022	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	6	0	6
Winfield, MO (L25)	24	0	8	0	32
Alton, IL (L26)	226	2	92	0	319
Granite City, IL (L27)	245	3	95	0	343
Illinois River (La Grange)	149	10	67	0	225
Ohio River (Olmsted)	174	4	66	4	247
Arkansas River (L1)	4	31	9	0	44
Weekly total - 2022	423	37	170	4	634
Weekly total - 2021	663	17	167	2	848
2022 YTD[1]	2,650	241	2,096	30	5,017
2021 YTD[1]	4,341	127	2,399	87	6,953
2022 as % of 2021 YTD	61	190	87	35	72
Last 4 weeks as % of 2021[2]	73	198	116	728	87
Total 2021	23,516	1,634	11,325	297	36,772

[1] Weekly total, YTD (year-to-date), and calendar year total include MI/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye. Total may not add exactly due to rounding.

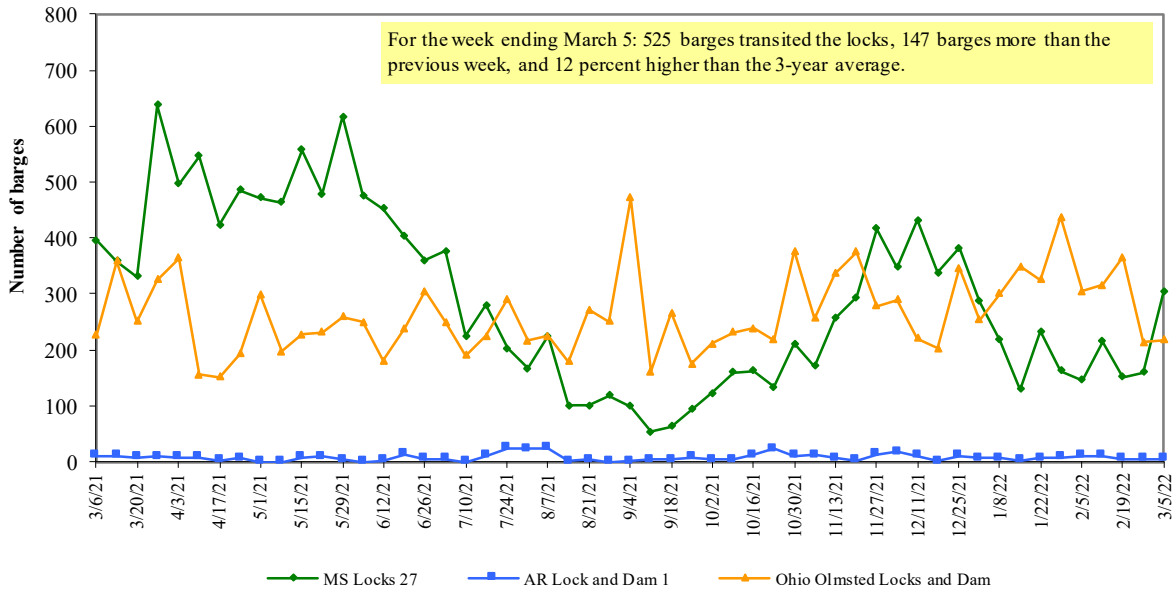
[2] As a percent of same period in 2020.

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

Source: U.S. Army Corps of Engineers.

