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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February 16, 2023

Contents

The next release is February 23, 2023

WEEKLY HIGHLIGHTS

FMC Provides Update on Recent Activities

On January 25, the Federal Maritime Commission (FMC) provided the following updates on its recent progress and upcoming plans: First, FMC will issue a supplemental notice of proposed rulemaking (SNPRM) on carriers' "unreasonable refusal to deal." The SNPRM addresses issues that commenters (including USDA) raised to FMC's original proposed rule, which still has no announced effective date. Second, FMC is drafting a proposed rulemaking to address "unfair or unjustly discriminatory methods," but has not yet announced a date for public comment. Also, FMC lifted its temporary emergency requirement that carriers, marine terminal operators, shippers, and other supply chain participants share certain information. Finally, FMC reported favorable results from its increased efforts to address shippers' filed complaints on unfair detention and demurrage charges. Carriers are increasingly willing to resolve disputes with shippers, and FMC estimates carriers have refunded more than $700,000 in charges since June.

STB Denies Railroads' Second Request for Delay in New Rate Arbitration Program

On December 19, 2022, the Surface Transportation Board (STB) adopted a final rule to establish an arbitration program for small rate disputes (*Grain Transportation Report*, December 22, 2022). A railroad's agreement to participate in the program exempts that railroad from STB's new, Final Offer Rate Review procedure. However, STB stipulated that all seven Class I railroads must agree to participate in the arbitration program for it to become operable. Last month, STB denied the first request from the railroads for a delay (legally known as a "stay"), but also allowed them to revise and resubmit their request. On February 14, STB also denied the railroads' latest request. Separately, multiple railroads have petitioned STB to reconsider the deadline altogether (along with other aspects of the program), but reconsideration decisions can take years. Barring a quick reconsideration from STB, the railroads must file their decision whether or not to participate in the arbitration program by February 23.

Diesel Falls to Its Lowest Price in a Year

For the week ending February 13, the U.S. average **price of diesel** fell 9.5 cents to $4.444 per gallon. This marked the first time the price fell below $4.50 since the week ending February 28, 2022 (when the price was $4.104). According to the U.S. Energy Information Administration, the price for the week ending February 13 was 42.5 cents above the same time last year, but 24 percent lower than its peak in the week of June 20, 2022. Broken down by region, the price of diesel fell since last week in all 10 regions, falling the most (12.1 cents) in the Lower Atlantic region and falling the least (3.7 cents) in California. Down 10.4 cents since last week, the diesel price for the Midwest is 26 percent lower than its peak in June, but up 39 cents from the same week last year.

DOE Awards $118 Million To Increase Production of Biofuels

On January 26, the U.S. Department of Energy (DOE) awarded $118 million for 17 projects to accelerate the production of sustainable biofuels for U.S. transportation. The funding will contribute to meeting DOE's goal to achieve cost-competitive biofuels and at least a 70-percent reduction in greenhouse gas (GHG) emissions by 2030. The selected projects, located at universities and private companies, are expected to drive the domestic production of biofuels and bioproducts by advancing biorefinery development. The increased production of biofuels will increase the demand for rail (which moves 70 percent of ethanol) and truck transportation.

Snapshots by Sector

Export Sales

For the week ending February 2, **unshipped balances** of wheat, corn, and soybeans for marketing year (MY) 2022/23 totaled 27.94 million metric tons (mmt), down 28 percent from the same time last year and down 3 percent from last week. Net **corn export sales** for MY 2022/23 were 1.160 mmt, down 27 percent from last week. Net **soybean export sales** were 0.459 mmt, down 38 percent from last week. Net weekly **wheat export sales** were 0.131 mmt, down 4 percent from last week.

Rail

U.S. Class I railroads originated 22,244 **grain carloads** during the week ending February 4. This was a 10-percent decrease from the previous week, 5 percent fewer than last year, and 3 percent fewer than the 3-year average.

Average February **shuttle secondary railcar bids/offers** (per car) were $280 below tariff for the week ending February 9. This was $46 less than last week and $318 lower than this week last year.

Barge

For the week ending February 11 **barged grain movements** totaled 538,650 tons. This was 5 percent lower than the previous week and 26 percent higher than the same period last year.

For the week ending February 11, 369 grain barges **moved down river**—6 fewer than last week. There were 775 grain barges **unloaded** in the New Orleans region, 11 percent higher than last week.

Ocean

For the week ending February 9, 28 **oceangoing grain vessels** were loaded in the Gulf—13 percent fewer than the same period last year. Within the next 10 days (starting February 10), 40 vessels were expected to be loaded—25 percent fewer than the same period last year.

As of February 9, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $48.00. This was 4 percent less than the previous week. The rate from the Pacific Northwest to Japan was $27.50 per mt, 3 percent less than the previous week.

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Feature Article/Calendar

Fourth-Quarter 2022 Corn and Soybean Landed Costs Set Record Highs

Transportation costs for shipping corn and soybeans from Minneapolis, MN, to Japan via the U.S. Gulf (Gulf route) increased—both from third quarter to fourth quarter 2022 (quarter to quarter) and from fourth quarter 2021 to fourth quarter 2022 (year to year). However, for shipping corn and soybeans from Minneapolis, MN, to Japan via the Pacific Northwest (PNW route), transportation costs decreased, both from quarter to quarter and year to year.

For the Gulf route, landed costs for shipping corn and soybeans rose quarter to quarter and year to year (tables 1 and 2). The main driver of increased landed costs was rising transportation costs, specifically barge transportation costs. For the PNW route, landed costs for shipping corn and soybeans rose year to year, but declined quarter to quarter. The main driver of increased year-to-year landed costs for the PNW route was rising corn and soybean farm values. Fourth-quarter 2022 total landed costs for Gulf-route corn and Gulf and PNW-route soybeans set record fourth-quarter highs (see figure, page 3). Total landed costs for PNW-route corn were the highest since fourth quarter 2012.

