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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March 3, 2022

Contents

The next release is March 10, 2022

WEEKLY HIGHLIGHTS

USDA's Agricultural Outlook Forum: Content Available Online and First MY 2022/23 Projections

Last week, USDA held its 98th annual Agricultural Outlook Forum (Forum), themed "New Paths to Sustainability and Productivity Growth." This year's Forum featured a keynote address by the USDA Secretary, a presentation on the 2022 agricultural economy by USDA's Chief Economist, and 30 breakout sessions—including one on the "Effects of Shipping Disruptions on U.S. Agriculture." All sessions were recorded and can be viewed by the public, at no cost, by registering on the Forum's USDA webpage. At the Forum, USDA also released its first projections for the upcoming marketing year (MY) 2022/23. (The next update will occur with USDA's May *World Agricultural Supply and Demand Estimates* report.) In MY 2022/23, USDA expects production of corn, soybeans, and wheat to increase 2 percent over the previous year, with exports and domestic use each to increase 1 percent, boosting the demand for grain transportation.

USDA and DOT Release Supply Chain Studies

On February 24, the 1-year anniversary of President Biden's executive order on "America's Supply Chains," USDA, the Department of Transportation (DOT), and other Federal agencies released supply chain assessments across multiple sectors. USDA's report outlines the risks and resilience of U.S. agri-food supply chains. It also identifies potential solutions to address vulnerabilities, including actions at the Federal level that can be taken to address transportation bottlenecks, across all modes.

Panama Canal Posts Out-of-Service Notice for March 7

On March 7, the west lane of the Panama Canal's Gatum Panamax Locks will be out of service for 4 hours for scheduled maintenance work. During the outage, the locks' daily estimated transit capacity will be 30-32 vessels, down from their normal capacity of 34-36 vessels. No major delays are anticipated for now. The locks' exact transit capacity depends on vessel mix, transit restrictions, and other factors. The Panama Canal is a vital outlet for U.S. grain destined to Asia.

NGFA Spotlights Transportation for Annual Convention

Under the theme "Adapting, Advocating and Advancing," the National Grain and Feed Association (NGFA) will hold its 126th annual convention from March 13 to 15, in Charleston, SC. NGFA members and leaders of the grain and feed industry will gather to explore the most salient issues in the year ahead, including "immediate challenges in the agricultural supply chain." To fully address the urgency of supply chain issues, the convention includes a Transportation and Technology Open Forum on March 13, featuring experts on rail, transloading, ports, and ocean freight. A list of confirmed speakers for both the convention's general session and the Transportation and Technology Open Forum can be found here.

Snapshots by Sector

Export Sales

For the week ending February 17, **unshipped balances** of wheat, corn, and soybeans for marketing year 2021/22 totaled 36.8 million metric tons (mmt), down 26 percent from the same time last year and down 2 percent from the previous week. Net **corn export sales** were 1.041 mmt, up 27 percent from the previous week. Net **soybean export sales** were 1.233 mmt, down 6 percent from the previous week. Net weekly **wheat export sales** were 0.517 mmt, up significantly from the previous week.

Rail

U.S. Class I railroads originated 25,017 **grain carloads** during the week ending February 19. This was a 3-percent increase from the previous week, 33 percent more than last year, and 27 percent more than the 3-year average.

Average March shuttle **secondary railcar** bids/offers (per car) were $150 above tariff for the week ending February 24. This was $129 more than last week and $150 more than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending February 26, **barged grain movements** totaled 533,744 tons. This was 1.2 percent lower than the previous week and 22 percent higher than the same period last year.

For the week ending February 26, 330 grain barges **moved down river**—35 fewer barges than the previous week. There were 732 grain barges **unloaded** in the New Orleans Region, 1 percent fewer than last week.

Ocean

For the week ending February 24, 26 **oceangoing grain vessels** were loaded in the Gulf—37 percent fewer than the same period last year. Within the next 10 days (starting February 25), 43 vessels were expected to be loaded—35 percent fewer than the same period last year.

As of February 24, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $68.50. This was 4 percent more than the previous week. The rate from the Pacific Northwest to Japan was $38.25 per mt, 6 percent more than the previous week.

Fuel

For the week ending February 28, the U.S. average **diesel fuel price** increased 4.9 cents from the previous week to $4.104 per gallon, 103.2 cents above the same week last year. At $3.968 per gallon, the average Midwest diesel price increased 49.1 cents in the past 8 weeks.

Preferred citation: U.S. Department of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* March 3, 2022.
Web: **http://dx.doi.org/10.9752/TS056.03-03-2022**

Feature Article/Calendar

Year-to-Date Update on Export Sales for Marketing Year 2021/22

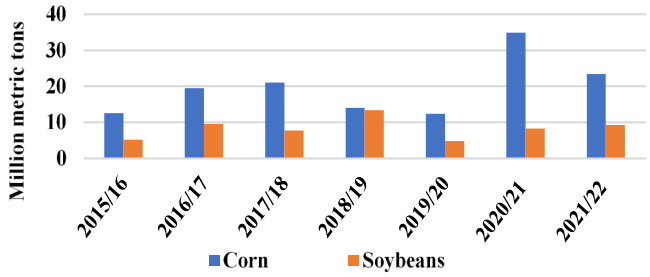
Export sales are a key driver of transportation demand. Thus, current trends in export sales can shed light on near-future trends in transportation demand. From 2015 to 2019, export transportation accounted for 26 percent of all grain transportation. In marketing year (MY) 2020/21, total grain exports (corn, soybean, wheat) set a record high of 158.7 million metric tons (mmt). At 139.6 mmt, projected U.S. grain exports for MY 2021/22 are still strong, though 12 percent lower than MY 2020/21, according to USDA's February 10 *World Agricultural Supply and Demand Estimates (WASDE)* report. YTD U.S. wheat exports for MY 2021/22 are at their lowest levels in recent years, though corn and soybean exports are still robust. As of February 17, outstanding (unshipped) export balances and marketing year to date (YTD) cumulative (shipped) exports are down 26 percent and 16 percent, respectively, from MY 2020/21 (***GTR* table 12**). This article focuses on U.S. grain exports; YTD demand for U.S. grain transportation; impacts on demand for U.S. grain exports (and by extension, demand for transportation); and China's role in the U.S. grain and oilseed export market.

Export Sales of Corn and Soybeans Hold Strong, but Lower Than MY 2020/21

For MY 2021/22, which began September 1, 2021 (for corn and soybeans), demand for U.S. corn and soybean exports continues to be strong, though below the record highs of MY[1] 2020/21. The drop from MY 2020/21 mainly reflects more competition from Argentina, Brazil, and Ukraine; reduced exports to China; and increased demand for fuel ethanol—which strongly drives *domestic* corn demand (fig. 1 and ***GTR* table 13**).
YTD accumulated corn exports for MY 2021/22 are unchanged from MY 2020/21. Total outstanding corn sales are 23.3 mmt as of February 17—33 percent below the same time in MY 2020/21.[2] According to the February *WASDE*, MY 2021/22 U.S. corn exports are projected to be 61.7 mmt (unchanged from last month's projections), 12 percent lower than MY 2020/21. Still, if realized, the projected corn exports will be the second-largest on record (figs. 1 and 2).

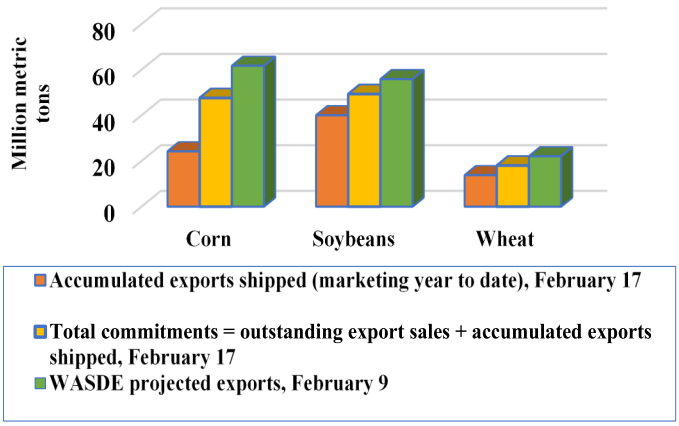
As of February 17, outstanding soybean export sales (9.3 mmt) are 12 percent more than those for the same period last year, with China accounting for 18 percent. Accumulated and total commitments are down 22 percent and 17 percent, respectively, from the same time last year (fig. 1 and ***GTR* table 14**). According to *WASDE*, soybean exports for MY 2021/22 (unchanged from last month) are projected to fall 9 percent from MY 2020/21 (figs. 1 and 2). The dip was due to tight stock levels and high domestic demand for soybean meal and oil.[3] Domestic use of soybean oil is also expected to rise because of growth in biodiesel use.