Figure 11

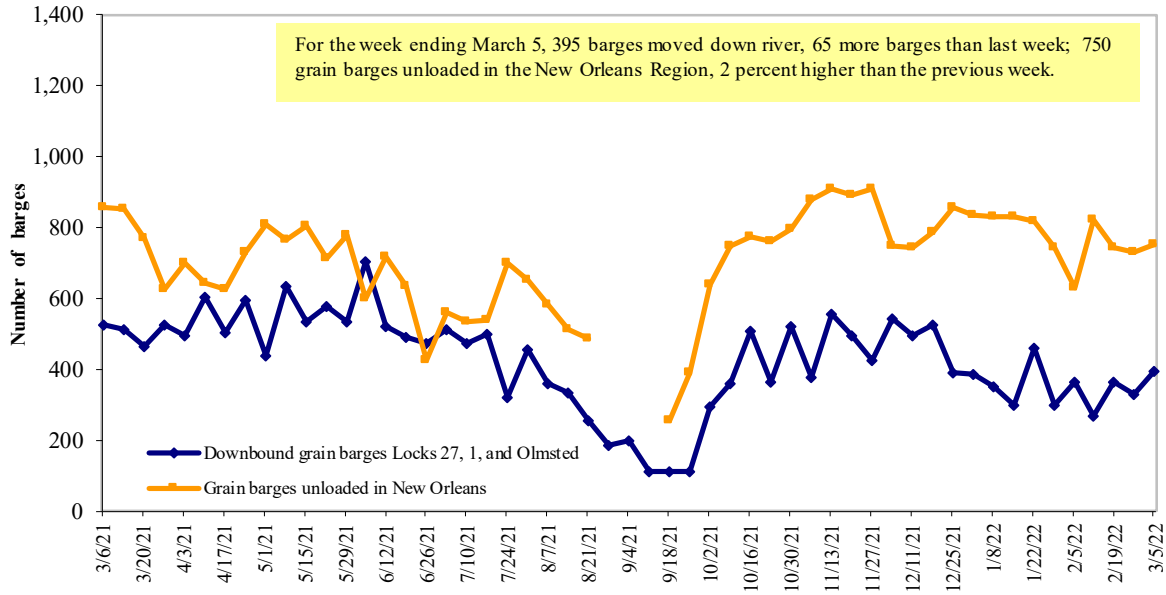
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 3/7/2022 (U.S. $/gallon)

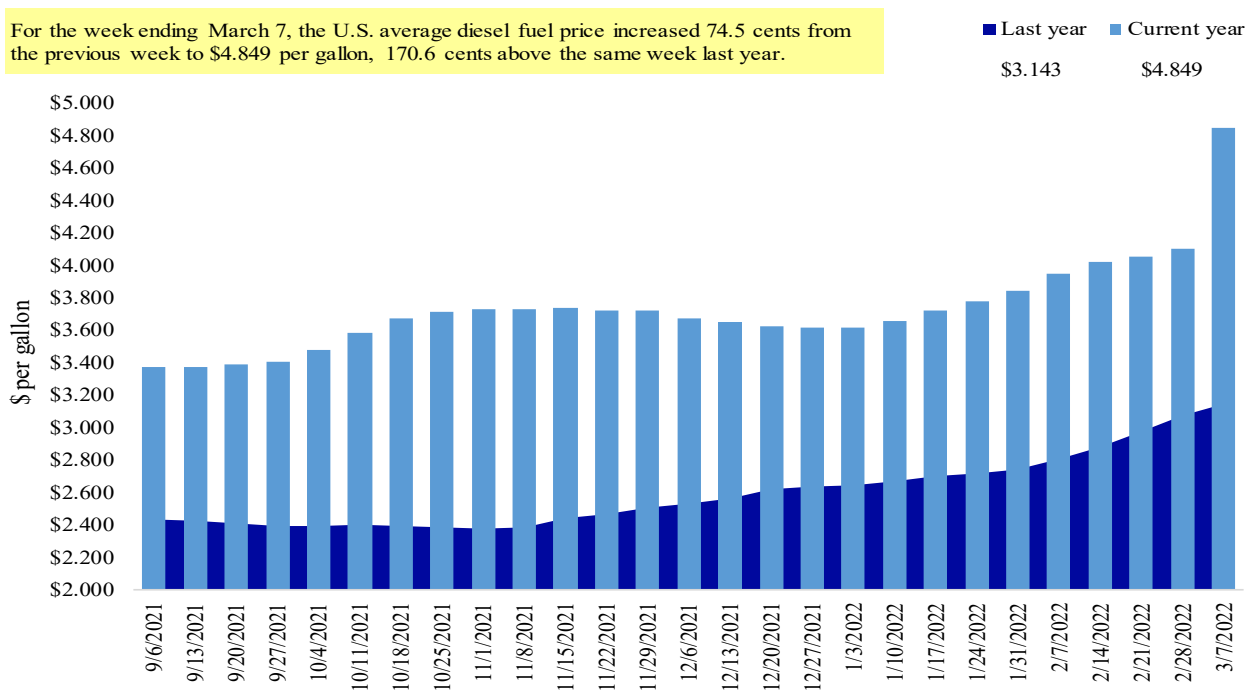
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.970	0.809	1.854
	New England	4.815	0.657	1.762
	Central Atlantic	5.093	0.784	1.827
	Lower Atlantic	4.919	0.850	1.892
II	Midwest	4.649	0.681	1.522
III	Gulf Coast	4.703	0.831	1.774
IV	Rocky Mountain	4.542	0.566	1.411
V	West Coast	5.393	0.682	1.800
	West Coast less California	4.978	0.683	1.750
	California	5.759	0.682	1.862
Total	United States	4.849	0.745	1.706

