USDA United States Department of Agriculture

Grain Transportation Report

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

Contact Us

March 9, 2023

Contents

The next release is March 16, 2023

WEEKLY HIGHLIGHTS

Over $12 Million Available for U.S. Marine Highway Program

The Maritime Administration (MARAD) recently announced $12.4 million in grants will be made available in fiscal year 2023 through the U.S. Marine Highway Program (USMHP). USMHP's mission is to increase the use of navigable U.S. waterways, especially where barge is the most efficient, effective, and sustainable transportation option. USMHP also aims to help create maritime jobs, strengthen the supply chain, reduce emissions, and lower maintenance costs. In reviewing prospective grant recipients, MARAD will consider geographic diversity. MARAD will also evaluate each project based on its effect on movement of goods; its level of nonfederal funding already invested; its use of U.S.-produced goods, products, or materials; and its consideration of economic equity and environmental justice. MARAD will be hosting a series of webinars on the grant process, and applications are due by April 28.

Port of South Louisiana Reports Growth in Tonnage

On February 7, the Port of South Louisiana (PortSL) reported an increase in tonnage of nearly 10 million short tons of cargo. PortSL is the Nation's leading grain exporter and the second-largest port in the Western Hampshire. In 2022, soybean exports accounted for almost 22.2 million tons of PortSL's cargo, up 24 percent from the previous year. Wheat accounted for over 3.6 tons of the port's cargo, up 23 percent from the previous year. Corn exports were the only grain to see a decrease in exports in 2022, falling 18 percent, to just over 21.8 million tons. The port owes some growth in 2022 to world events—including the Russia-Ukraine war, which significantly increased demand for U.S. grain exports.

EPA Proposes Gasoline Volatility Waiver in Midwestern States

On March 6, the U.S. Environmental Protection Agency (EPA) published a proposed rule to remove a gasoline volatility waiver that restricts gasoline-ethanol blends to no more than 10 percent ethanol in several Midwestern States: Illinois, Iowa, Minnesota, Missouri, Nebraska, Ohio, and South Dakota. The proposed rule responds to a request from these States' governors to sell a 15-percent ethanol blend of gasoline (E15) year-round, without restriction. By raising demand for ethanol, the proposed rule to remove the waiver would also raise the demand for ethanol and corn transportation. EPA will hold a virtual public hearing on March 21, 2023, and comments on the rule are due by April 20, 2023.

Diesel Price Continues To Decline

For the week ending March 6, the U.S. average **diesel fuel price** decreased 1.2 cents from the previous week to $4.282 per gallon, 56.7 cents below the same week last year. The diesel price has fallen a total of 34 cents since the week ending January 30. From the week ending February 27 to the week ending March 6, diesel prices fell in all regions except the Midwest, where it rose 1.1 cents. According to the Energy Information Administration's (EIA) March *Short-Term Energy Outlook*, the diesel price is projected to average $4.17 per gallon in 2023, down 6 cents from the February *Outlook*. In 2024, the price is projected to average $3.73 per gallon, up 3 cents from EIA's February *Outlook*.

Snapshots by Sector

Export Sales

For the week ending February 23, **unshipped balances** of wheat, corn, and soybeans for marketing year (MY) 2022/23 totaled 24.64 million metric tons (mmt), down 31 percent from the same time last year and down 4 percent from last week. Net **corn export sales** for MY 2022/23 were 0.598 mmt, down 27 percent from last week. Net **soybean export sales** were 0.361 mmt, down 14 percent from last week. Net weekly **wheat export sales** were 0.284 mmt, down 16 percent from last week.

Rail

U.S. Class I railroads originated 20,511 **grain carloads** during the week ending February 25. This was a 6-percent decrease from the previous week, 8 percent fewer than last year, and 5 percent fewer than the 3-year average.

Average March **shuttle secondary railcar bids/offers** (per car) were $220 below tariff for the week ending March 2. This was $57 less than last week and $774 lower than this week last year.

Barge

For the week ending March 4, **barged grain movements** totaled 402,650 tons. This was 2 percent lower than the previous week and 37 percent lower than the same period last year.

For the week ending March 4, 262 grain barges **moved down river**—4 more than last week. There were 775 grain barges **unloaded** in the New Orleans region, 63 percent more than last week.

Ocean

For the week ending March 2, 29 **oceangoing grain vessels** were loaded in the Gulf—12 percent fewer than the same period last year. Within the next 10 days (starting March 3), 47 vessels were expected to be loaded—24 percent more than the same period last year.

As of March 2, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $52.50. This was 8 percent more than the previous week. The rate from the Pacific Northwest to Japan was $29.00 per mt, 9 percent more than the previous week.

Preferred citation: U.S. Department of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* March 9, 2023.
Web: http://dx.doi.org/10.9752/TS056.03-09-2023

Feature Article/Calendar

Transportation and Landed Costs of Grain to Mexico in Fourth Quarter 2022

Mexico is a leading importer of U.S. corn, soybeans, and wheat (***GTR* tables 12, 13** and **14**). Low transportation and landed costs are vital to the competitiveness of U.S. grain to Mexico and globally. U.S. grain is transported to Mexico either by cross-border land movements or by sea movements to Mexican ports for inland distribution. This article examines the costs of transporting U.S. grain to Mexico over land to Guadalajara (land routes) and by sea to Veracruz (water routes), tracking changes over time (table 1).

Table 1. Quarterly costs of transporting U.S. grain to Veracruz and Guadalajara, Mexico

	Water route (to Veracruz) $/metric ton					Land route (to Guadalajara) $/metric ton				
	2021 4th qtr.	2022 3rd qtr.	2022 4th qtr.	Percent change Yr. to yr.	Qtr. to qtr.	2021 4th qtr.	2022 3rd qtr.	2022 4th qtr.	Percent change Yr. to yr.	Qtr. to qtr.
Corn										
Origin			**IL**					**IA**		
Truck	13.50	19.07	16.31	20.8	-14.5	5.55	6.27	5.82	4.9	-7.2
Rail [1]	-	-	-	-	-	99.50	109.83	116.30	16.9	5.9
Barge	29.41	29.97	70.23	138.8	134.3	-	-	-	-	-
Ocean[2]	25.23	23.33	20.73	-17.8	-11.1	-	-	-	-	-
Total transportation cost	68.14	72.37	107.27	57.4	48.2	105.05	116.10	122.12	16.2	5.2
Farm value[3]	205.50	277.81	250.51	21.9	-9.8	207.21	292.11	258.78	24.9	-11.4
Landed cost[4]	273.64	350.18	357.78	30.7	2.2	312.26	408.21	380.90	22.0	-6.7
Transport % of landed cost	25	21	30	5.08	9.32	34	28	32	-1.58	3.6
Soybeans										
Origin			**IL**					**NE**		
Truck	13.50	19.07	16.31	20.8	-14.5	5.55	6.27	5.82	4.9	-7.2
Rail	-	-	-	-	-	100.37	110.60	116.43	16.0	5.3
Barge	29.41	29.97	70.23	138.8	134.3	-	-	-	-	-
Ocean	25.23	23.33	20.73	-17.8	-11.1	-	-	-	-	-
Total transportation cost	68.14	72.37	107.27	57.4	48.2	105.92	116.87	122.25	15.4	4.6
Farm value	448.27	564.63	510.74	13.9	-9.5	439.70	542.58	514.41	17.0	-5.2
Landed cost	516.41	637.00	618.01	19.7	-3.0	545.62	659.45	636.66	16.7	-3.5
Transport % of landed cost	13	11	17	4.16	6.00	19	18	19	-0.21	1.5
Wheat										
Origin			**KS**					**KS**		
Truck	5.55	6.27	5.82	4.9	-7.2	5.55	6.27	5.82	4.9	-7.2
Rail	43.80	49.83	45.96	4.9	5.9	85.05	93.49	105.05	23.5	12.4
Ocean	25.23	23.33	20.73	-17.8	-11.1	-	-	-	-	-
Total transportation cost	74.58	79.43	72.51	-2.8	-8.7	90.60	99.76	110.87	22.4	11.1
Farm value	283.91	315.51	332.65	17.2	5.4	283.91	315.51	332.65	17.2	5.4
Landed cost	358.49	394.94	405.16	13.0	2.6	374.51	415.27	443.52	18.4	6.8
Transport % of landed cost	21	20	18	-3	-2	24	24	25	1	1.0

[1]Rail rates include U.S. and Mexico portions of the movement. Mexico rail rates are estimated based on actual quoted market rates. BNSF and Union Pacific quoted rail tariff rates are through rates for shuttle trains. Rail rates include fuel surcharges, but do not include the cost of purchasing empty rail cars in the secondary market, which could exceed the rail tariff rate plus fuel surcharge shown in the table. Due to tax changes in Mexico, all three Class I railroads that ship from the U.S. to Mexico (BNSF, Union Pacific, and Kansas City Southern) are only reporting rates to the border for interchange, called Rule 11 rates. Because comparable data were not available, it was assumed rail rates did not change from fourth quarter 2021 through fourth quarter 2022, but fuel surcharges were still updated.

[2]Source for ocean freight rates: O'Neil Commodity Consulting.

[3]Source for farm values: USDA, National Agricultural Statistics Service.

[4]Landed cost is total transportation cost plus farm value.

*The number was revised from what was previously published

Note: "-" indicates data not required or applicable. Total may not add exactly because of rounding.