Figure 1: Outstanding sales of U.S. corn and soybeans: 2015/16-2021/22 as of February 17



Source: USDA, Foreign Agricultural Service

Figure 2. Export indicators 2021/22: total commitments; cumulative and projected exports



Source: USDA, Foreign Agricultural Service.

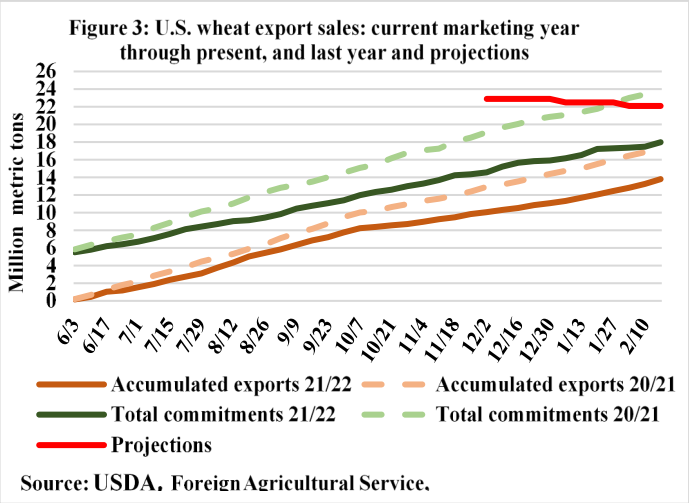
Wheat Export Drops From MY 20/21

Compared to the same period last year, YTD (June-February) total wheat commitments (18 mmt) are down 24 percent, while accumulated exports are down 20 percent (fig. 3), as of February 17. In the February *WASDE*, U.S. wheat exports are projected 2

[1] Unless otherwise specified "marketing year" refers to the corn and soybean marketing year from September 1 through August 31."
[2] Representing sold volumes that have not yet shipped, outstanding sales indicate future transportation demand.
[3] In figure 2, for a given commodity, the difference between WASDE's projected exports and accumulated exports to date (green minus the orange) represents expected export shipments for the rest of the marketing year; the difference between WASDE's projected exports and total commitments to date (green minus yellow) represents expected sales that have not occurred; and the difference between total commitments and accumulated exports to date (yellow minus orange) are sales that have been agreed to but have not yet occurred.

percent lower than the January projection and 18 percent lower than MY 2020/21—the lowest since MY 2015/16 and the second-lowest since MY 1971/72 (figs. 2 and 3).

Drought in the Northern Plains and Pacific Northwest have sharply limited wheat supplies and exports this year, especially for U.S. hard red spring (HRS), durum, and white wheat. Because of tight supplies, export projections for white wheat are the lowest in over a decade and for HRS, the lowest in more than 30 years. The resulting relatively high prices of U.S. wheat have led major markets in Asia, especially China, to substantially reduce purchases of U.S. wheat. Chinese YTD total commitments are down 70 percent from the same time last year.

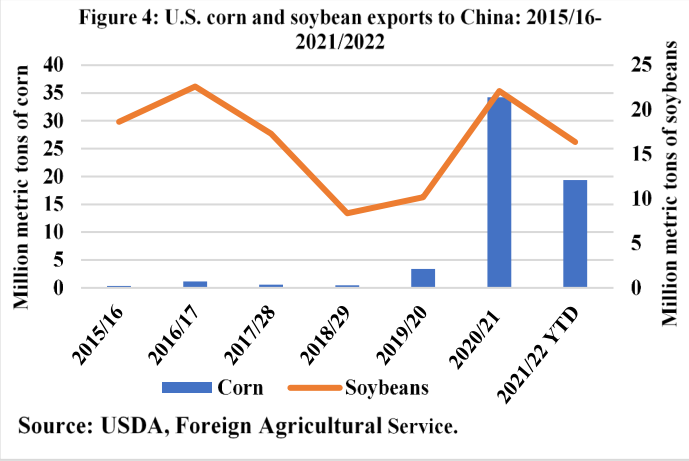


Grain Transportation Demand

The lower demand for U.S. grain exports is reflected in the YTD demand for barge, ocean, and rail shipping. YTD total barged grain shipments are 32 percent lower than the same time last year (***GTR* table 10**). Likewise, YTD weekly average of 29 vessels were loaded in the U.S. Gulf and an average of 50 vessels are expected to berth in the next 10 days compared to 39 and 62 respectively same time last year. (***GTR* figure 16**). YTD grain rail carloads are 14 percent below the same period in the 2020 marketing year, but are 7 percent above the 2017-19 average.

China's Demand for Corn and Soybeans Declining

Shipments to China accounted for 45 percent of total U.S. corn and soybean exports in MY 2020/21. In MY 2020/21, 21.4 mmt of U.S. corn shipped to China—the most since MY 2013/14 (fig. 4). Several factors contributed to the surge in China's demand, including the U.S.-China trade agreement, China's rising feed demand, and high prices for Chinese corn and soybeans. China's demand for corn imports in MY 2021/22 is expected to moderate as the country's feed sector sources cheaper grain alternatives and feed consumption expands more slowly. Additionally, USDA expects Chinese corn production to increase 5 percent from MY 2020/21, with expanded planting area.[1] Total YTD MY 2021/22 U.S. export commitments for corn to China (accumulated and unshipped) are 12.1 mmt, 32 percent below the same period last year (fig. 4 and ***GTR* table 13**). However, 62 percent have yet to be shipped.



U.S. soybean exports to China also rose in MY 2020/21 because of the U.S.-China trade agreement, decline in African Swine Fever outbreaks, and rebounding pig numbers. Total YTD commitments of U.S. soybeans to China for MY 2021/22 (26.2 mmt) are 27 percent lower than for the same period last year (35.7 mmt), reflecting lower demand from China (***GTR* table 14** and fig. 4). The lower demand is a result of China's reductions of its pork herds, as well as the country's use of wheat and rice as feed in place of soybean meal. Lower U.S. soybean exports are also a result of rising U.S. soybean oil prices, as the fast-growing biodiesel and renewable fuel industry drives domestic crush demand.

Looking Ahead

A number of factors may influence U.S. exports and demand for transportation, including domestic and global biofuel demand; drought in Brazil and Argentina; and possible export disruptions in Russia and Ukraine—two major grain-exporting countries—because of Russia's invasion of Ukraine. Another possible influence is higher input costs domestically and for competing countries, particularly for Brazil—the world's largest soybean producer and a major importer of Russian fertilizer. *Kranti.Mulik@usda.gov*

[1] Note, the marketing year for corn in the cited report spans October through September, instead of the usual September to August for corn in the United States.

Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
03/02/22	275	298	233	343	306	271
02/23/22	272	298	229	309	295	257

[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.

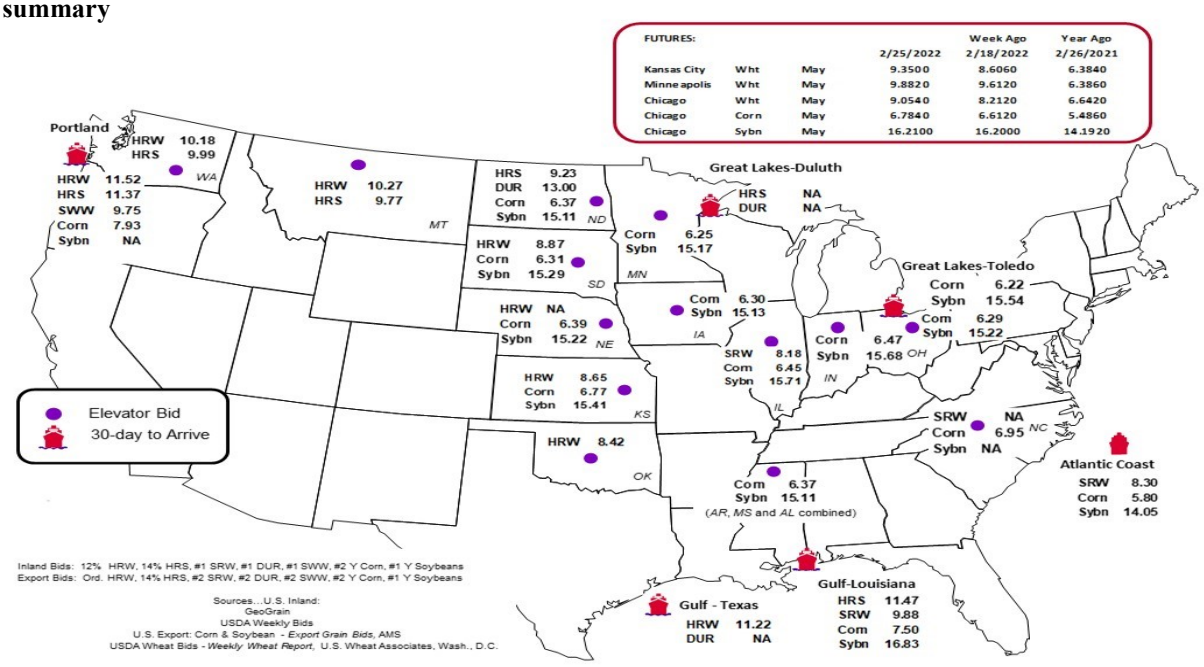
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	2/25/2022	2/18/2022
Corn	IL–Gulf	-1.05	-1.03
Corn	NE–Gulf	-1.11	-1.09
Soybean	IA–Gulf	-1.70	-1.62
HRW	KS–Gulf	-2.57	-2.94
HRS	ND–Portland	-2.14	-2.31