[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]									
2/24/2022	1,884	589	1,060	583	19	4,135	22,289	9,390	35,814
This week year ago	1,335	405	1,984	2,285	154	6,163	32,954	7,466	46,582
Cumulative exports-marketing year[2]									
2021/22 YTD	5,473	2,085	3,796	2,623	170	14,147	25,770	40,776	80,693
2020/21 YTD	6,672	1,330	5,108	4,000	518	17,628	26,170	52,538	96,336
YTD 2021/22 as % of 2020/21	82	157	74	66	33	80	98	78	84
Last 4 wks. as % of same period 2020/21*	141	154	56	28	24	69	72	124	80
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

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

[2] 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[1] of U.S. corn

For the week ending 2/24/2022	Total commitments[2] 2021/22 current MY	2020/21 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
	1,000 mt -			
Mexico	13,858	12,035	15	14,817
Japan	7,133	8,398	(15)	11,082
China	12,091	18,730	(35)	7,920
Columbia	3,181	2,624	21	4,491
Korea	84	1,633	(95)	3,302
Top 5 importers	**36,347**	**43,420**	**(16)**	**41,613**
Total U.S. corn export sales	**48,059**	**59,124**	**(19)**	**53,145**
% of projected exports	78%	84%		
Change from prior week[2]	**485**	**116**		
Top 5 importers' share of U.S. corn export sales	76%	73%		78%
USDA forecast February 2022	**61,705**	**70,051**	**(12)**	
Corn use for ethanol USDA forecast, February 2022	**135,255**	**127,711**	**6**	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2020/21; 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 2/24/2022	Total commitments[2] 2021/22 current MY	2020/21 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2018-20
				- 1,000 mt -
China	26,194	35,685	(27)	21,666
Mexico	4,607	4,354	6	4,754
Egypt	2,927	2,323	26	3,093
Indonesia	1,077	1,623	(34)	2,325
Japan	1,704	1,719	(1)	2,275
Top 5 importers	**36,509**	**45,705**	**(20)**	**34,113**
Total U.S. soybean export sales	**50,167**	**60,004**	**(16)**	**50,758**
% of projected exports	90%	97%		
change from prior week[2]	**857**	**266**		
Top 5 importers' share of U.S. soybean export sales	73%	76%		**67%**
USDA forecast, February 2022	**55,858**	**61,608**	**(9)**	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2020/21; 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 2/24/2022	Total Commitments[2] 2021/22 current MY	2020/21 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2018-20
		1,000 mt -		- 1,000 mt -
Mexico	3,255	3,163	3	3,388
Philippines	2,586	2,934	(12)	3,121
Japan	2,217	2,280	(3)	2,567
Korea	1,197	1,597	(25)	1,501
Nigeria	1,999	1,348	48	1,490
China	848	2,916	(71)	1,268
Taiwan	823	1,033	(20)	1,187
Indonesia	67	994	(93)	1,131
Thailand	536	702	(24)	768
Italy	209	570	(63)	681
Top 10 importers	**13,736**	**17,537**	(22)	**17,102**
Total U.S. wheat export sales	**18,282**	**23,791**	(23)	**24,617**
% of projected exports	83%	88%		
change from prior week[2]	**300**	**219**		
Top 10 importers' share of U.S. wheat export sales	75%	74%		69%
USDA forecast, February 2022	**22,071**	**27,030**	(18)	

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

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

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

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

Source: USDA, Foreign Agricultural Service.