U.S. Gulf Costs

U.S. Gulf transportation costs. Transportation costs for shipping corn and soybeans via the Gulf route rose 30 percent quarter to quarter (see table 1). The rise reflected a 104-percent increase in barge rates due to record-low water levels on the Mississippi River System, which stymied navigation and decreased draft and tow sizes (*Grain Transportation Report (GTR)*, January 26, 2023). Truck and ocean rates fell 14 percent and 9 percent, respectively.

With the spike in barge freight rates (up 168 percent from the year before), transportation costs for shipping corn and soybeans via the Gulf route jumped 32 percent year to year (table 1). The rise in transportation costs also included a 10-percent increase in truck rates due to rising costs, such as higher diesel fuel prices. Transportation costs were 73 percent higher than the 5-year average for corn and soybeans.

Table 1: Cost of shipping corn and soybeans from Minneapolis to Japan through the U.S. Gulf

	Corn					Soybeans				
	$/metric ton			Percent change		$/metric ton			Percent Change	
	4th qtr. '21	3rd qtr. '22	4th qtr. '22	Yr. to Yr.	Qtr to Qtr	4th qtr. '21	3rd qtr. '22	4th qtr. '22	Yr. to Yr.	Qtr to Qtr
Truck	14.79	19.07	16.31	10.28	-14.47	14.79	19.07	16.31	10.28	-14.47
Barge[1]	35.24	46.33	94.50	168.16	103.97	35.24	46.33	94.50	168.16	103.97
Ocean	78.50	64.90	59.07	-24.75	-8.98	78.50	64.90	59.07	-24.75	-8.98
Total transportation cost	128.53	130.30	169.88	32.17	30.38	128.53	130.30	169.88	32.17	30.38
Farm value[3]	202.22	277.81	246.97	22.13	-11.10	448.27	531.56	509.51	13.66	-4.15
Total landed cost	330.75	408.11	416.85	26.03	2.14	576.80	661.86	679.39	17.79	2.65
Transportation % landed cost	38.86	31.93	40.75			22.28	19.69	25.00		

Table 2: Cost of shipping corn and soybeans from Minneapolis to Japan through the Pacific Northwest

	Corn					Soybeans				
	$/metric ton			Percent change		$/metric ton			Percent Change	
	4th qtr. '21	3rd qtr. '22	4th qtr. '22	Yr. to Yr.	Qtr to Qtr	4th qtr. '21	3rd qtr. '22	4th qtr. '22	Yr. to Yr.	Qtr to Qtr
Truck	14.79	19.07	16.31	10.28	-14.47	14.79	19.07	16.31	10.28	-14.47
Rail[2]	53.43	53.43	56.21	5.20	5.20	60.58	61.57	63.56	4.92	3.23
Ocean	42.49	37.93	34.02	-19.93	-10.31	42.49	37.93	34.02	-19.93	-10.31
Total Transportation Cost	110.71	110.43	106.54	-3.77	-3.52	117.86	118.57	113.89	-3.37	-3.95
Farm Value[3]	202.22	277.81	246.97	22.13	-11.10	448.27	531.56	509.51	13.66	-4.15
Total Landed Cost	312.93	388.24	353.51	12.97	-8.95	566.13	650.13	623.40	10.12	-4.11
Transportation % Landed Cost	35.38	28.44	30.14			20.82	18.24	18.27		

[1] Barge rates are from Minneapolis, MN to the Gulf.

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

[3] USDA, National Agricultural Statistics Service is the source for corn and soybean prices.

Note: qtr. = quarter; yr. = year.

Source: USDA, Agricultural Marketing Service.

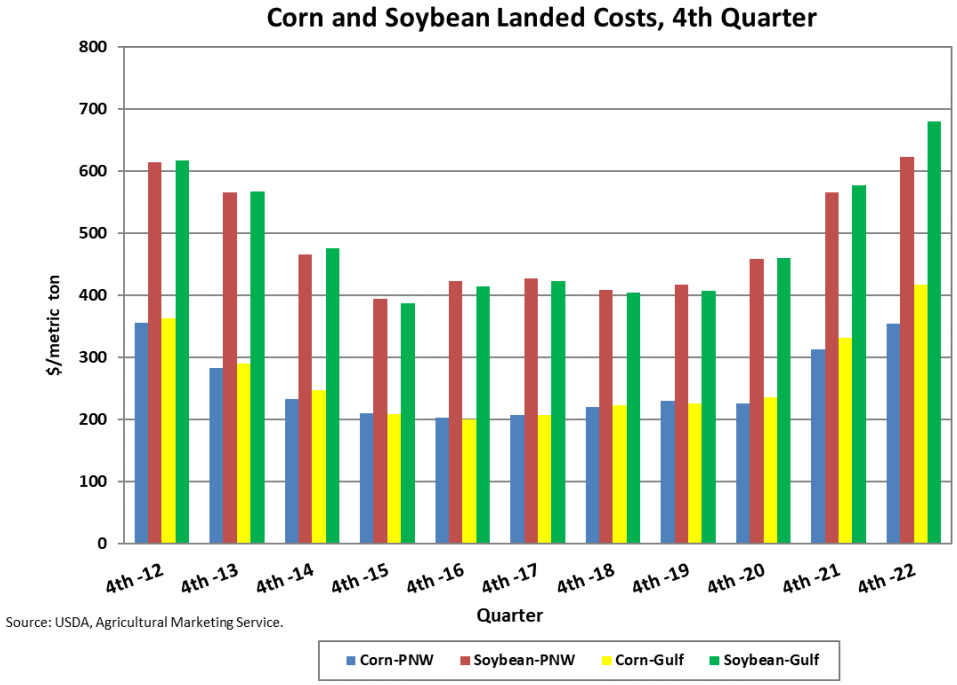
U.S. Gulf landed costs. Fourth-quarter total landed costs for shipping via the Gulf route were $417 per metric ton (mt) for corn and $679 per mt for soybeans (see figure, page 3). Quarter to quarter, landed costs for shipping via the Gulf route

increased 2 percent for corn and rose 3 percent for soybeans. These increases were mainly in response to higher barge freight rates (table 1).