Source: Compiled by the USDA, Agricultural Marketing Service.

Quarter-to-quarter transportation costs. From third quarter 2022 to fourth quarter 2022 (quarter to quarter), total transportation costs increased for U.S. corn and soybeans by all routes (i.e., water and land). Transportation costs of shipping wheat increased by the land routes, but decreased by the water routes. Rising water-route shipping costs for corn and soybeans reflected higher barge rates.[1] Land-route shipping costs increased with rising rail fuel surcharges. Barge rates rose

[1] Water routes typically involve truck transportation to barge to oceangoing vessel, or truck to rail to oceangoing vessel.

because of record-low water levels in the Mississippi River System that led to reductions in flow, tow size, and draft size (*GTR, January* 26, 2023). Truck rates fell partly because of lower diesel fuel prices (***GTR* fig. 12**). Responding to lower demand for shipping bulk items during end-of-year holidays, ocean freight rates fell (*GTR,* February 9, 2023).

Year-to-year transportation costs. From fourth quarter 2021 to fourth quarter 2022 (year to year), total costs of shipping all grain (U.S. corn, soybeans, and wheat) to Mexico by the land routes rose because of higher truck rates and higher rail fuel surcharges. Total costs of shipping corn and soybeans to Mexico by the water routes rose because of higher truck and barge rates. However, the cost of shipping wheat to Mexico by the water routes fell because of ocean rate decreases that more than offset the increases in truck and rail tariff rates.

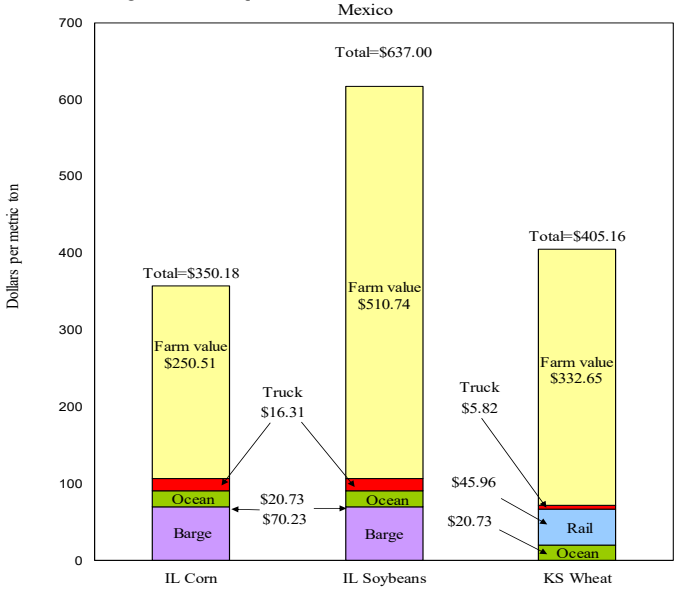
Quarter-to-quarter landed costs. Quarter to quarter, landed costs fell for soybeans shipped via all routes, but increased for wheat shipped by all routes. Landed costs for shipping corn to Mexico increased via the water routes and decreased by the land routes. In the cases of soybeans shipped by all routes and corn by the land routes, falling landed costs reflected declines in farm values that exceeded the rise in transportation costs (table 1 and figs. 1 and 2). In the cases of wheat shipped via the water and land routes and corn by the water routes, landed costs rose with rising farm values and transportation costs. The share of landed costs comprising transportation ranged from 17 percent to 30 percent for the water routes and from 19 percent to 32 percent for the land routes.

Year-to-year landed costs. Year to year, landed costs rose for all waterborne and land-route grains. For most of these, the increase reflected both higher transportation costs and higher farm values. The only exception was waterborne wheat for which transportation costs fell (but were still more than offset by an increase in farm values).

U.S. Exports to Mexico. According to USDA's Federal Grain Inspection Service, in fourth quarter 2022, the United States exported to Mexico 2.90 million metric tons (mmt) of corn, 1.62 mmt of soybeans, and 0.64 mmt of wheat. Quarter to quarter, U.S. inspections for export to Mexico were down 9 percent for corn, up 28 percent for soybeans, and down 48 percent for wheat. Year to year, U.S. inspections destined to Mexico fell 32 percent for corn, rose 5 percent for soybeans, and fell 16 percent for wheat. The quarter-to-quarter and year-to-year increases in soybean shipments to Mexico were partly driven by lower landed costs for soybeans.

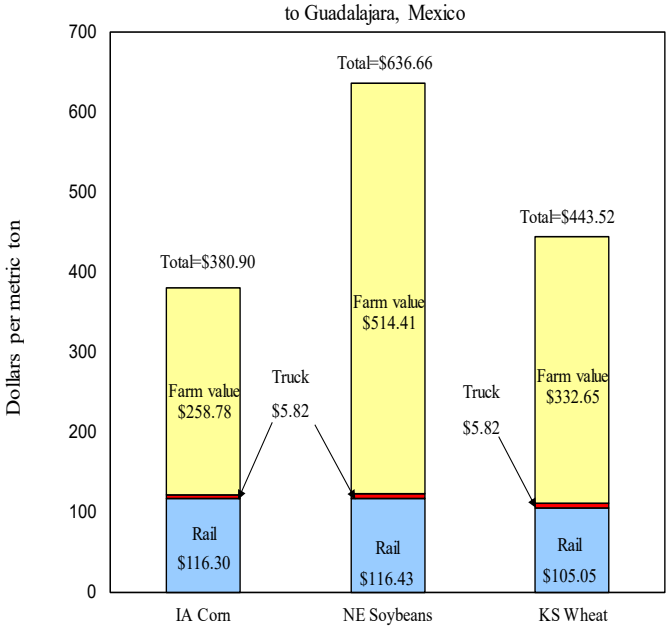
surajudeen.olowolayemo@usda.gov

Figure 1. Fourth-quarter 2022 water-route landed costs to Veracruz, Mexico



Note: IL = Illinois; KS = Kansas.
Source: USDA, Agricultural Marketing Service.

Figure 2. Fourth-quarter 2022 land-route landed costs to Guadalajara, Mexico



Note: IA = Iowa; NE = Nebraska; KS = Kansas.
Source: USDA, Agricultural Marketing Service.

Grain Transportation Indicators

Table 1

Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
03/08/23	287	326	247	271	235	206
03/01/23	288	327	252	264	217	188

[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 due to holiday.

Source: USDA, Agricultural Marketing Service.

Table 2

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

Commodity	Origin–destination	3/3/2023	2/24/2023
Corn	IL–Gulf	-0.98	-0.94
Corn	NE–Gulf	-0.73	-0.71
Soybean	IA–Gulf	-1.56	-1.53
HRW	KS–Gulf	-2.13	-2.30
HRS	ND–Portland	-2.09	-2.21

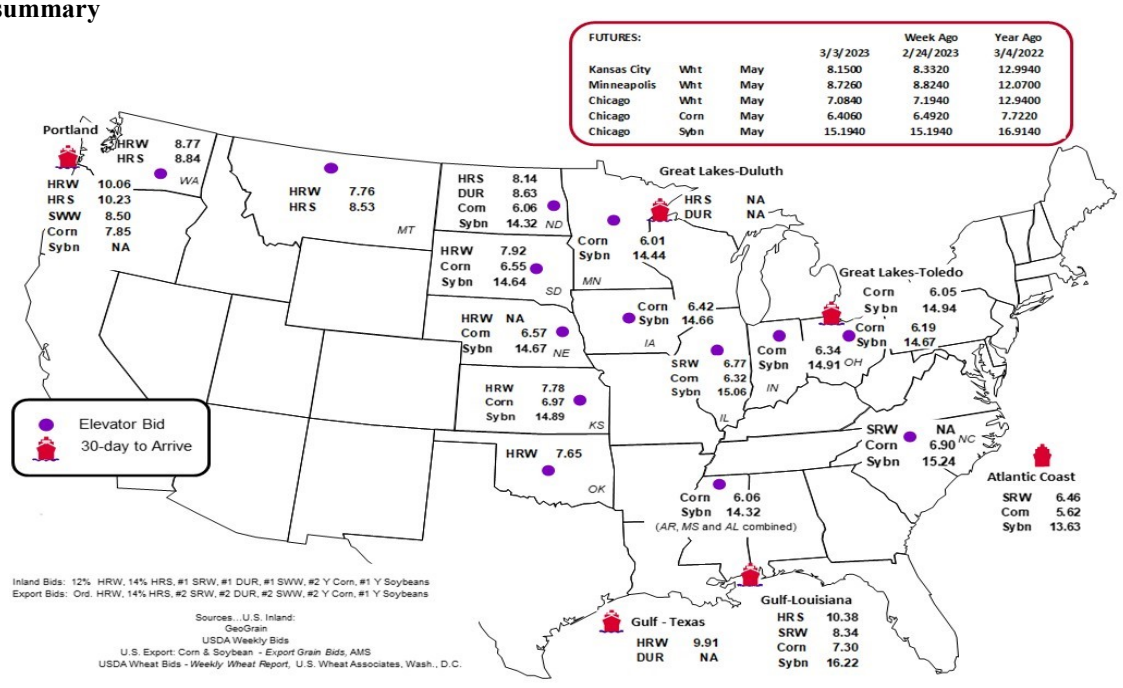
Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