Table 16

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

Port regions	For the week ending 03/03/22	Previous week*	Current week as % of previous	2022 YTD*	2021 YTD*	2022 YTD as % of 2021 YTD	Last 4-weeks as % of:		2021 total*
							Last year	Prior 3-yr. avg.	
Pacific Northwest									
Wheat	236	180	131	2,002	2,573	78	89	80	13,243
Corn	131	380	35	2,112	2,720	78	85	129	13,420
Soybeans	144	364	40	3,257	3,600	90	101	109	14,540
Total	**511**	**924**	**55**	**7,370**	**8,893**	**83**	**91**	**103**	**41,203**
Mississippi Gulf									
Wheat	50	81	62	653	322	203	235	116	3,202
Corn	1,217	964	126	7,511	8,243	91	98	148	38,498
Soybeans	442	261	170	5,717	7,803	73	118	99	27,159
Total	**1,709**	**1,305**	**131**	**13,882**	**16,368**	**85**	**106**	**127**	**68,858**
Texas Gulf									
Wheat	0	84	0	582	488	119	146	82	3,888
Corn	0	0	n/a	114	107	107	69	83	627
Soybeans	1	0	n/a	1	619	0	2	6	1,611
Total	**1**	**85**	**1**	**698**	**1,214**	**57**	**107**	**79**	**6,126**
Interior									
Wheat	76	97	79	528	443	119	151	166	2,972
Corn	199	184	108	1,577	1,432	110	120	132	10,147
Soybeans	147	124	118	1,322	1,331	99	122	110	6,525
Total	**422**	**405**	**104**	**3,426**	**3,206**	**107**	**125**	**127**	**19,644**
Great Lakes									
Wheat	0	12	1	18	19	96	490	969	536
Corn	0	0	n/a	0	0	n/a	n/a	n/a	145
Soybeans	0	0	n/a	0	0	n/a	n/a	n/a	592
Total	**0**	**12**	**1**	**18**	**19**	**96**	**490**	**969**	**1,273**
Atlantic									
Wheat	0	0	n/a	4	35	13	0	0	128
Corn	7	0	n/a	32	0	n/a	n/a	622	85
Soybeans	73	28	264	586	750	78	101	202	2,184
Total	**80**	**28**	**290**	**623**	**785**	**79**	**94**	**193**	**2,397**
U.S. total from ports*									
Wheat	362	453	80	3,787	3,879	98	112	92	23,969
Corn	1,555	1,528	102	11,346	12,502	91	97	141	62,921
Soybeans	806	777	104	10,883	14,104	77	111	106	52,612
Total	**2,722**	**2,757**	**99**	**26,017**	**30,485**	**85**	**104**	**119**	**139,501**