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]
2/23/2022[p]	1,719	120	5,996	574	8,409	2/19/2022	3,284
2/16/2022[r]	2,166	2,089	6,936	680	11,871	2/12/2022	2,744
2022 YTD[r]	11,432	9,763	47,327	5,170	73,692	2022 YTD	20,424
2021 YTD[r]	13,650	12,935	46,982	6,282	79,849	2021 YTD	15,945
2022 YTD as % of 2021 YTD	84	75	101	82	92	% change YTD	128
Last 4 weeks as % of 2021[2]	92	85	103	84	97	Last 4wks. % 2021	125
Last 4 weeks as % of 4-year avg.[2]	215	98	118	190	128	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.

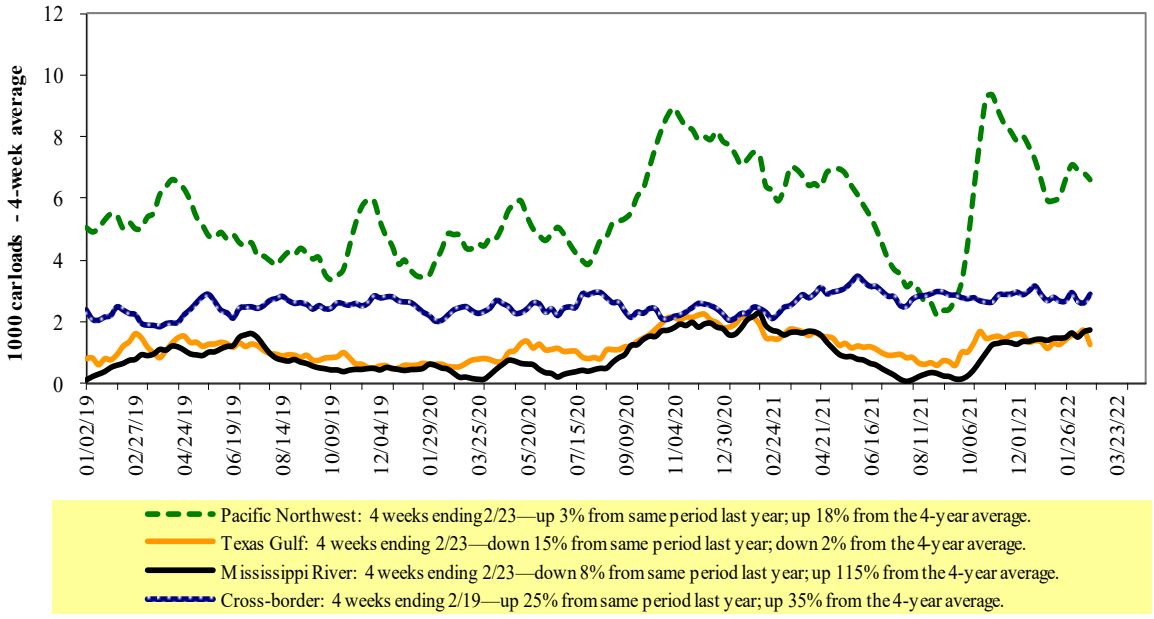
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

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	
2/19/2022	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,800	2,169	12,872	1,196	6,980	25,017	4,162	4,177
This week last year	2,202	1,931	9,581	735	4,371	18,820	3,277	3,706
2022 YTD	12,712	15,468	83,853	9,504	45,776	167,313	24,333	25,268
2021 YTD	14,969	19,282	90,925	6,766	45,692	177,634	34,318	32,421
2022 YTD as % of 2021 YTD	85	80	92	140	100	94	71	78
Last 4 weeks as % of 2021*	94	82	102	157	107	103	80	89
Last 4 weeks as % of 3-yr. avg.**	100	89	114	136	125	114	94	97
Total 2021	93,935	120,866	609,890	64,818	318,002	1,207,511	210,315	242,533

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

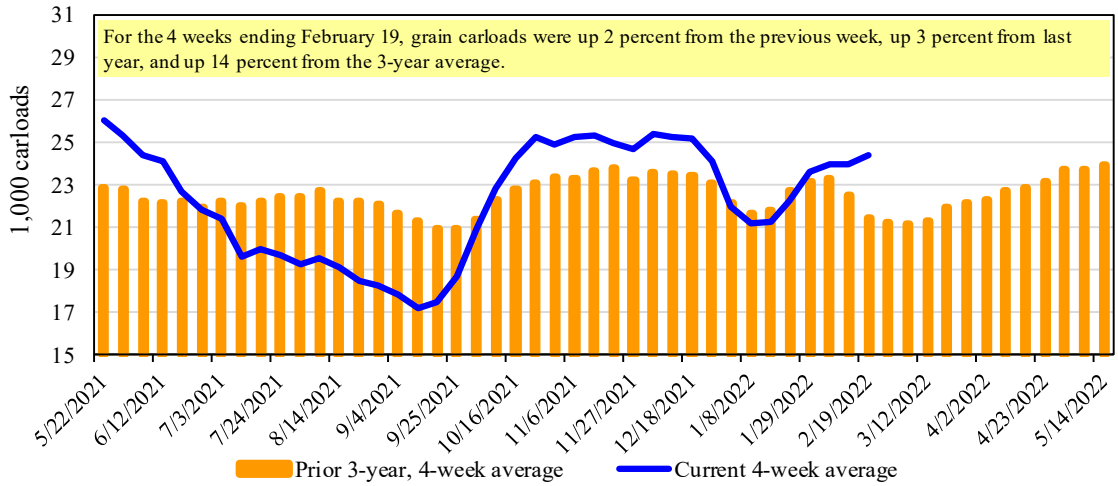
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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							
2/24/2022		Mar-22	Mar-21	Apr-22	Apr-21	May-22	May-21	Jun-22	Jun-21
BNSF[3]	COT grain units	no bids	no bids	no bids	0	no bids	no bids	no bids	no bids
	COT grain single-car	0	25	0	no bids	0	no bids	0	no bids
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.

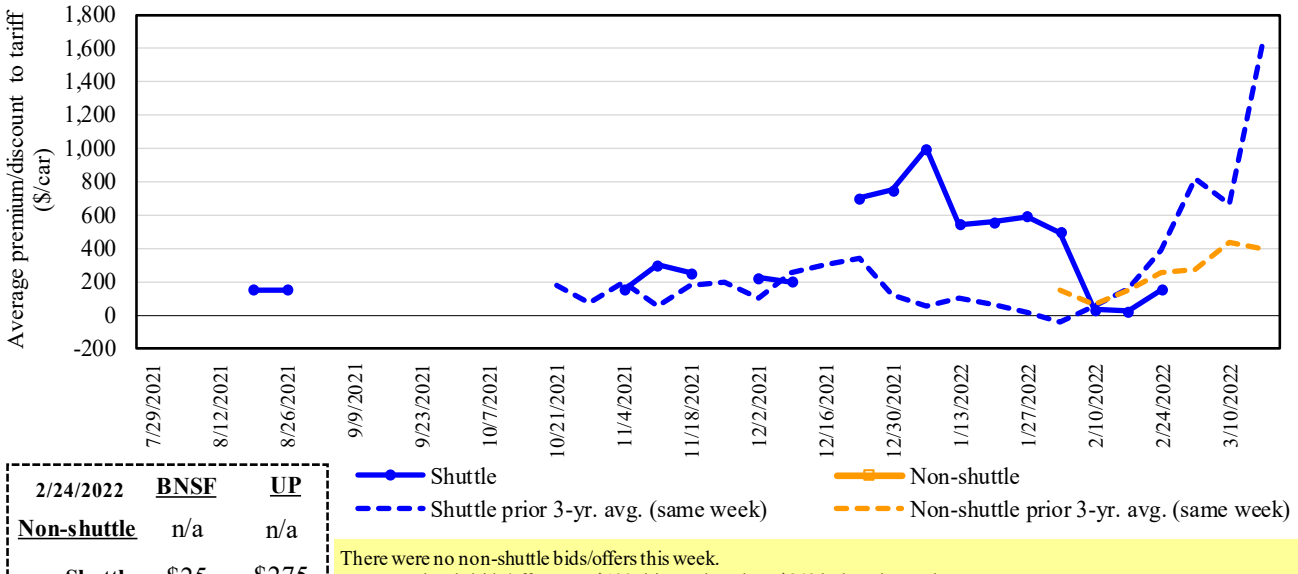
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