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

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

For the week ending:	East		West			U.S. total	Canada	
2/25/2023	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	2,345	2,666	8,243	1,304	5,953	20,511	4,449	2,967
This week last year	1,887	2,576	10,584	1,452	5,712	22,211	4,043	3,293
2023 YTD	16,873	22,420	86,852	10,597	46,041	182,783	42,387	36,413
2022 YTD	14,599	18,174	94,437	10,956	51,488	189,654	28,232	28,561
2023 YTD as % of 2022 YTD	116	123	92	97	89	96	150	127
Last 4 weeks as % of 2022*	119	119	83	100	84	90	143	112
Last 4 weeks as % of 3-yr. avg.**	118	119	88	124	98	98	144	106
Total 2022	93,313	130,402	570,232	66,338	296,945	1,157,230	214,406	214,010

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

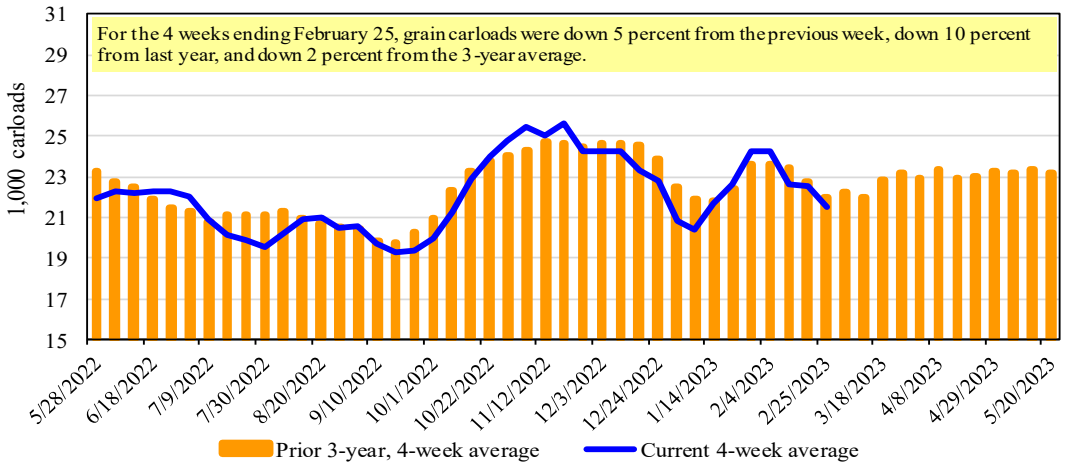
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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

Source: Association of American Railroads.

Figure 2

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 4

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

For the week ending:		Delivery period							
3/2/2023		Mar-23	Mar-22	Apr-23	Apr-22	May-23	May-22	Jun-23	Jun-22
BNSF[3]	COT grain units	no offer	no bids	no offer	0	no offer	0	no offer	0
	COT grain single-car	no offer	1	no offer	0	no offer	0	no offer	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.

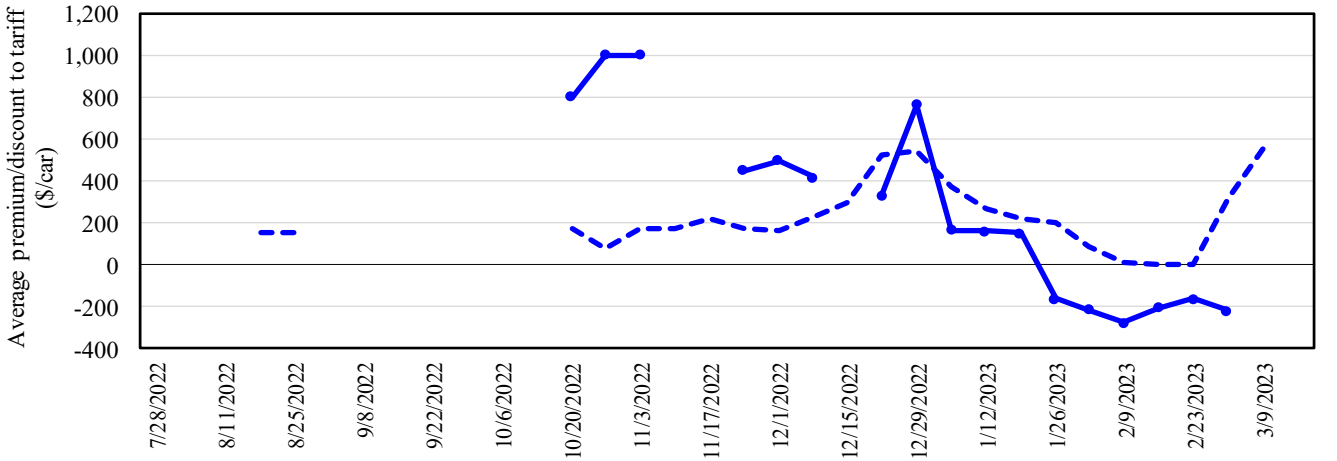
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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 3
Secondary market bids/offers for railcars to be delivered in March 2023

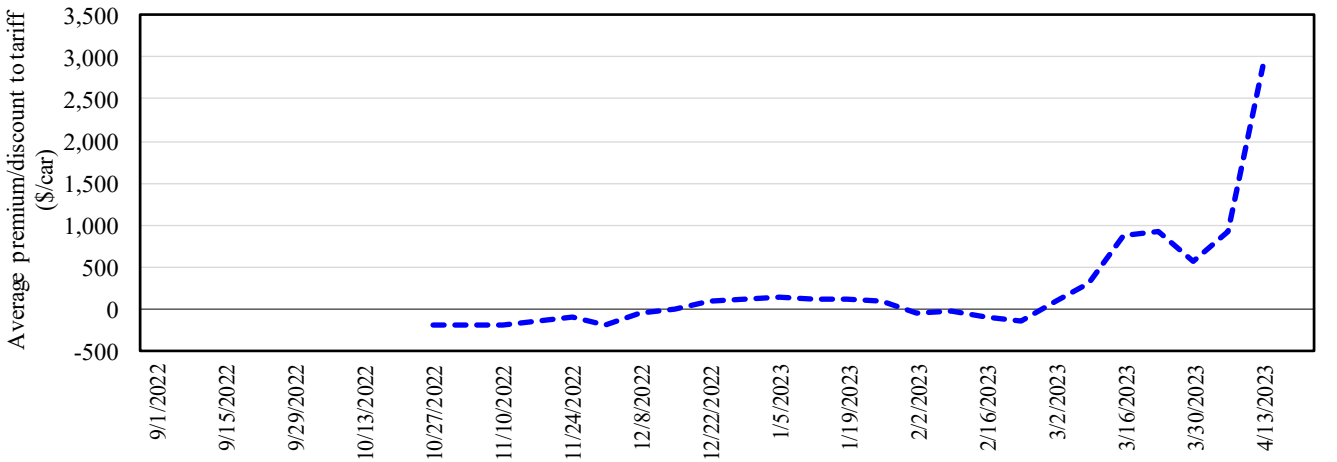


3/2/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$248	-$192

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $57 this week and are $1,220 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 4
Secondary market bids/offers for railcars to be delivered in April 2023



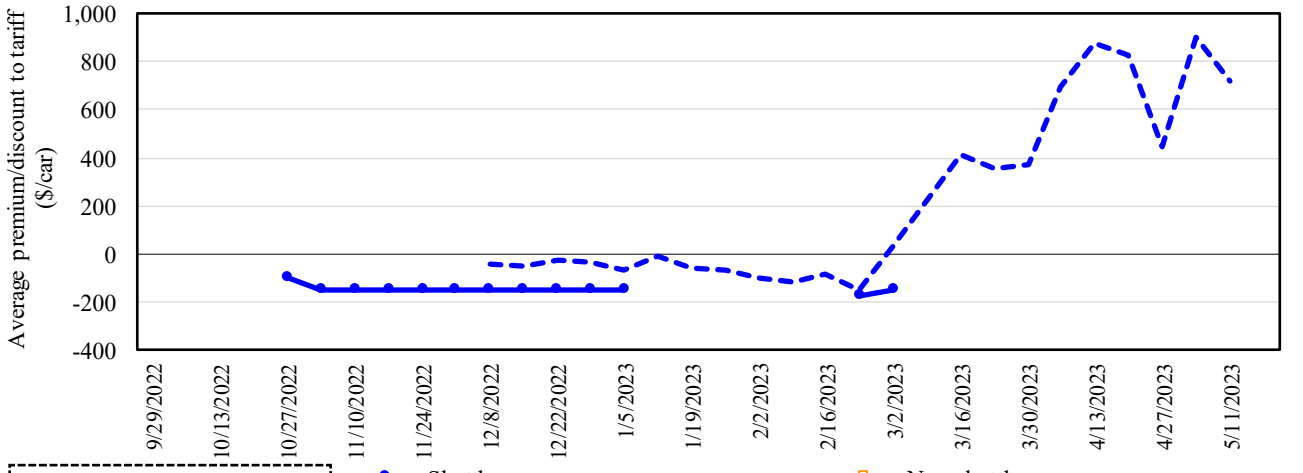
3/2/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	n/a

There were no non-shuttle bids/offers this week.
There were no shuttle bids/offers this week.