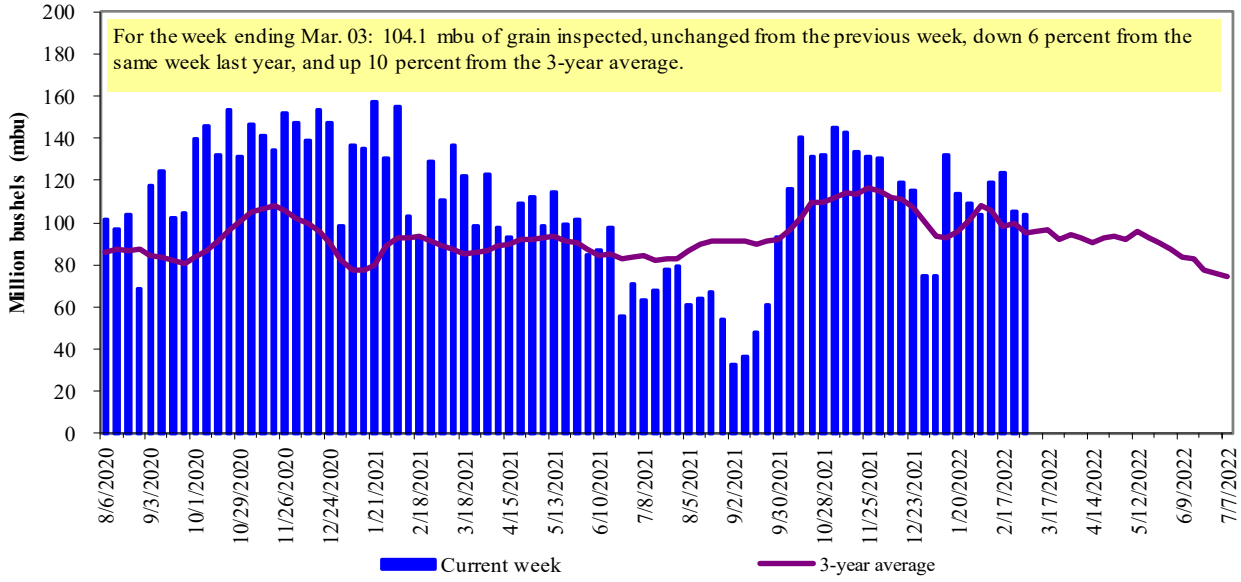
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

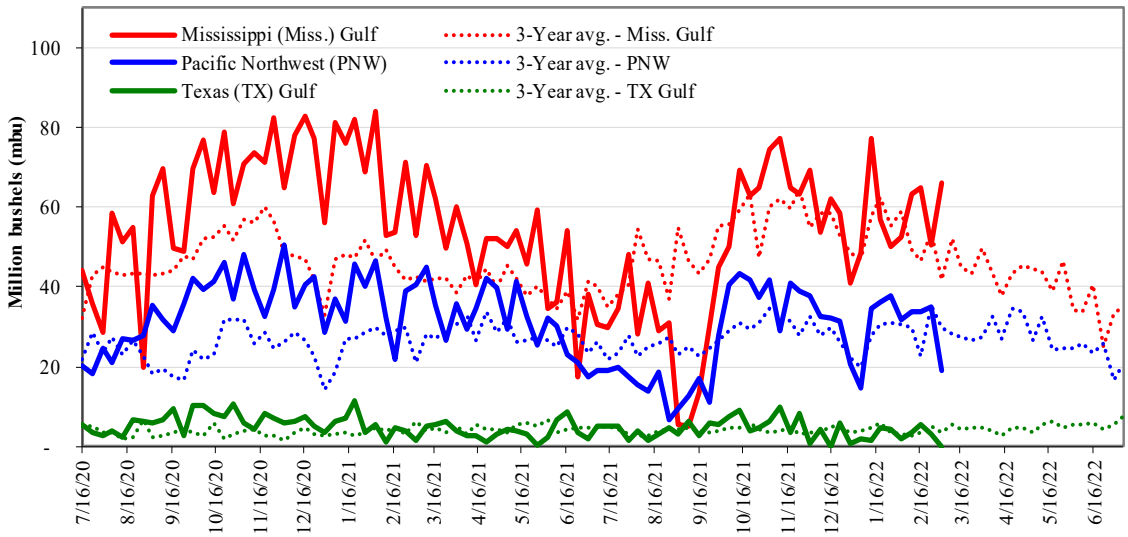


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 03/03/22 inspections (mbu):	
MS Gulf:	66.0
PNW:	19.1
TX Gulf:	0.0

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	up 31	down 99	up 23	down 45
Last Year (same wk):	up 25	down 98	up 22	down 53
3-yr avg. (4-wk. mov. Avg):	up 38	down 99	up 28	down 35

Source: USDA, Federal Grain Inspection Service.