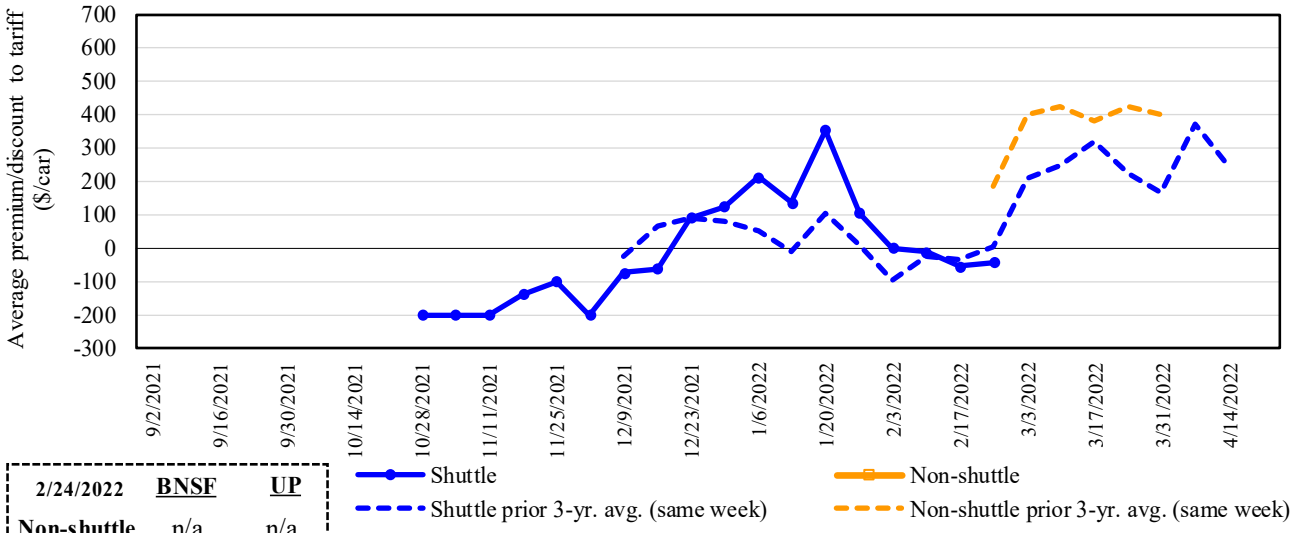


2/24/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$25	$275

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $129 this week and are $848 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



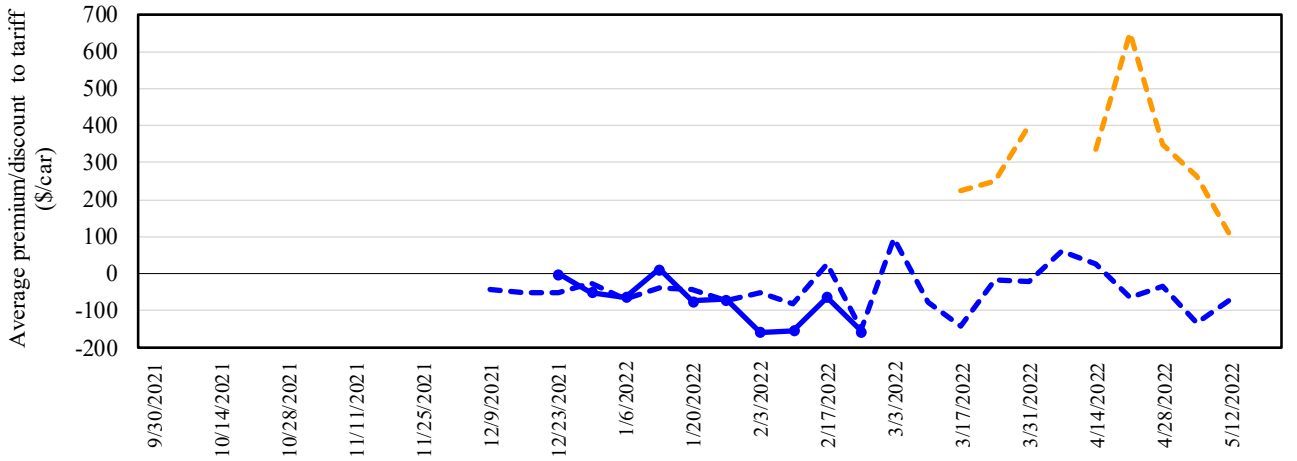
2/24/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$100	$13

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $10 this week and are $397 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



2/24/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$156	n/a

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $94 this week and are $169 below the peak.

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

Table 6

Weekly secondary railcar market ($/car)[1]

	For the week ending: 2/24/2022	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**	**25**	**(100)**	**(156)**	**n/a**	**n/a**	**(150)**
	Change from last week	75	33	(31)	n/a	n/a	0
	Change from same week 2021	100	33	(6)	n/a	n/a	0
	UP-Pool	**275**	**13**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	183	(13)	n/a	n/a	n/a	n/a
	Change from same week 2021	200	n/a	n/a	n/a	n/a	n/a

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

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

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

Source: USDA, Agricultural Marketing Service.

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

Table 7

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

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.

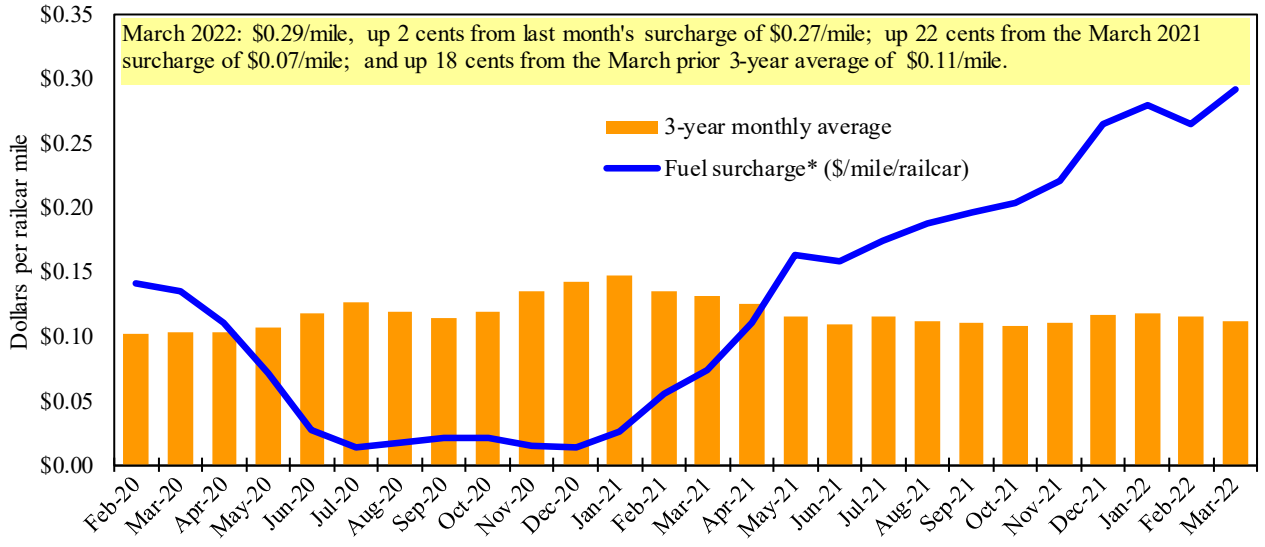
[5] As of January 1, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

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.