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 May 2023



3/2/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$150	n/a

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $25 this week and are $50 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 5

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

	For the week ending: 3/2/2023	Delivery period					
		Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23
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 2022	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 2022	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**(248)**	**n/a**	**(150)**	**n/a**	**n/a**	**(150)**
	Change from last week	(48)	n/a	25	n/a	n/a	0
	Change from same week 2022	(781)	n/a	(308)	n/a	n/a	(75)
	UP-Pool	**(192)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(67)	n/a	n/a	n/a	n/a	n/a
	Change from same week 2022	(767)	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 6

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

March 2023	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	$253	$39.21	$1.07	2
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$101	$39.32	$1.07	7
	Wichita, KS	Los Angeles, CA	$7,490	$520	$79.55	$2.16	7
	Wichita, KS	New Orleans, LA	$4,600	$445	$50.10	$1.36	7
	Sioux Falls, SD	Galveston-Houston, TX	$7,226	$427	$76.00	$2.07	7
	Colby, KS	Galveston-Houston, TX	$4,850	$488	$53.00	$1.44	6
	Amarillo, TX	Los Angeles, CA	$5,121	$679	$57.59	$1.57	4
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$503	$44.72	$1.14	4
	Toledo, OH	Raleigh, NC	$8,551	$559	$90.47	$2.30	7
	Des Moines, IA	Davenport, IA	$2,655	$107	$27.42	$0.70	7
	Indianapolis, IN	Atlanta, GA	$6,593	$420	$69.64	$1.77	8
	Indianapolis, IN	Knoxville, TN	$5,564	$272	$57.95	$1.47	7
	Des Moines, IA	Little Rock, AR	$4,250	$313	$45.31	$1.15	8
	Des Moines, IA	Los Angeles, CA	$6,130	$912	$69.93	$1.78	9
Soybeans	Minneapolis, MN	New Orleans, LA	$3,856	$774	$45.98	$1.25	13
	Toledo, OH	Huntsville, AL	$7,037	$398	$73.84	$2.01	6
	Indianapolis, IN	Raleigh, NC	$7,843	$567	$83.51	$2.27	8
	Indianapolis, IN	Huntsville, AL	$5,689	$269	$59.17	$1.61	7
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$503	$53.31	$1.45	7
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$299	$46.60	$1.27	9
	Wichita, KS	Galveston-Houston, TX	$4,311	$233	$45.12	$1.23	1
	Chicago, IL	Albany, NY	$7,090	$528	$75.65	$2.06	8
	Grand Forks, ND	Portland, OR	$6,051	$517	$65.22	$1.78	9
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$538	$58.96	$1.60	10
	Colby, KS	Portland, OR	$5,923	$800	$66.76	$1.82	4
Corn	Minneapolis, MN	Portland, OR	$5,660	$629	$62.46	$1.59	12
	Sioux Falls, SD	Tacoma, WA	$5,620	$576	$61.53	$1.56	12
	Champaign-Urbana, IL	New Orleans, LA	$4,170	$503	$46.41	$1.18	10
	Lincoln, NE	Galveston-Houston, TX	$4,360	$336	$46.63	$1.18	12
	Des Moines, IA	Amarillo, TX	$4,670	$394	$50.28	$1.28	8
	Minneapolis, MN	Tacoma, WA	$5,660	$624	$62.41	$1.59	12
	Council Bluffs, IA	Stockton, CA	$5,580	$646	$61.82	$1.57	13
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$576	$68.78	$1.87	11
	Minneapolis, MN	Portland, OR	$6,400	$629	$69.80	$1.90	11
	Fargo, ND	Tacoma, WA	$6,250	$512	$67.15	$1.83	10
	Council Bluffs, IA	New Orleans, LA	$5,095	$580	$56.36	$1.53	8
	Toledo, OH	Huntsville, AL	$5,277	$398	$56.36	$1.53	9
	Grand Island, NE	Portland, OR	$5,730	$819	$65.03	$1.77	13

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

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

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

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

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

Table 7

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

Commodity	Origin state	Destination region	Tariff rate per car[1]	Fuel surcharge per car[2]	Tariff rate plus fuel surcharge per: metric ton[3]	Tariff rate plus fuel surcharge per: bushel[3]	Percent change[4] Y/Y
Date: December 2021							
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.

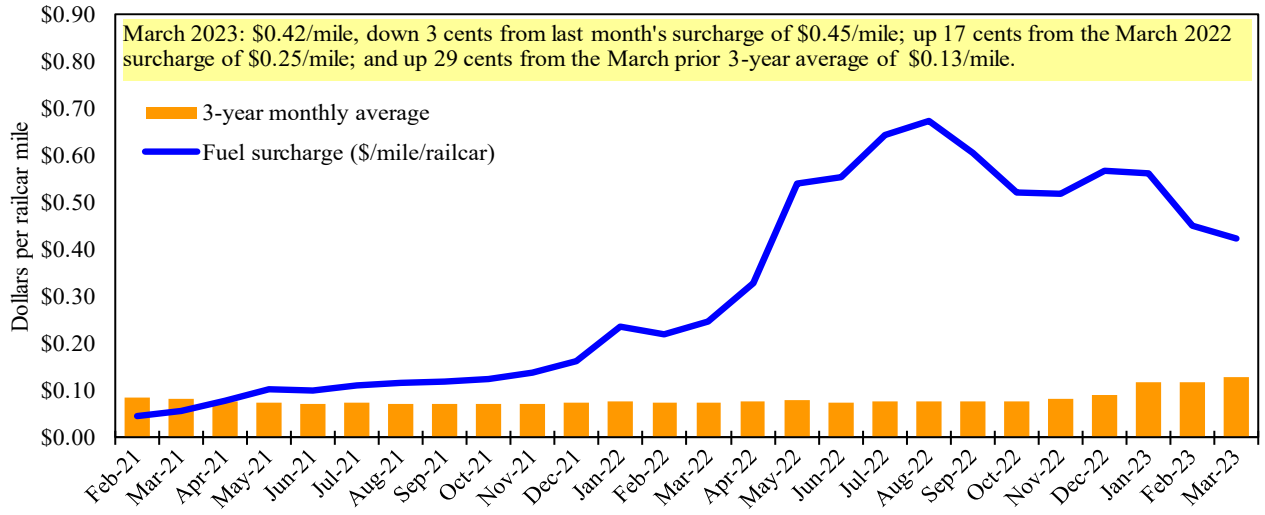
[4] Percentage change calculated using tariff rate plus fuel surchage; Y/Y = year over year.

[5] As of January 1, 2022, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico. As we incorporate the change, Table 7 updates will be delayed.

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

Figure 6

Railroad fuel surcharges, North American weighted average[1]



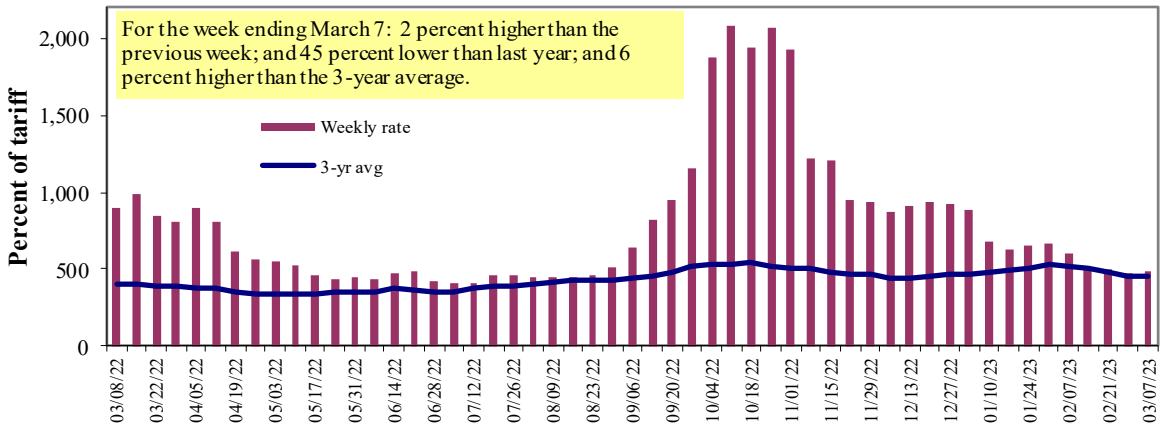
[1] Weighted by each Class I railroad's proportion of grain traffic for the prior year.