Table 17

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

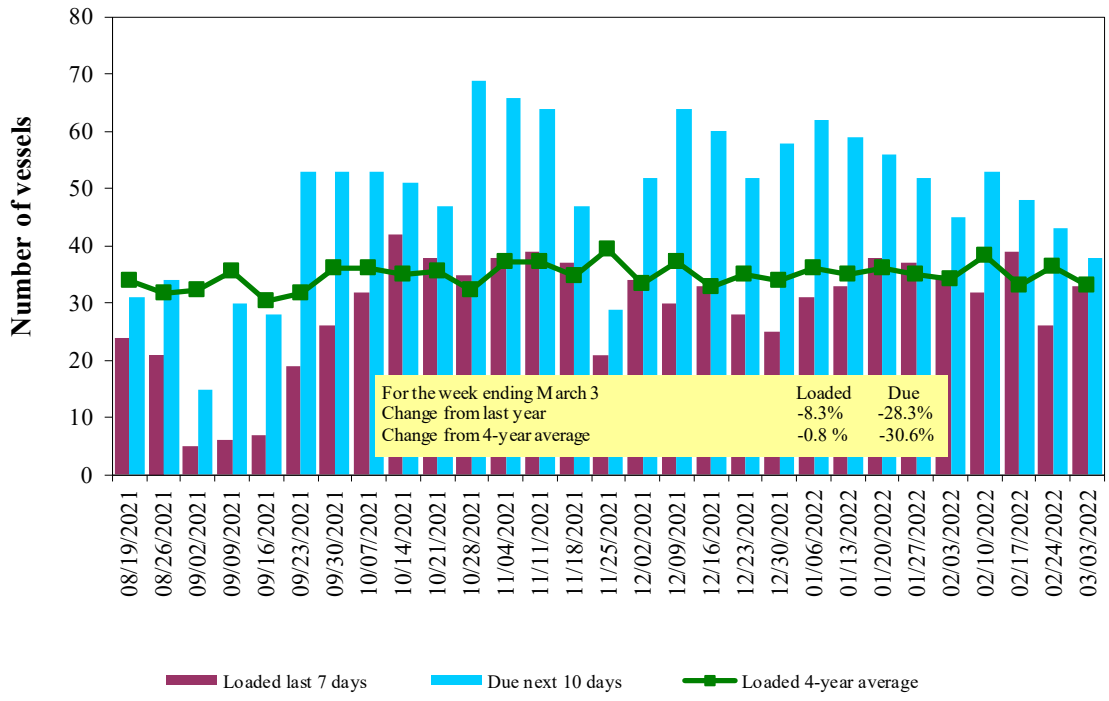
	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
3/3/2022	30	33	38	8
2/24/2022	33	26	43	11
2021 range	(10…57)	(5...48)	(15...69)	(4…27)
2021 average	34	32	49	15

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

Source: USDA, Agricultural Marketing Service.