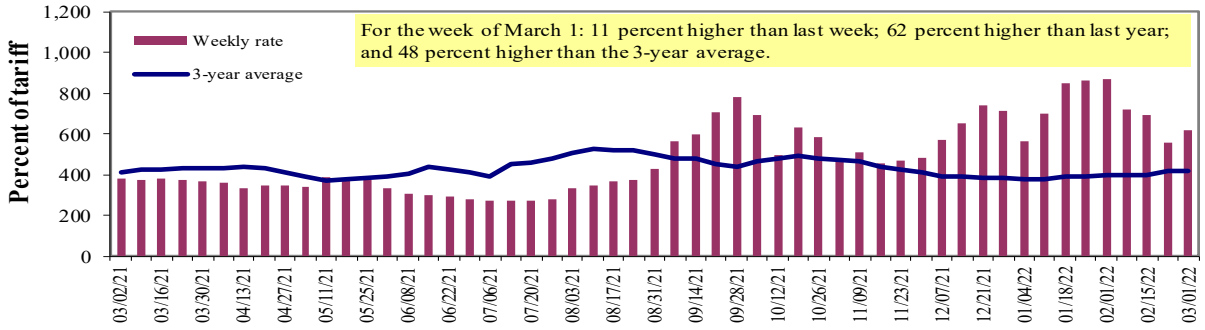
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

**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

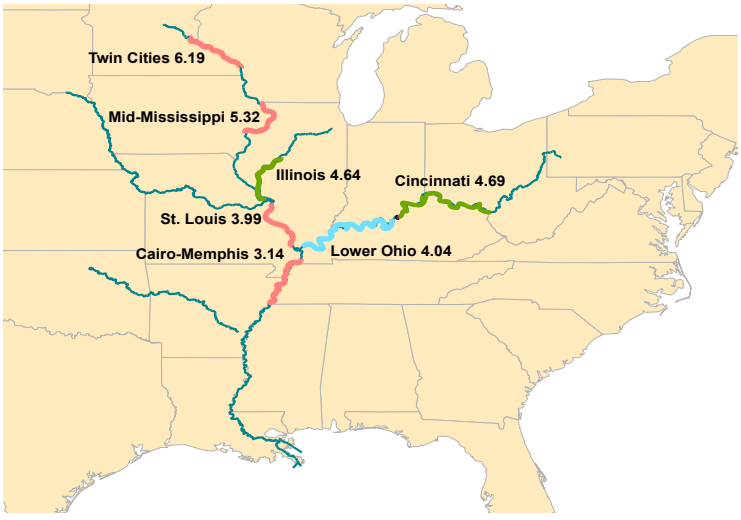
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	3/1/2022	-	620	617	480	520	520	430
	2/22/2022	-	-	556	470	505	505	415
$/ton	3/1/2022	-	32.98	28.63	19.15	24.39	21.01	13.50
	2/22/2022	-	-	25.80	18.75	23.68	20.40	13.03
Current week % change from the same week:								
	Last year	-	-	62	81	75	75	79
	3-year avg. [2]	-	-	48	61	52	51	56
Rate[1]	April	597	557	537	417	455	455	364
	June	495	470	467	365	405	405	320

[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

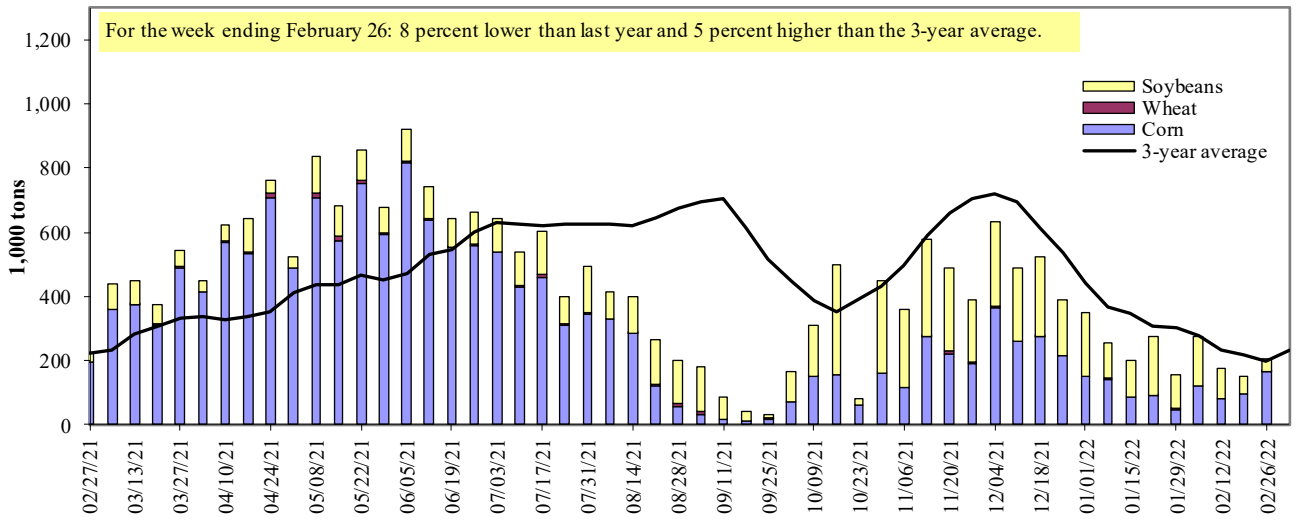
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 02/26/2022	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	14	2	2	0	18
Alton, IL (L26)	130	2	39	0	170
Granite City, IL (L27)	166	2	39	0	207
Illinois River (La Grange)	56	0	47	0	103
Ohio River (Olmsted)	158	7	107	0	271
Arkansas River (L1)	6	29	21	0	56
Weekly total - 2022	329	38	167	0	534
Weekly total - 2021	340	7	92	0	439
2022 YTD[1]	2,227	204	1,926	27	4,383
2021 YTD[1]	3,677	110	2,232	85	6,105
2022 as % of 2021 YTD	61	185	86	31	72
Last 4 weeks as % of 2021[2]	73	173	115	61	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.

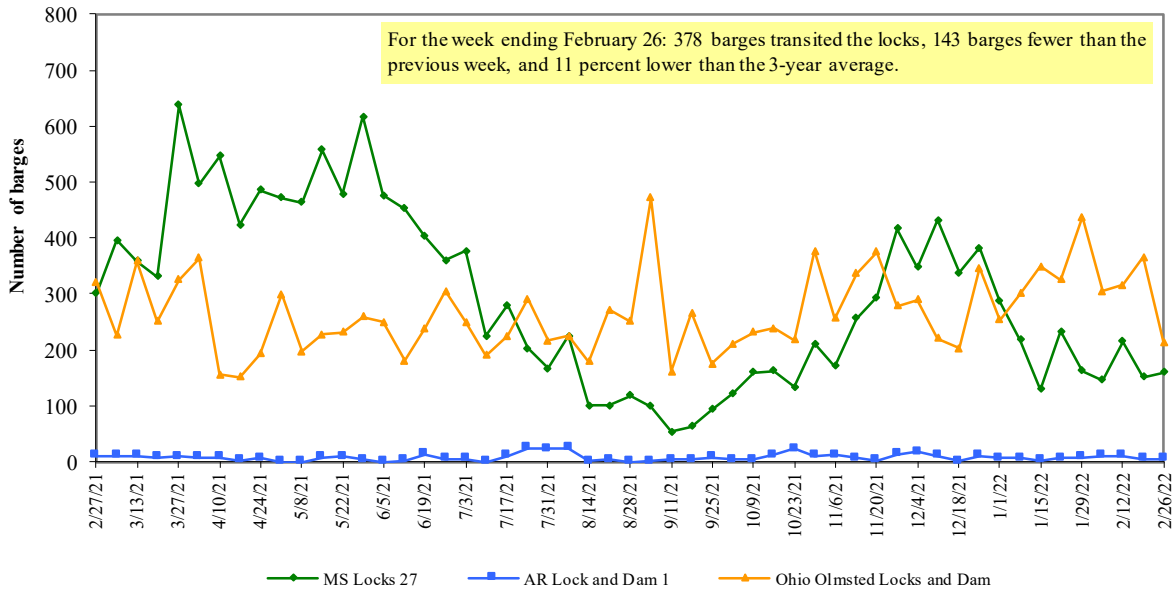
[2] As a percent of same period in 2020.

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

Source: U.S. Army Corps of Engineers.