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

Barge Transportation

Figure 7

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 8

Weekly barge freight rates: Southbound only

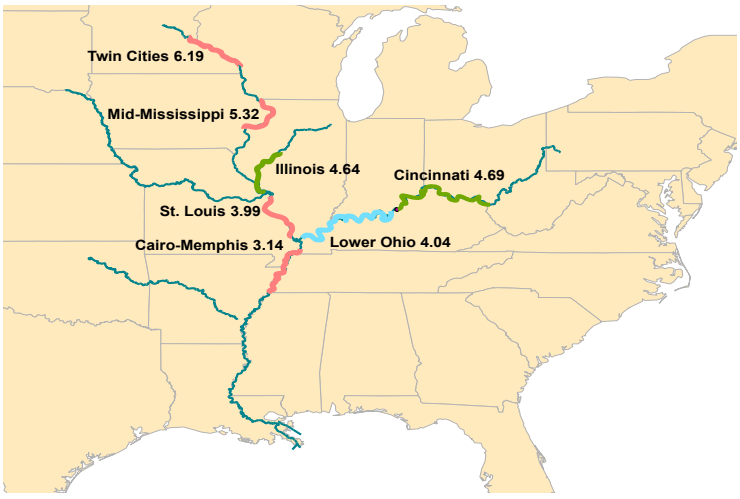
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	3/7/2023	-	519	487	353	410	410	290
	2/28/2023	-	505	476	357	410	410	293
$/ton	3/7/2023	-	27.61	22.60	14.08	19.23	16.56	9.11
	2/28/2023	-	26.87	22.09	14.24	19.23	16.56	9.20
Current week % change from the same week:								
	Last year	-	-41	-45	-54	-55	-55	-56
	3-year avg. [2]	-	-	6	3	7	7	-6
Rate[1]	April	528	496	479	350	393	393	289
	June	505	479	466	340	387	387	284

[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 8
Benchmark tariff rates

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

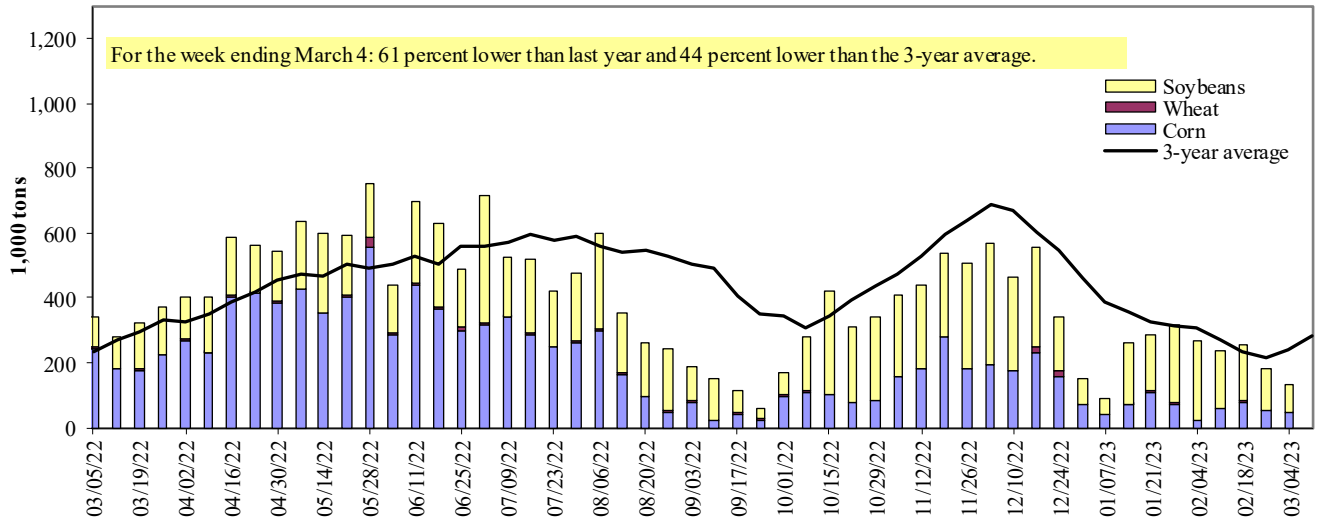
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 9

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



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

Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming v

Source: U.S. Army Corps of Engineers.

Table 9

Barge grain movements (1,000 tons)

For the week ending 03/04/2023	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	0	0	0	0	0
Alton, IL (L26)	25	0	86	0	111
Granite City, IL (L27)	49	0	86	0	135
Illinois River (La Grange)	53	0	80	0	132
Ohio River (Olmsted)	127	11	82	7	227
Arkansas River (L1)	0	29	11	0	41
Weekly total - 2023	177	40	179	7	403
Weekly total - 2022	423	37	170	4	634
2023 YTD[1]	1,697	224	2,836	77	4,834
2022 YTD[1]	2,650	241	2,096	30	5,017
2023 as % of 2022 YTD	64	93	135	254	96
Last 4 weeks as % of 2022[2]	70	127	143	109	97
Total 2022	16,437	1,594	14,464	232	32,727

[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.

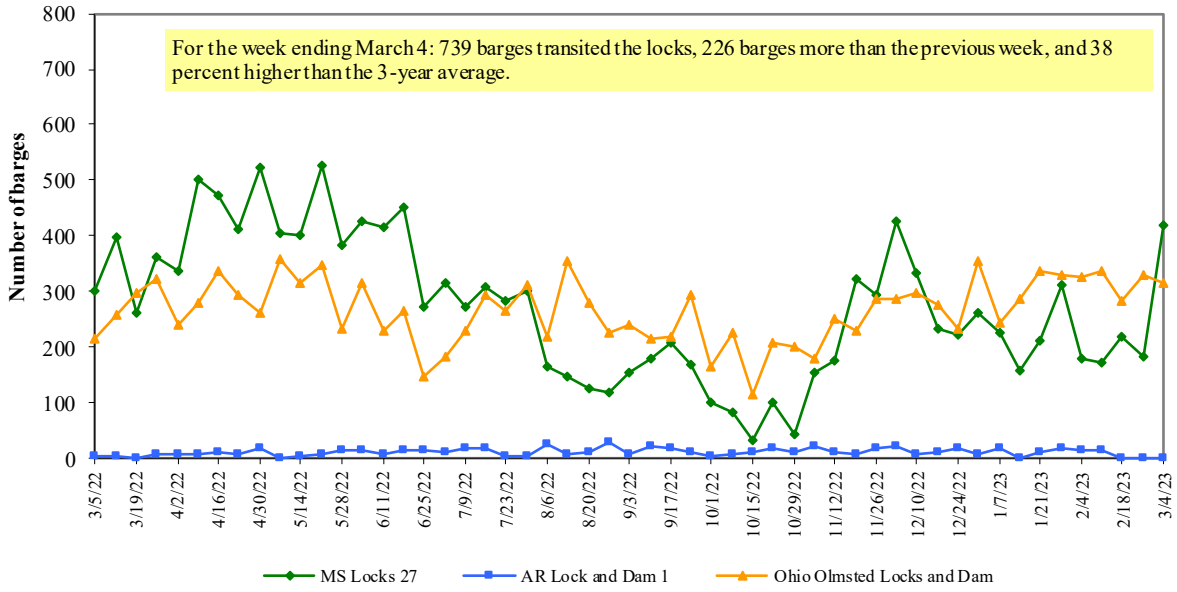
[2] As a percent of same period in 2022.

Note: L (as in "L15") refers to a lock, locks, or locks and dam facility. The U.S. Army Corps of Engineers has recently migrated its database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 10

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

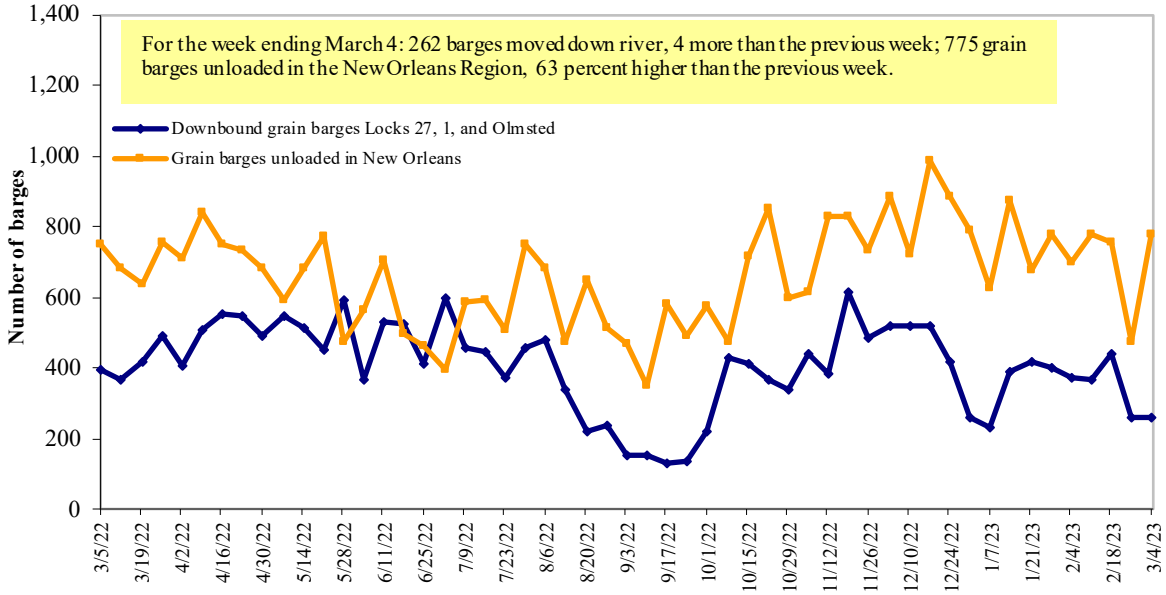


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 11

Grain barges for export in New Orleans region



Note: Olmsted = Olmsted Locks and Dam. The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

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 10

Retail on-highway diesel prices, week ending 3/6/2023 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.409	-0.037	-0.561
	New England	4.736	-0.089	-0.079
	Central Atlantic	4.738	-0.033	-0.355
	Lower Atlantic	4.254	-0.032	-0.665
II	Midwest	4.131	0.011	-0.518
III	Gulf Coast	4.027	0.000	-0.676
IV	Rocky Mountain	4.498	-0.061	-0.044
V	West Coast	4.895	-0.038	-0.498
	West Coast less California	4.528	-0.036	-0.450
	California	5.316	-0.041	-0.443
Total	United States	4.282	-0.012	-0.567