Figure 16

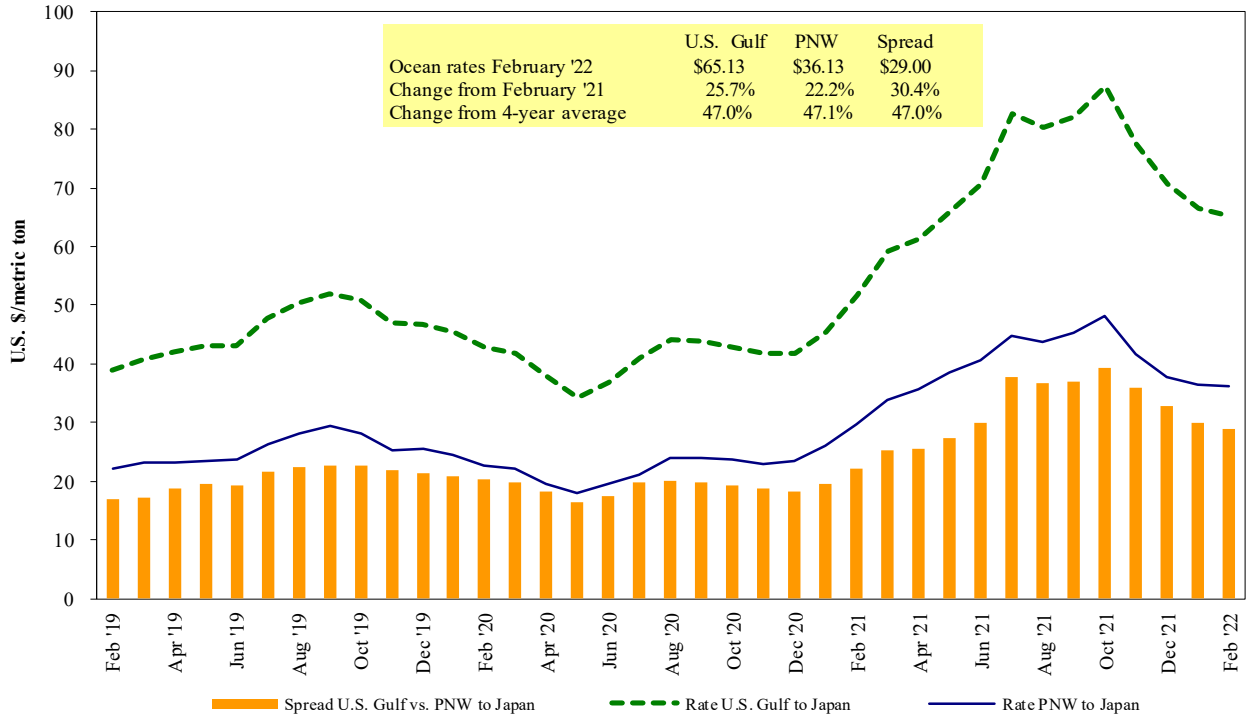
U.S. Gulf[1] vessel loading activity



[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 03/05/2022

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	Japan	Heavy grain	May 1/20, 2022	50,000	78.90
U.S. Gulf	China	Heavy grain	Dec 1/10, 2021	65,000	76.00
U.S. Gulf	China	Heavy grain	Nov 1/10, 2021	66,000	89.00
U.S. Gulf	Djibouti	Sorghum	Mar 1/10, 2022	10,000	209.97*
U.S. Gulf	Honduras	Soybean Meal	Feb 18/28, 2022	7,820	57.15*
U.S. Gulf	S. Korea	Heavy grain	Jun 1/Jul, 2022	55,000	82.75
U.S. Gulf	Sudan	Sorghum	Mar 1/10, 2022	35,790	149.97*
U.S. Gulf	Sudan	Sorghum	Feb 1/10, 2022	35,780	77.60*
PNW	Japan	Wheat	Sep 1, 2021	52,170	56.55*
PNW	Yemen	Wheat	Jan 24/Feb 4, 2022	29,960	124.00*
Brazil	N. China	Heavy grain	Mar 18/27, 2022	64,000	56.85
Brazil	N. China	Heavy grain	Jan 1/5, 2022	64,000	58.25
Australia	Japan	Barley	Nov 1/10, 2021	55,000	65.50