Figure 11

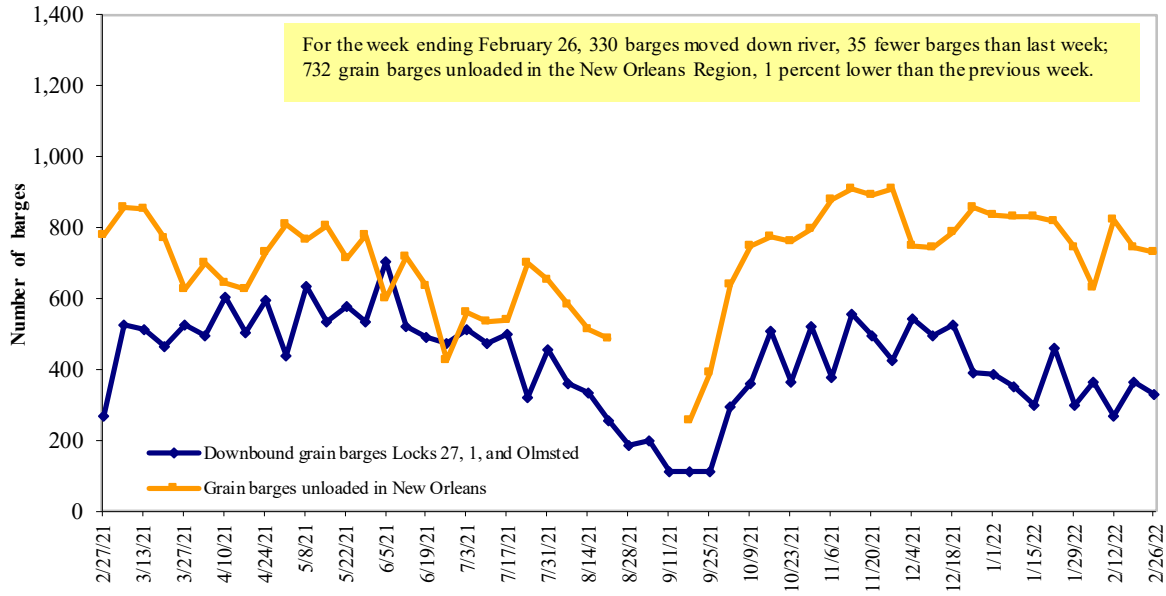
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 2/28/2022 (U.S. $/gallon)

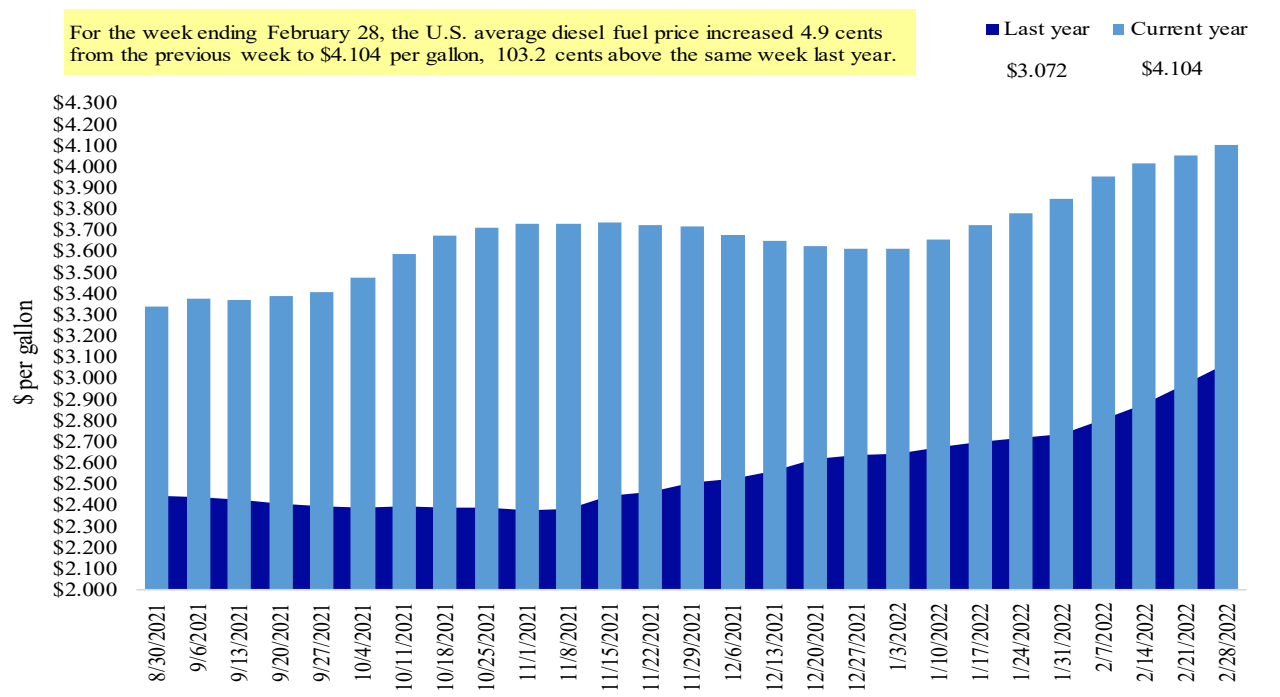
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.161	0.049	1.078
	New England	4.158	0.082	1.144
	Central Atlantic	4.309	0.031	1.109
	Lower Atlantic	4.069	0.055	1.051
II	Midwest	3.968	0.063	0.927
III	Gulf Coast	3.872	0.042	1.035
IV	Rocky Mountain	3.976	0.045	0.993
V	West Coast	4.711	0.032	1.170
	West Coast less California	4.295	0.039	1.121
	California	5.077	0.026	1.231
Total	United States	4.104	0.049	1.032

[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]									
2/17/2022	1,870	642	1,051	618	20	4,200	23,355	9,284	36,839
This week year ago	1,384	448	2,021	2,354	144	6,351	34,848	8,293	49,492
Cumulative exports-marketing year[2]									
2021/22 YTD	5,367	2,001	3,722	2,542	150	13,782	24,219	40,025	78,026
2020/21 YTD	6,535	1,277	5,003	3,887	518	17,220	24,160	51,446	92,826
YTD 2021/22 as % of 2020/21	82	157	74	65	29	80	100	78	84
Last 4 wks. as % of same period 2020/21*	138	146	57	29	32	70	70	110	77
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 2/17/2022	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	13,678	11,853	15	14,817
Japan	6,812	8,289	(18)	11,082
China	12,086	17,676	(32)	7,920
Columbia	3,055	2,620	17	4,491
Korea	83	1,525	(95)	3,302
Top 5 importers	**35,715**	**41,963**	**(15)**	**41,613**
Total U.S. corn export sales	**47,573**	**59,008**	**(19)**	**53,145**
% of projected exports	77%	84%		
Change from prior week[2]	**1,041**	**453**		
Top 5 importers' share of U.S. corn export sales	75%	71%		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 2/17/2022	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	26,209	35,747	(27)	21,666
Mexico	4,544	4,214	8	4,754
Egypt	2,749	2,270	21	3,093
Indonesia	1,046	1,597	(35)	2,325
Japan	1,665	1,598	4	2,275
Top 5 importers	**36,213**	**45,426**	**(20)**	**34,113**
Total U.S. soybean export sales	**49,309**	**59,738**	**(17)**	**50,758**
% of projected exports	88%	97%		
change from prior week[2]	**1,233**	**99**		
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 2/17/2022	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	3,165	3,093	2	3,388
Philippines	2,549	2,921	(13)	3,121
Japan	2,150	2,249	(4)	2,567
Korea	1,197	1,597	(25)	1,501
Nigeria	2,003	1,292	55	1,490
China	848	2,850	(70)	1,268
Taiwan	767	1,031	(26)	1,187
Indonesia	67	989	(93)	1,131
Thailand	536	700	(23)	768
Italy	190	570	(67)	681
Top 10 importers	**13,471**	**17,293**	(22)	**17,102**
Total U.S. wheat export sales	**17,982**	**23,572**	(24)	**24,617**
% of projected exports	81%	87%		
change from prior week[2]	**517**	**168**		
Top 10 importers' share of U.S. wheat export sales	75%	73%		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 02/24/22	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	179	309	58	1,766	2,143	82	93	83	13,243
Corn	380	372	102	1,980	2,350	84	100	150	13,420
Soybeans	364	216	169	3,113	3,318	94	96	119	14,540
Total	**924**	**897**	**103**	**6,859**	**7,811**	**88**	**96**	**113**	**41,203**
Mississippi Gulf									
Wheat	81	92	88	603	299	202	298	104	3,202
Corn	964	975	99	6,294	7,170	88	84	126	38,498
Soybeans	261	626	42	5,276	7,540	70	87	93	27,159
Total	**1,305**	**1,694**	**77**	**12,173**	**15,009**	**81**	**88**	**110**	**68,858**
Texas Gulf									
Wheat	84	143	59	582	456	128	146	104	3,888
Corn	0	0	n/a	114	99	116	69	106	627
Soybeans	0	0	n/a	1	619	0	0	1	1,611
Total	**85**	**143**	**59**	**697**	**1,174**	**59**	**89**	**92**	**6,126**
Interior									
Wheat	72	56	127	427	378	113	128	155	2,972
Corn	172	200	86	1,367	1,231	111	117	123	10,147
Soybeans	121	158	76	1,171	1,197	98	113	110	6,525
Total	**365**	**415**	**88**	**2,966**	**2,807**	**106**	**118**	**122**	**19,644**
Great Lakes									
Wheat	12	0	n/a	18	17	103	907	340	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	**12**	**0**	**n/a**	**18**	**17**	**103**	**907**	**340**	**1,273**
Atlantic									
Wheat	0	0	n/a	4	35	13	0	0	128
Corn	0	3	0	25	0	n/a	n/a	336	85
Soybeans	28	97	28	513	729	70	83	158	2,184
Total	**28**	**100**	**27**	**543**	**764**	**71**	**78**	**151**	**2,397**
U.S. total from ports*									
Wheat	428	601	71	3,401	3,329	102	116	95	23,969
Corn	1,516	1,551	98	9,781	10,850	90	90	130	62,921
Soybeans	774	1,098	70	10,073	13,404	75	90	103	52,612
Total	**2,718**	**3,249**	**84**	**23,255**	**27,582**	**84**	**94**	**113**	**139,501**