[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

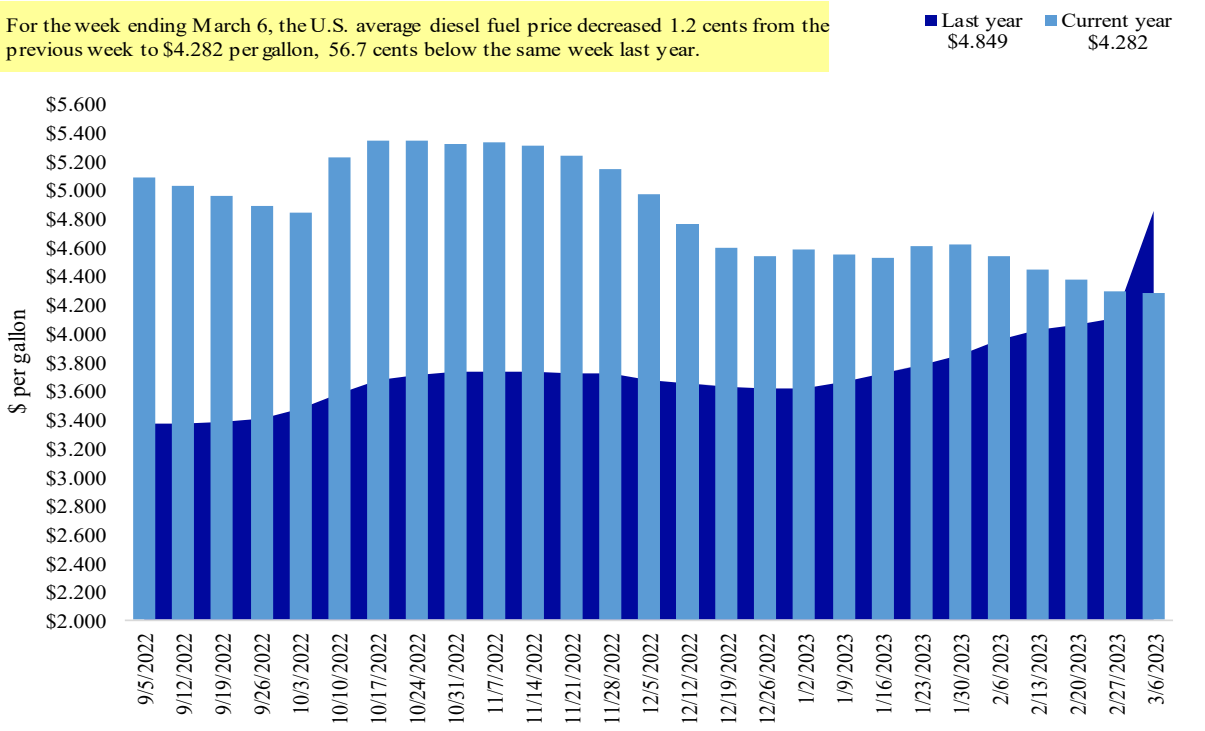
Note: On June 13, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

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

Figure 12

Weekly diesel fuel prices, U.S. average

For the week ending March 6, the U.S. average diesel fuel price decreased 1.2 cents from the previous week to $4.282 per gallon, 56.7 cents below the same week last year.



Note: On June 13, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration, Retail On-Highway Diesel Prices.

Grain Exports

Table 11

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]									
2/23/2023	685	587	948	934	69	3,223	14,208	7,209	24,640
This week year ago	1,884	589	1,060	583	19	4,135	22,289	9,390	35,814
Cumulative exports-marketing year[2]									
2022/23 YTD	3,989	2,085	4,254	3,338	245	13,911	15,030	41,605	70,546
2021/22 YTD	5,473	2,085	3,796	2,623	170	14,147	25,770	40,776	80,693
YTD 2022/23 as % of 2021/22	73	100	112	127	144	98	58	102	87
Last 4 wks. as % of same period 2021/22	41	104	100	175	404	86	63	91	73
Total 2021/22	7,172	2,786	5,254	3,261	196	18,669	59,764	57,189	135,622
Total 2020/21	8,422	1,790	7,500	6,438	656	24,807	66,958	60,571	152,335

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

[2] Shipped export sales to date.

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 12

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

For the week ending 2/23/2023	Total commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
		1,000 mt -		
Mexico	12,761	13,858	(8)	15,227
China	4,487	12,091	(63)	12,616
Japan	2,961	7,133	(58)	10,273
Columbia	1,223	3,181	(62)	4,398
Korea	266	84	216	2,563
Top 5 importers	**21,698**	**36,347**	(40)	**45,077**
Total U.S. corn export sales	**29,238**	**48,059**	(39)	**56,665**
% of projected exports	62%	76%		
Change from prior week[2]	**598**	**485**		
Top 5 importers' share of U.S. corn export sales	74%	76%		80%
USDA forecast March 2023	**47,074**	**62,875**	(25)	
Corn use for ethanol USDA forecast, March 2023	**133,350**	**135,281**	(1)	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; 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 13

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

For the week ending 2/23/2023	Total commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
				- 1,000 mt -
China	30,221	26,194	15	27,283
Mexico	4,059	4,607	(12)	4,929
Egypt	978	2,927	(67)	3,553
Japan	1,693	1,704	(1)	2,266
Indonesia	967	1,077	(10)	2,116
Top 5 importers	**37,917**	**36,509**	4	**40,147**
Total U.S. soybean export sales	**48,814**	**50,167**	(3)	**54,231**
% of projected exports	89%	85%		
change from prior week[2]	**361**	**857**		
Top 5 importers' share of U.S. soybean export sales	78%	73%		**74%**
USDA forecast, March 2023	**54,905**	**58,801**	(7)	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; 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 14

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

For the week ending 2/23/2023	Total Commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
	1,000 mt -			- 1,000 mt -
Mexico	2,944	3,255	(10)	3,566
Philippines	1,943	2,586	(25)	2,985
Japan	2,002	2,217	(10)	2,453
China	819	848	(3)	1,537
Nigeria	739	1,999	(63)	1,528
Korea	1,165	1,197	(3)	1,459
Taiwan	702	823	(15)	1,106
Indonesia	324	67	384	711
Thailand	650	536	21	703
Colombia	501	624	(20)	621
Top 10 importers	**11,788**	**14,151**	(17)	**16,669**
Total U.S. wheat export sales	**17,135**	**18,282**	(6)	**22,763**
% of projected exports	81%	84%		
change from prior week[2]	**284**	**300**		
Top 10 importers' share of U.S. wheat export sales	69%	77%		73%
USDA forecast, March 2023	**21,117**	**21,798**	(3)	

[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 15

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

Port regions	For the week ending 03/02/23	Previous week*	Current week as % of previous	2023 YTD*	2022 YTD*	2023 YTD as % of 2022 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2022 total*
Pacific Northwest									
Wheat	165	406	41	2,383	2,063	116	103	92	9,836
Corn	1	6	12	492	2,112	23	1	1	9,615
Soybeans	0	71	0	3,298	3,257	101	79	94	14,178
Total	**166**	**483**	**34**	**6,174**	**7,432**	**83**	**60**	**63**	**33,629**
Mississippi Gulf									
Wheat	19	71	27	424	653	65	68	82	4,053
Corn	702	406	173	3,236	7,512	43	45	54	30,781
Soybeans	381	492	78	8,255	5,792	143	147	168	31,283
Total	**1,102**	**969**	**114**	**11,915**	**13,957**	**85**	**79**	**92**	**66,116**
Texas Gulf									
Wheat	28	167	17	429	582	74	100	122	3,421
Corn	0	1	0	53	114	46	64	49	648
Soybeans	0	0	n/a	52	1	n/a	0	0	685
Total	**28**	**168**	**17**	**534**	**697**	**77**	**96**	**101**	**4,754**
Interior									
Wheat	70	33	214	495	537	92	69	83	2,912
Corn	181	218	83	1,653	1,579	105	102	119	8,961
Soybeans	111	147	76	1,517	1,336	114	90	97	7,109
Total	**362**	**397**	**91**	**3,665**	**3,452**	**106**	**92**	**105**	**18,982**
Great Lakes									
Wheat	0	12	0	39	18	214	292	729	395
Corn	0	0	n/a	0	0	n/a	n/a	n/a	158
Soybeans	0	0	n/a	2	0	n/a	n/a	n/a	760
Total	**0**	**12**	**0**	**41**	**18**	**226**	**292**	**729**	**1,312**
Atlantic									
Wheat	1	0	n/a	36	4	799	n/a	252	169
Corn	0	7	0	28	32	86	79	238	309
Soybeans	78	96	82	832	589	141	133	174	2,867
Total	**79**	**102**	**77**	**896**	**625**	**143**	**140**	**180**	**3,345**
U.S. total from ports*									
Wheat	282	688	41	3,805	3,857	99	95	96	20,786
Corn	884	638	139	5,462	11,349	48	44	51	50,471
Soybeans	570	805	71	13,957	10,975	127	120	137	56,882
Total	**1,736**	**2,131**	**81**	**23,224**	**26,181**	**89**	**78**	**88**	**128,139**