Fourth-quarter transportation costs for shipping corn via the Gulf route represented 41 percent of total landed costs. Total landed costs were up 2 percent quarter to quarter and up 26 percent year to year. Fourth-quarter transportation costs for shipping soybeans via the Gulf route accounted for 25 percent of landed costs. Total landed costs were up 3 percent quarter to quarter and up 18 percent year to year.

Pacific Northwest Costs

PNW transportation costs. Transportation costs for shipping via the PNW route dropped 4 percent each for corn and soybeans, from quarter to quarter. For both commodities, rail rates increased, but truck and ocean freight rates decreased, reflecting low trade activity in grain and a decrease in fuel prices (*GTR*, February 9, 2023).



Source: USDA, Agricultural Marketing Service.

Year to year, transportation costs decreased 4 percent for corn and fell 3 percent for soybeans (table 2). Truck and rail rates for shipping to PNW increased for both commodities, while ocean freight rates decreased.

PNW landed costs. Total fourth-quarter landed costs were $354 per mt for corn and $623 per mt for soybeans (see figure). Quarter to quarter, total landed costs for shipping corn and soybeans decreased 9 percent and 4 percent, respectively. The drops were in response to lower farm values, ocean freight rates, and truck freight rates. Year to year, total landed costs increased 13 percent for corn and rose 10 percent for soybeans—in both cases, reflecting higher truck rates, rail freight rates, and farm values. For corn, transportation costs represented 30 percent of landed costs, which were up quarter to quarter and down year to year. For soybeans, transportation costs represented 18 percent of landed costs, which were slightly up quarter to quarter and down year to year.

Fourth-Quarter Corn and Soybean Inspections and USDA Projections

Fourth-quarter inspections. Fourth-quarter export inspections of corn decreased 33 percent from 2021, primarily because of decreased shipments to Asia and Latin America (see *GTR*, February 2, 2023), according to USDA's Federal Grain Inspection Service. Year to year, inspections of corn destined to Japan plummeted 58 percent, to 0.8 mmt. Inspections of corn exported to the rest of Asia and Latin America also fell year to year. Fourth-quarter soybean inspections destined to Japan slightly increased from 2021, to 0.688 mmt.

Marketing-year forecasts. According to USDA's February *World Agricultural Supply and Demand Estimates (WASDE)* report, the forecast for U.S. corn exports for the current marketing year (MY 2022/23) is down 22 percent from MY 2021/22 (unchanged from January's forecast). This decrease is mainly due to declining amounts of corn used for ethanol and lower projections for the global consumption of corn. The February forecast for MY 2022/23 U.S. soybean exports is unchanged from January and down 8 percent from MY 2021/22. At next week's Agricultural Outlook Forum (offered in-person and virtually), USDA will release its first projections (e.g., production, exports, etc.) for the next marketing year (MY 2023/24).

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Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
02/15/23	298	327	247	285	215	195
02/08/23	305	327	249	333	224	200

[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.

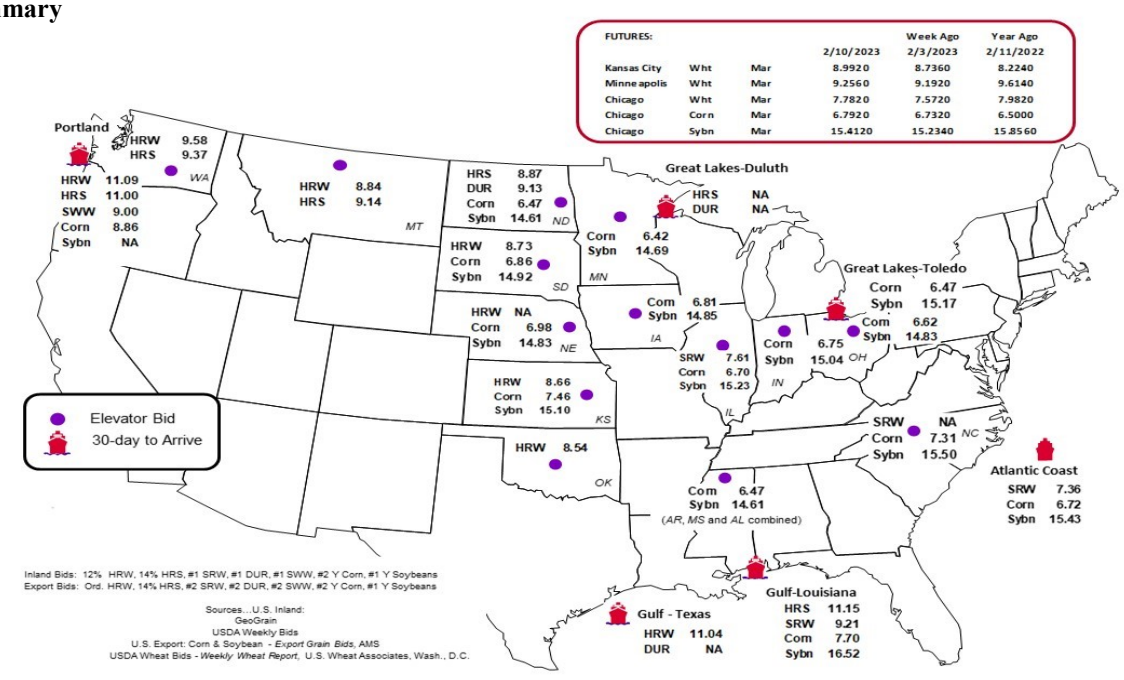
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	2/10/2023	2/3/2023
Corn	IL–Gulf	-1.00	-1.00
Corn	NE–Gulf	-0.72	-0.71
Soybean	IA–Gulf	-1.67	-1.64
HRW	KS–Gulf	-2.38	-2.33
HRS	ND–Portland	-2.13	-2.19