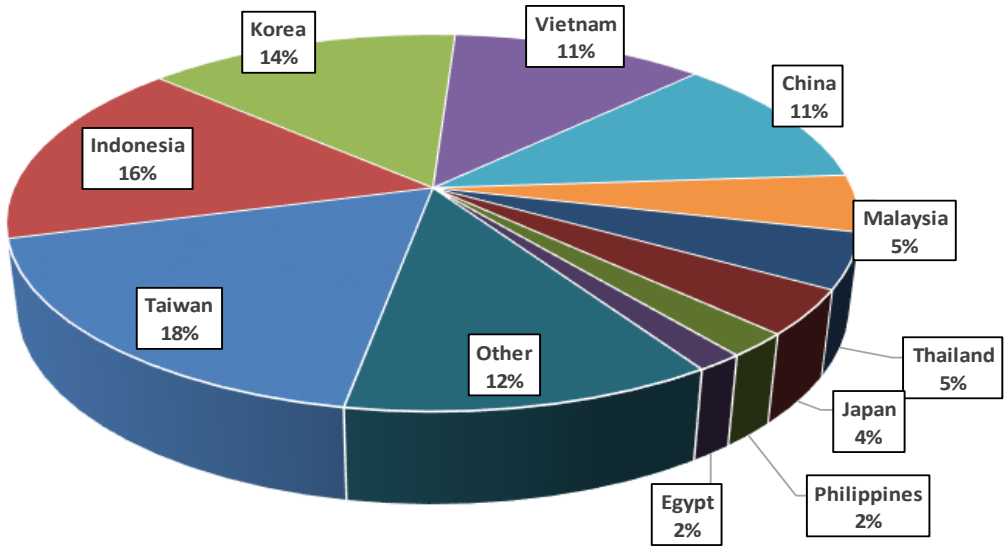
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

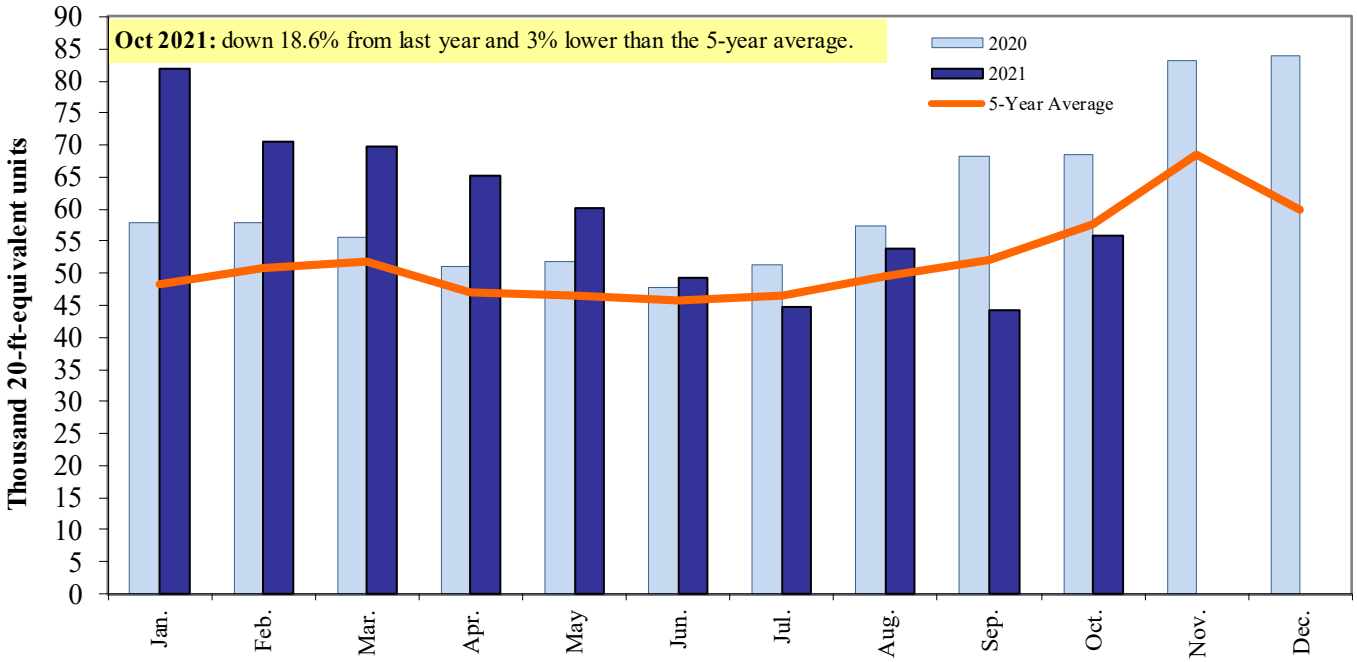
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Oct 2021



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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