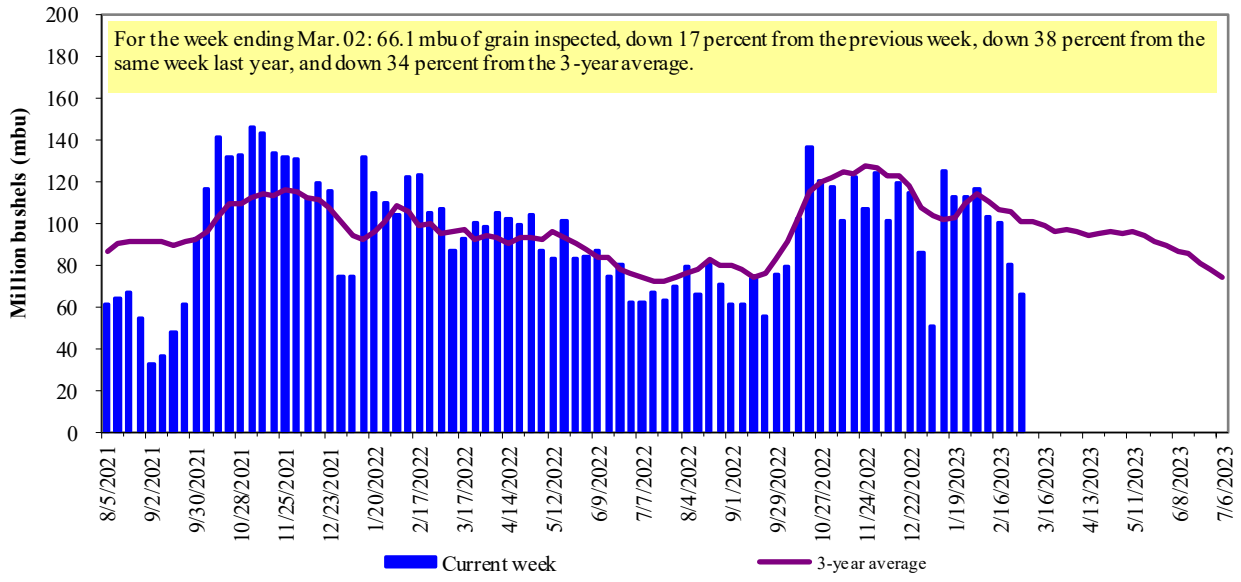
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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 13

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

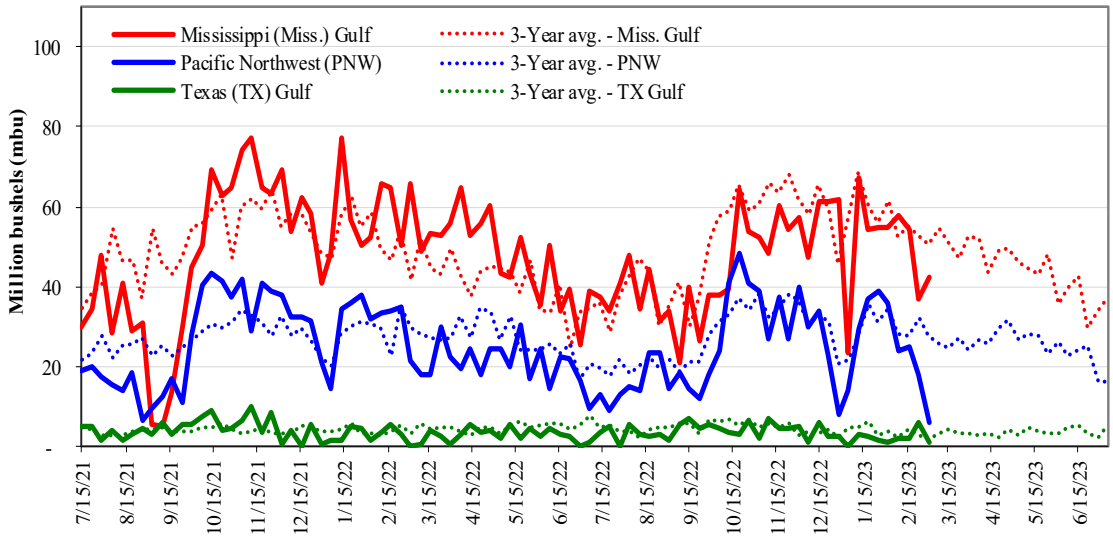


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 14

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



Week ending 03/02/23 inspections (mbu):	
MS Gulf:	42.3
PNW:	6.1
TX Gulf:	1.0

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	up 15	down 83	up 1	down 66
Last Year (same wk):	down 36	up 3317	down 34	down 72
3-yr avg. (4-wk. mov. Avg):	down 20	down 62	down 22	down 79

Source: USDA, Federal Grain Inspection Service.

Table 16

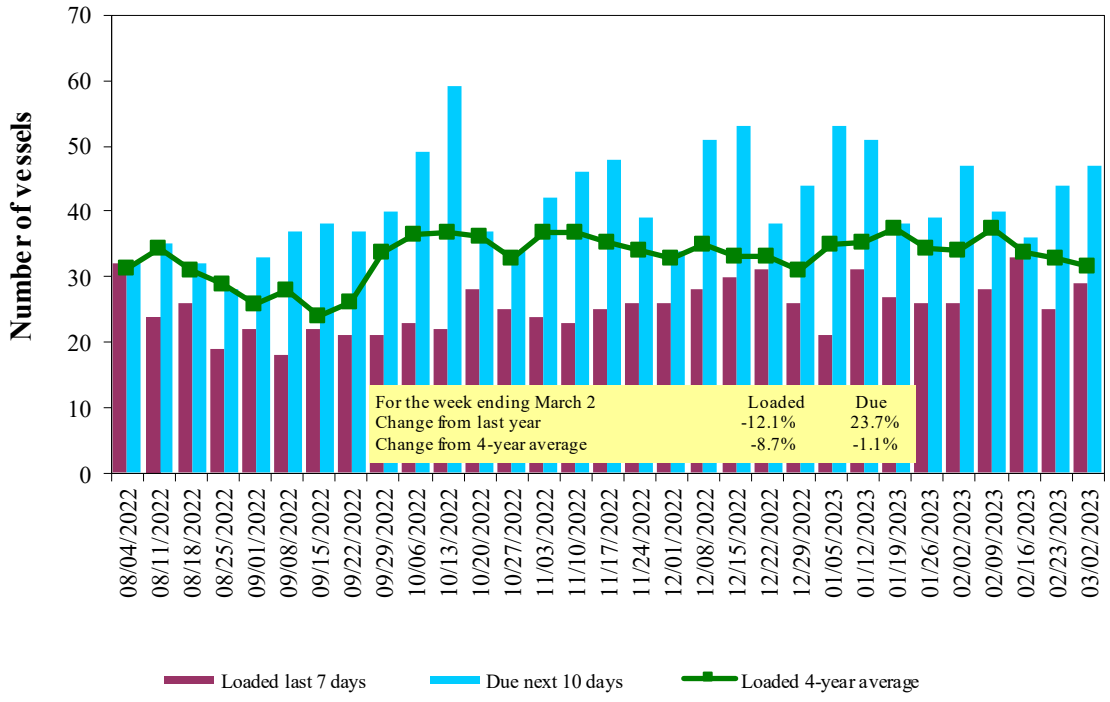
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
3/2/2023	18	29	47	3
2/23/2023	23	25	44	5
2022 range	(14…61)	(18…39)	(28...62)	(5…23)
2022 average	30	28	44	13

Note: The data is voluntarily collected and may not be complete.
Source: USDA, Agricultural Marketing Service.