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	
2/4/2023	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,913	2,642	10,860	1,394	5,435	22,244	5,512	4,689
This week last year	1,407	1,641	12,359	1,264	6,809	23,480	2,554	3,024
2023 YTD	10,174	14,585	58,163	6,687	29,558	119,167	27,427	24,461
2022 YTD	8,770	11,026	59,060	6,942	32,249	118,047	16,468	16,766
2023 YTD as % of 2022 YTD	116	132	98	96	92	101	167	146
Last 4 weeks as % of 2022*	105	142	99	89	93	101	168	151
Last 4 weeks as % of 3-yr. avg.**	102	124	99	113	101	103	137	126
Total 2022	93,313	130,245	570,232	66,338	296,945	1,157,073	214,445	214,010

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

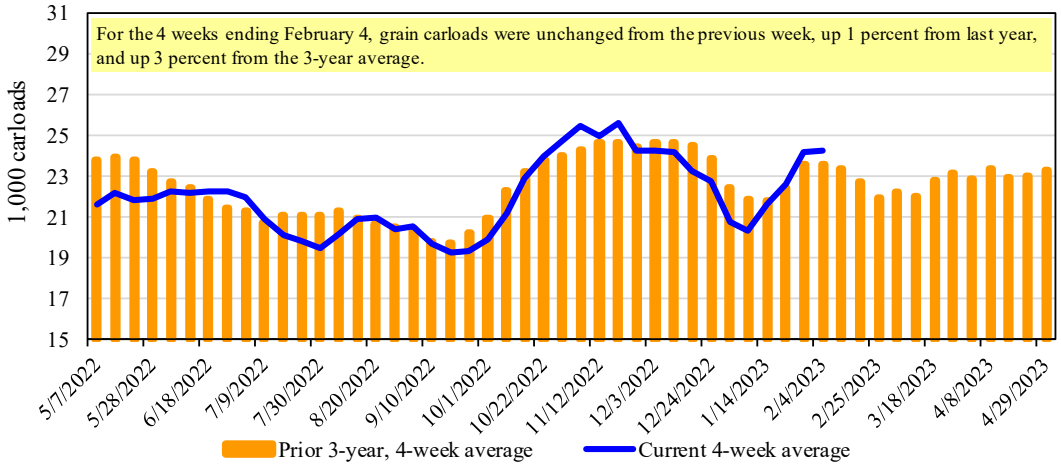
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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							
2/9/2023		Feb-23	Feb-22	Mar-23	Mar-22	Apr-23	Apr-22	May-23	May-22
BNSF[3]	COT grain units	no offer	no bids	no offer	no bids	no offer	no bids	no offer	no bids
	COT grain single-car	no offer	no bids	no offer	0	101	0	101	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.

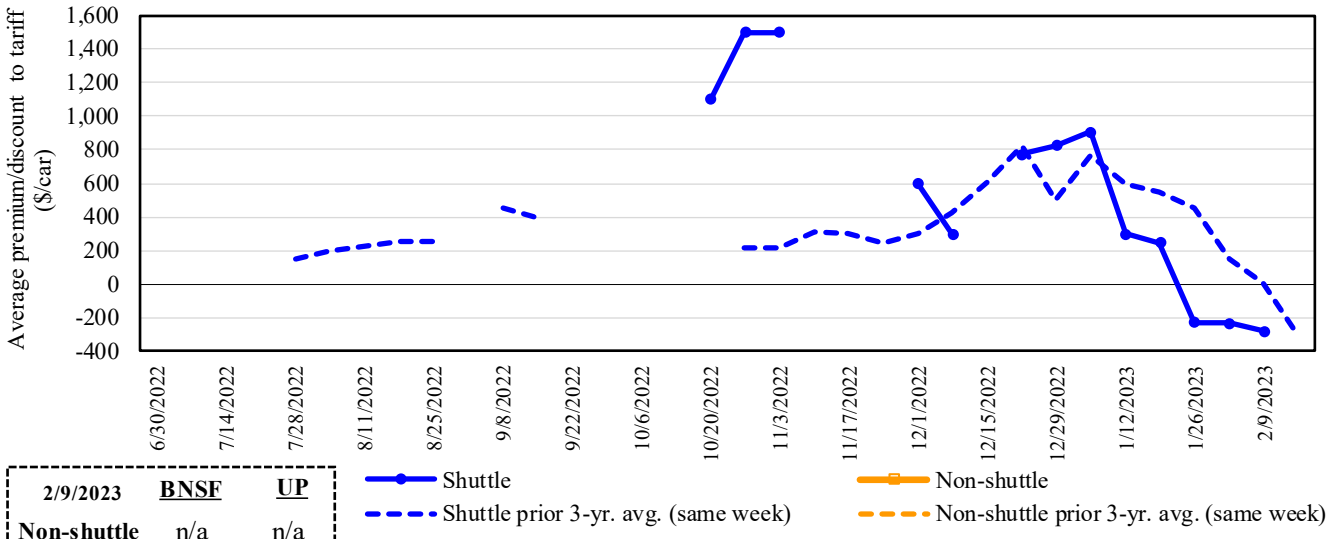
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