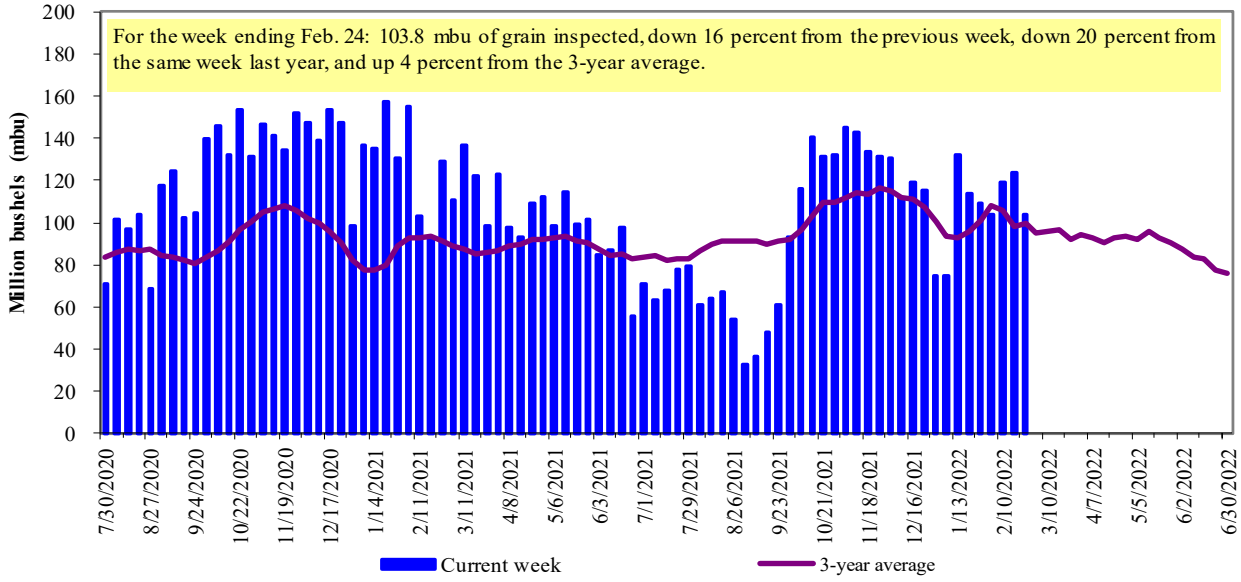
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

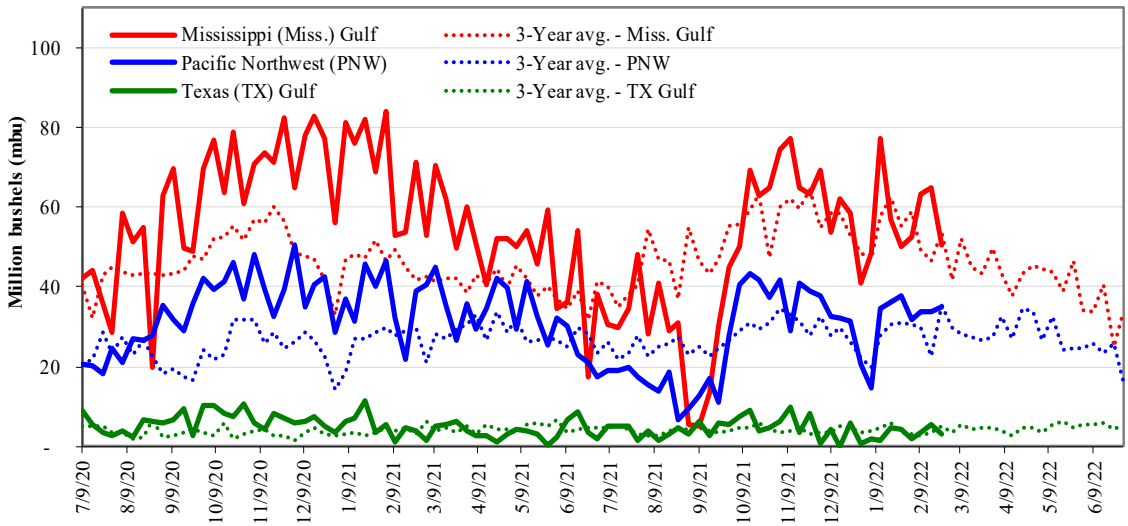


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 02/24/22 inspections (mbu):	
MS Gulf:	50.5
PNW:	34.9
TX Gulf:	3.1

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 22	down 41	down 24	up 3
Last Year (same wk):	down 29	down 17	down 29	down 10
3-yr avg. (4-wk. mov. Avg):	down 3	down 14	down 4	up 18

Source: USDA, Federal Grain Inspection Service.

Table 17

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

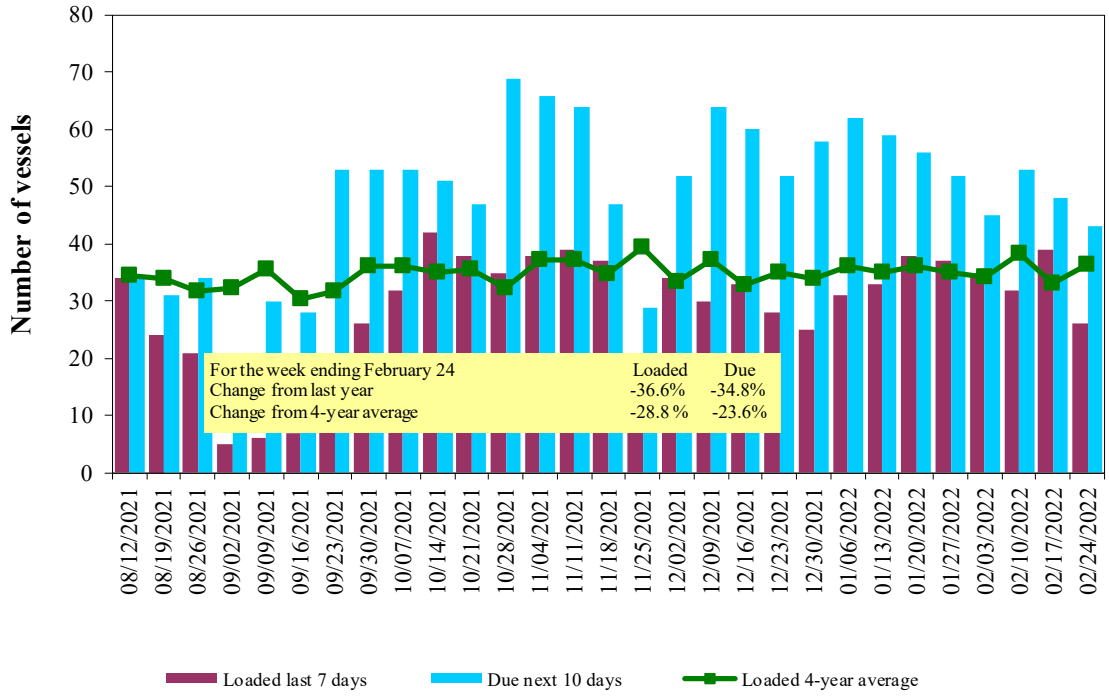
	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
2/24/2022	33	26	43	11
2/17/2022	33	39	48	17
2021 range	(10…57)	(5...48)	(15...69)	(4…27)
2021 average	34	32	49	15

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

Source: USDA, Agricultural Marketing Service.