Figure 15

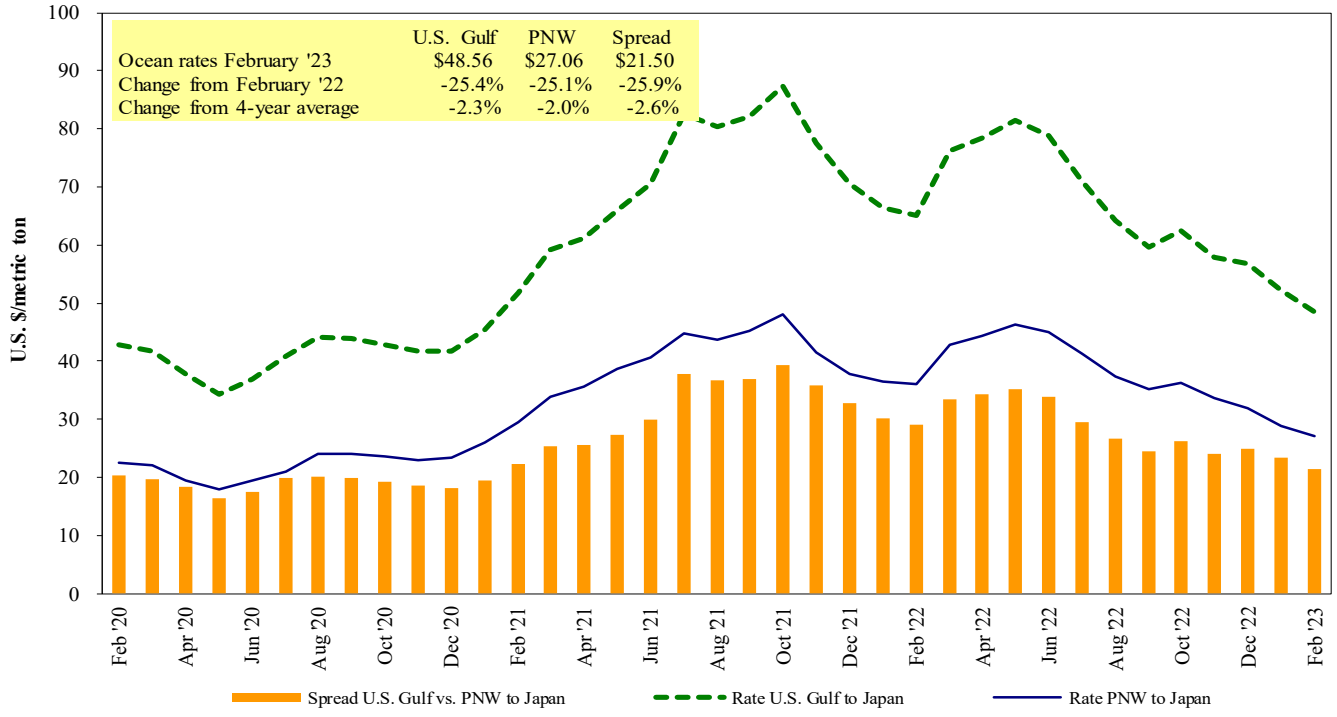
U.S. Gulf[1] vessel loading activity



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

Figure 16

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 17

Ocean freight rates for selected shipments, week ending 03/04/2023

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	Japan	Heavy grain	Nov 1/10, 2022	50,000	79.25
U.S. Gulf	Japan	Heavy grain	Jul 20/30, 2022	50,000	81.50
U.S. Gulf	Japan	Heavy grain	Jun 1/10, 2022	50,000	89.65
U.S. Gulf	Japan	Heavy grain	May 1/20, 2022	50,000	78.90
U.S. Gulf	S. China	Corn	Aug 1/10, 2022	68,000	71.00
U.S. Gulf	Kenya	Sorghum	Feb 15/25, 2023	22,820	63.30*
U.S. Gulf	Djibouti	Wheat	Nov 5/15, 2022	22,500	102.88*
U.S. Gulf	S. Korea	Heavy grain	Jun 1/Jul, 2022	55,000	82.75
WC US	Japan	Wheat	Feb 1/Mar 1, 2023	34,500	47.75
Brazil	China	Heavy grain	Feb 4/11	63,000	36.00
Brazil	N. China	Heavy grain	Mar 18/27, 2022	64,000	56.85
Argentina	Taiwan	Corn	May 1/Jun, 2022	65,000	85.00
Australia	Vietnam	Heavy grain	Feb 24/Apr 9, 2023	60,000	20.80

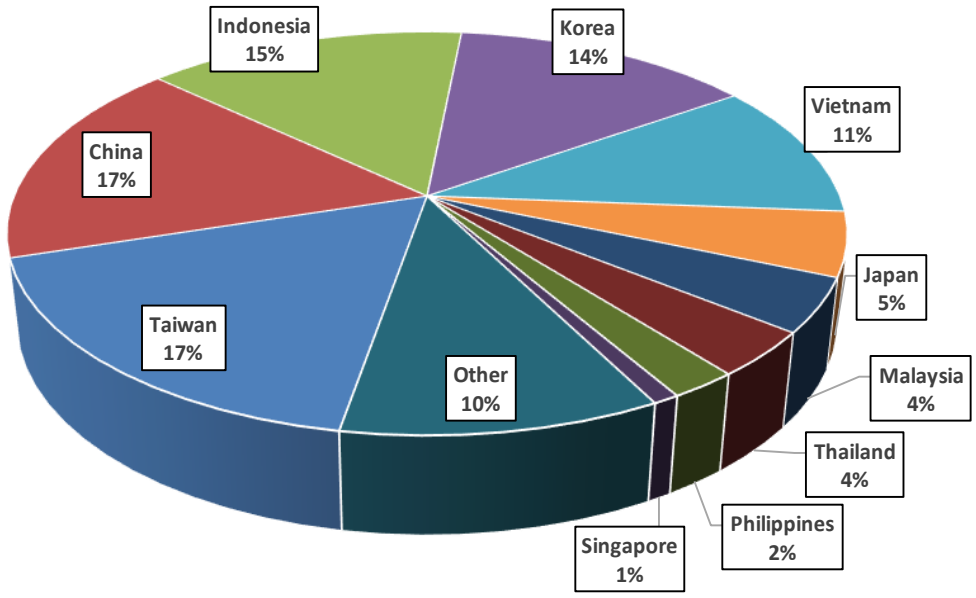
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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

Source: Maritime Research, Inc.

In 2020, containers were used to transport 10 percent of total U.S. waterborne grain exports. Approximately 66 percent of U.S. waterborne grain exports in 2020 went to Asia, of which 14 percent were moved in containers. Approximately 95 percent of U.S. waterborne containerized grain exports were destined for Asia.

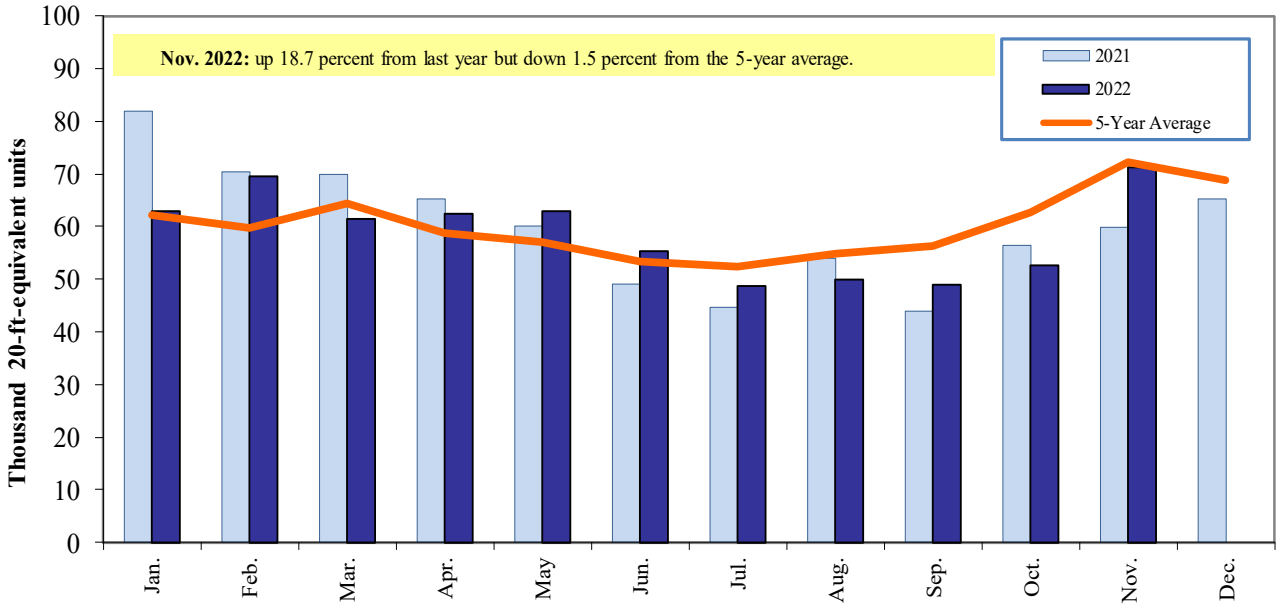
Figure 17
Top 10 destination markets for U.S. containerized grain exports, Jan-Nov 2022



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

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

Figure 18
Monthly shipments of U.S. containerized grain exports



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

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

Contacts and Links

Coordinators		
Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
Maria Williams	maria.williams@usda.gov	(202) 690 - 4430
Bernadette Winston	bernadette.winston@usda.gov	(202) 690 - 0487
Grain Transportation Indicators		
Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
Rail Transportation		
Jesse Gastelle	jesse.gastelle@usda.gov	(202) 690 - 1144
Peter Caffarelli	petera.caffarelli@usda.gov	(202) 690 - 3244
Bernadette Winston	bernadette.winston@usda.gov	(202) 690 - 0487
Rich Henderson	richard.henderson2@usda.gov	(919) 855 - 7801
Austin Hunt	austin.hunt@usda.gov	(540) 681 - 2596
Barge Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Rich Henderson	richard.henderson2@usda.gov	(919) 855 - 7801
Alexis Heyman	alexis.heyman@usda.gov	(847) 699 - 2414
Truck Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Kranti Mulik	kranti.mulik@usda.gov	(202) 756 - 2577
Alexis Heyman	alexis.heyman@usda.gov	(847) 699 - 2414
Grain Exports		
Kranti Mulik	kranti.mulik@usda.gov	(202) 756 - 2577
Bernadette Winston	bernadette.winston@usda.gov	(202) 690 - 0487
Ocean Transportation		
Surajudeen (Deen) Olowolayemo (Freight rates and vessels)	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
April Taylor (Container movements)	april.taylor@usda.gov	(202) 720 - 7880
Editor		
Maria Williams	maria.williams@usda.gov	(202) 690-4430

Subscription Information: Please sign up to receive regular email announcements of the latest *GTR* issue by entering your email address **here** and selecting your preference to receive Transportation Research and Analysis. For any other information, you may contact us at **GTRContactUs@usda.gov**

Preferred citation: U.S. Department of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* March 9, 2023. Web: **http://dx.doi.org/10.9752/TS056.03-09-2023**