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 February 2023



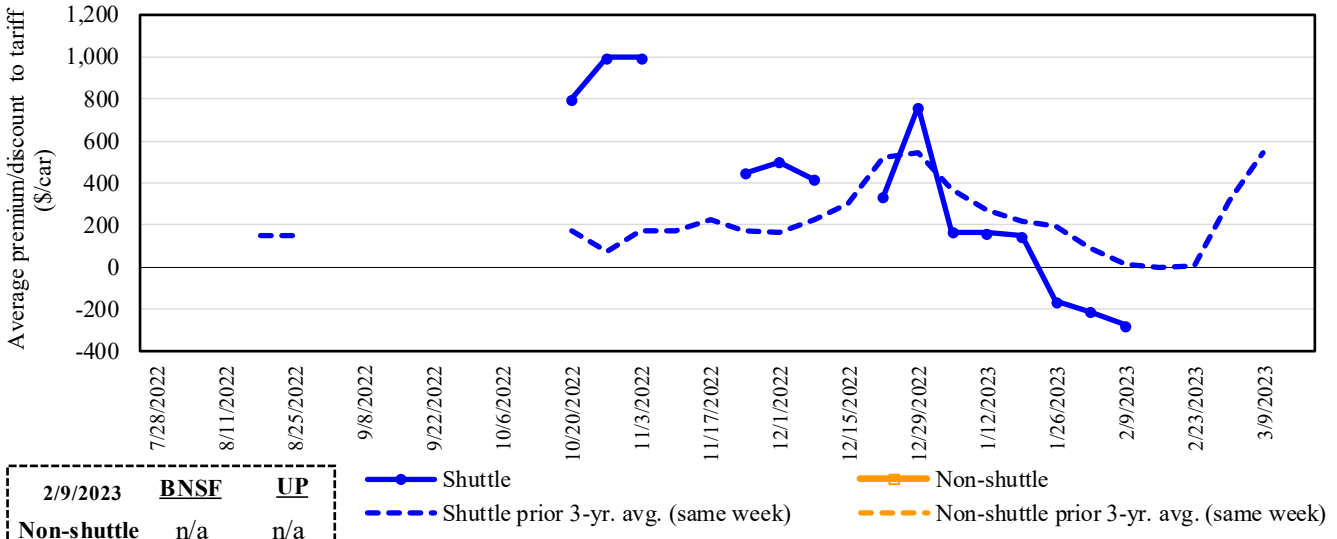
2/9/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$350	-$210

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $46 this week and are $1,780 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 March 2023



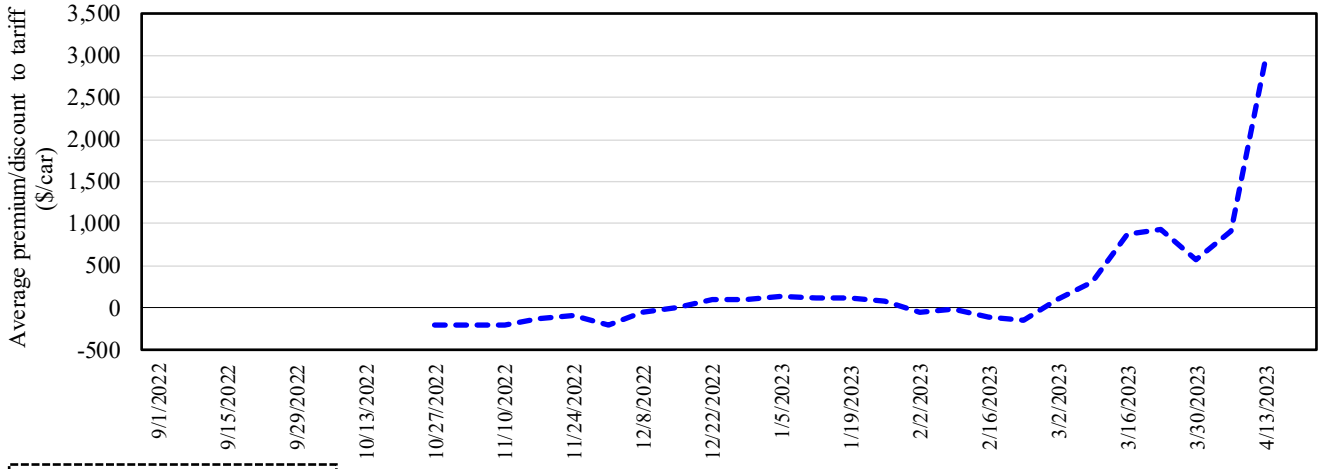
2/9/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$263	-$288

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $63 this week and are $1,275 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 2023



2/9/2023	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.

Table 5

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

	For the week ending: 2/9/2023	Delivery period					
		Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-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**	**(350)**	**(263)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(137)	(63)	n/a	n/a	n/a	n/a
	Change from same week 2022	(350)	(175)	n/a	n/a	n/a	n/a
	UP-Pool	**(210)**	**(288)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	46	(63)	n/a	n/a	n/a	n/a
	Change from same week 2022	(285)	(438)	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]