Figure 16

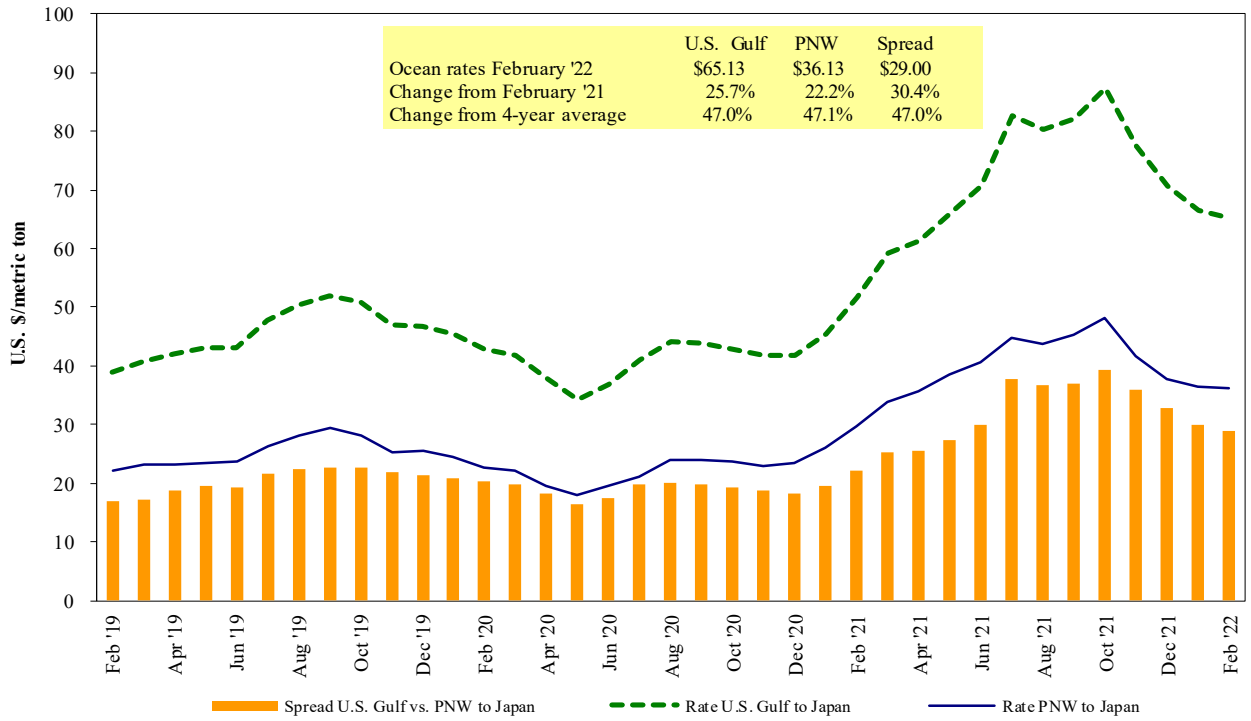
U.S. Gulf[1] vessel loading activity



[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 02/26/2022

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	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	Taiwan	Wheat	Nov 1/10, 2021	49,580	67.30
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

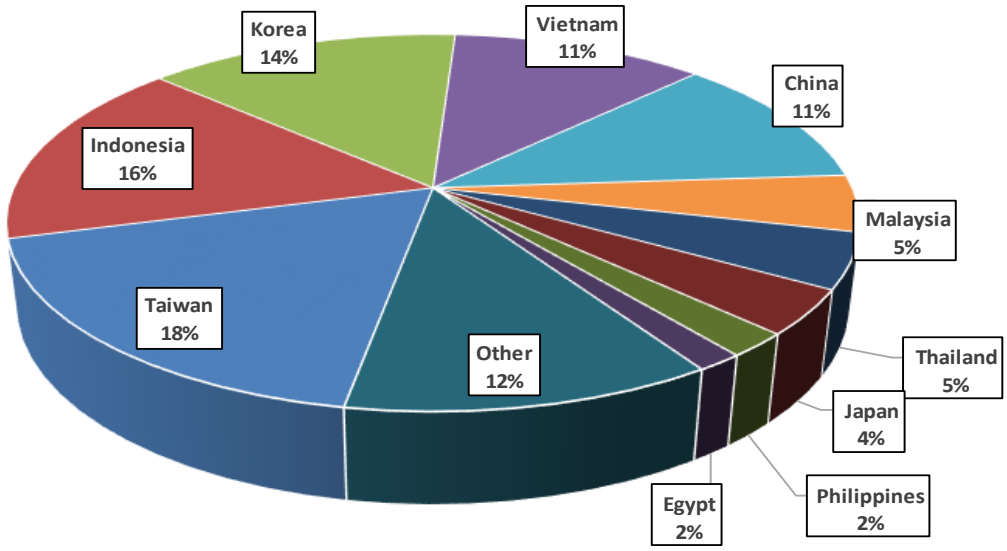
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

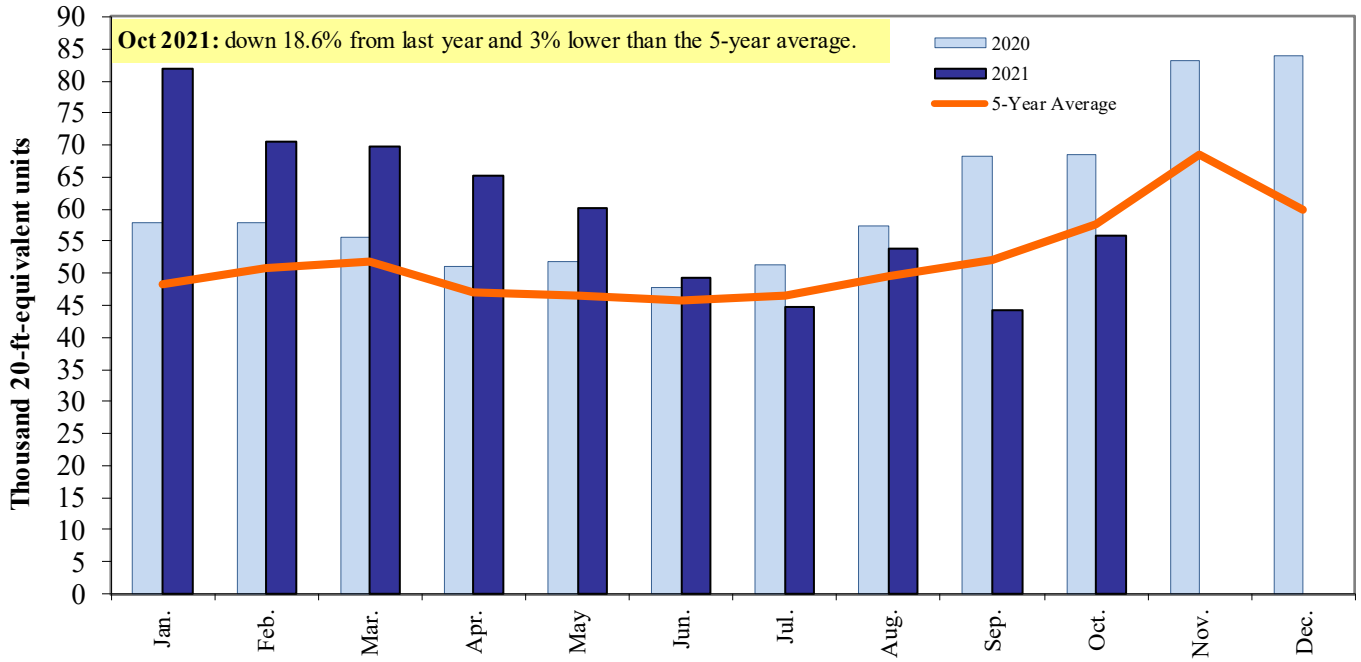
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Oct 2021



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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