February 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	$268	$39.36	$1.07	3
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$110	$39.41	$1.07	8
	Wichita, KS	Los Angeles, CA	$7,490	$566	$80.00	$2.18	8
	Wichita, KS	New Orleans, LA	$4,600	$472	$50.36	$1.37	8
	Sioux Falls, SD	Galveston-Houston, TX	$7,226	$465	$76.37	$2.08	8
	Colby, KS	Galveston-Houston, TX	$4,850	$517	$53.29	$1.45	7
	Amarillo, TX	Los Angeles, CA	$5,121	$719	$58.00	$1.58	5
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$533	$45.02	$1.14	5
	Toledo, OH	Raleigh, NC	$8,551	$585	$90.72	$2.30	8
	Des Moines, IA	Davenport, IA	$2,655	$113	$27.49	$0.70	8
	Indianapolis, IN	Atlanta, GA	$6,593	$439	$69.83	$1.77	8
	Indianapolis, IN	Knoxville, TN	$5,564	$284	$58.08	$1.48	8
	Des Moines, IA	Little Rock, AR	$4,250	$332	$45.50	$1.16	9
	Des Moines, IA	Los Angeles, CA	$6,130	$966	$70.47	$1.79	10
Soybeans	Minneapolis, MN	New Orleans, LA	$3,856	$816	$46.39	$1.26	15
	Toledo, OH	Huntsville, AL	$7,037	$417	$74.02	$2.01	7
	Indianapolis, IN	Raleigh, NC	$7,843	$593	$83.77	$2.28	8
	Indianapolis, IN	Huntsville, AL	$5,689	$282	$59.29	$1.61	8
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$533	$53.61	$1.46	8
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$326	$46.86	$1.28	10
	Wichita, KS	Galveston-Houston, TX	$4,311	$253	$45.33	$1.23	2
	Chicago, IL	Albany, NY	$7,090	$552	$75.89	$2.07	9
	Grand Forks, ND	Portland, OR	$6,051	$562	$65.67	$1.79	10
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$586	$59.43	$1.62	12
	Colby, KS	Portland, OR	$5,923	$847	$67.23	$1.83	4
Corn	Minneapolis, MN	Portland, OR	$5,660	$685	$63.01	$1.60	14
	Sioux Falls, SD	Tacoma, WA	$5,620	$627	$62.04	$1.58	13
	Champaign-Urbana, IL	New Orleans, LA	$4,170	$533	$46.70	$1.19	11
	Lincoln, NE	Galveston-Houston, TX	$4,360	$366	$46.93	$1.19	13
	Des Moines, IA	Amarillo, TX	$4,670	$417	$50.52	$1.28	9
	Minneapolis, MN	Tacoma, WA	$5,660	$679	$62.95	$1.60	14
	Council Bluffs, IA	Stockton, CA	$5,580	$703	$62.39	$1.58	14
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$627	$69.29	$1.89	12
	Minneapolis, MN	Portland, OR	$6,400	$685	$70.36	$1.91	13
	Fargo, ND	Tacoma, WA	$6,250	$558	$67.60	$1.84	12
	Council Bluffs, IA	New Orleans, LA	$5,095	$615	$56.70	$1.54	9
	Toledo, OH	Huntsville, AL	$5,277	$417	$56.54	$1.54	9
	Grand Island, NE	Portland, OR	$5,730	$868	$65.52	$1.78	14

[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

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]	Tariff rate plus fuel surcharge per: 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.

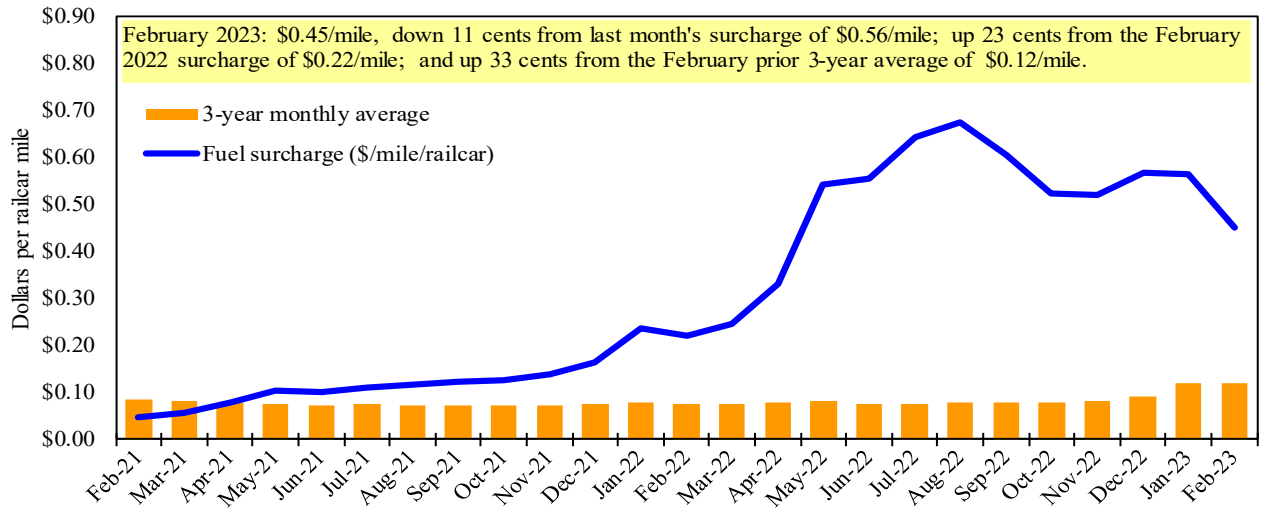
[4]Percentage change calculated using tariff rate plus fuel surchage; Y/Y = year over year.

[5] As of January 1, 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]



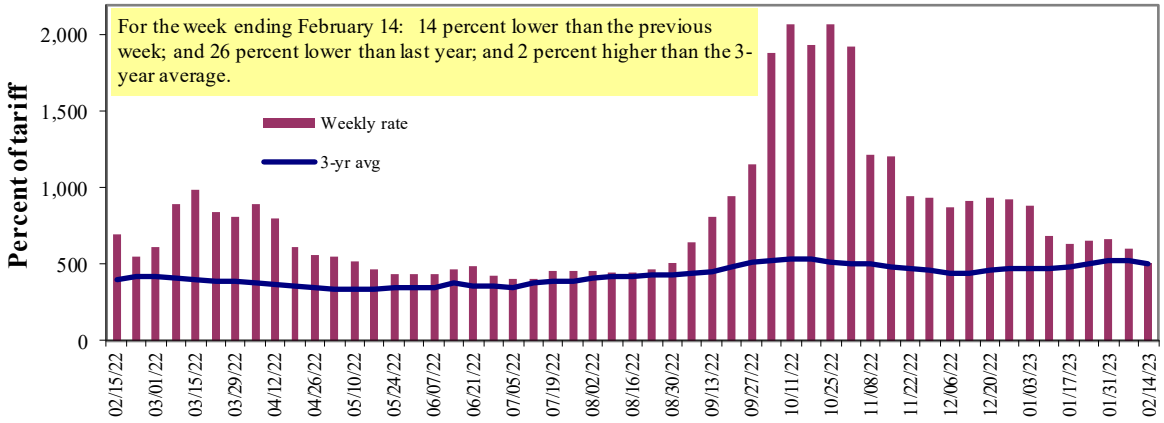
[1] Weighted by each Class I railroad's proportion of grain traffic for the prior year.

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

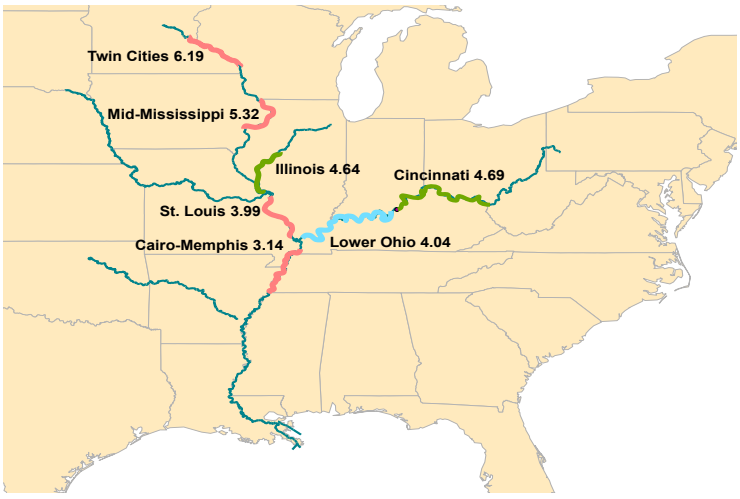
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	2/14/2023	-	-	513	388	488	488	316
	2/7/2023	-	-	599	465	520	520	348
$/ton	2/14/2023	-	-	23.80	15.48	22.89	19.72	9.92
	2/7/2023	-	-	27.79	18.55	24.39	21.01	10.93
Current week % change from the same week:								
	Last year	-	-	-26	-32	-23	-23	-34
	3-year avg. [2]	-	-	2	1	15	15	-6
Rate[1]	March	-	546	513	379	463	463	309
	May	549	518	498	368	438	438	302

[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

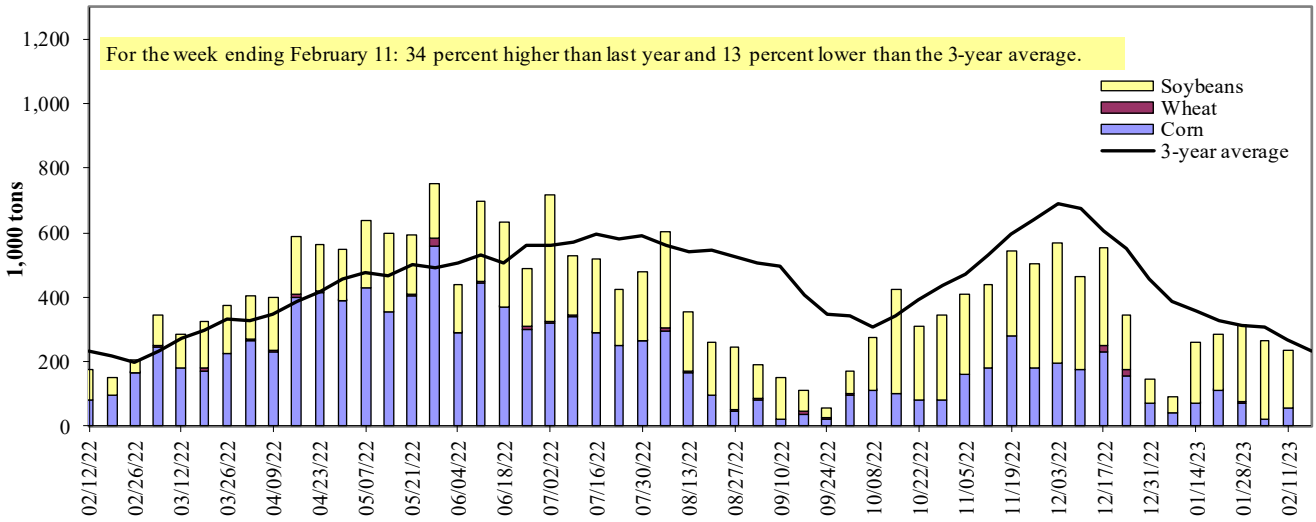
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 weeks.

Source: U.S. Army Corps of Engineers.

Table 9

Barge grain movements (1,000 tons)

For the week ending 02/11/2023	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)	81	0	196	0	278
Granite City, IL (L27)	57	0	178	0	236
Illinois River (La Grange)	52	0	135	0	187
Ohio River (Olmsted)	156	16	113	0	285
Arkansas River (L1)	0	10	8	0	18
Weekly total - 2023	214	26	299	0	539
Weekly total - 2022	208	22	187	9	426
2023 YTD[1]	978	106	2,158	62	3,304
2022 YTD[1]	1,534	150	1,599	26	3,309
2023 as % of 2022 YTD	64	71	135	239	100
Last 4 weeks as % of 2022[2]	69	96	137	303	106
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.

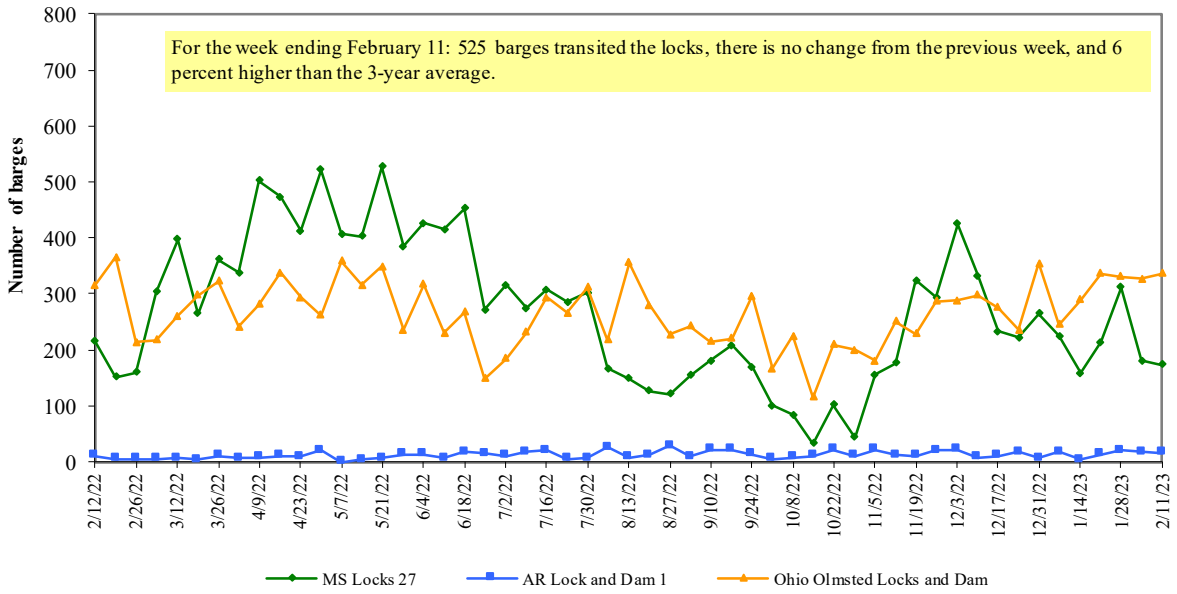
[2] As a percent of same period in 2022.

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 lock and vessel 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

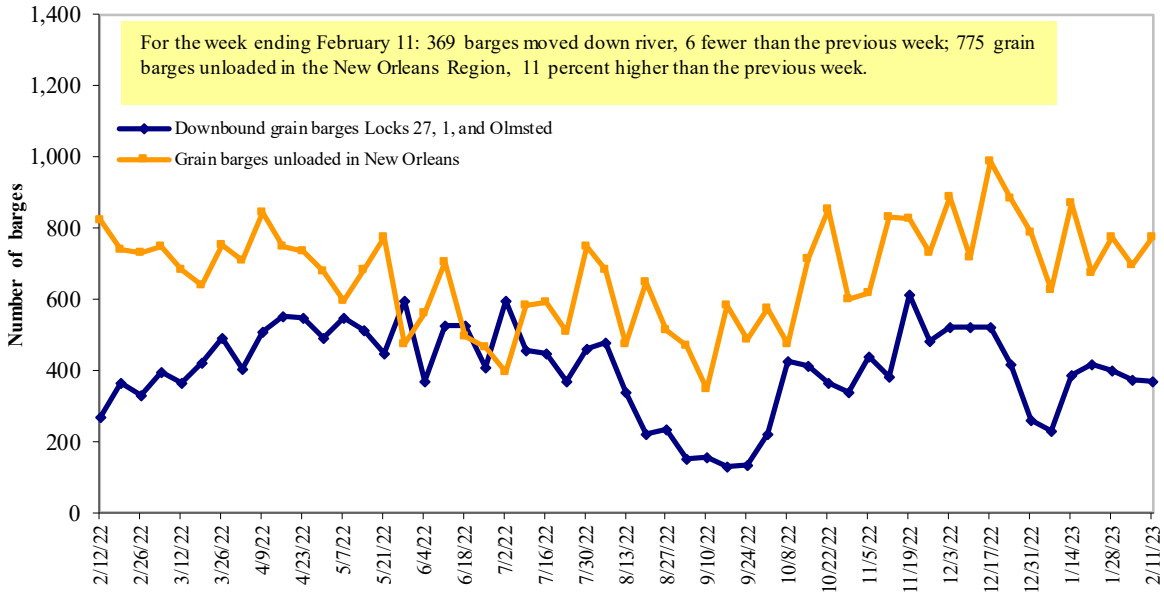


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

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 2/13/2023 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.653	-0.099	0.590
	New England	5.054	-0.063	1.047
	Central Atlantic	4.948	-0.052	0.738
	Lower Atlantic	4.503	-0.121	0.523
II	Midwest	4.274	-0.104	0.390
III	Gulf Coast	4.150	-0.099	0.365
IV	Rocky Mountain	4.660	-0.081	0.749
V	West Coast	5.033	-0.053	0.382
	West Coast less California	4.674	-0.068	0.413
	California	5.445	-0.037	0.451
Total	United States	4.444	-0.095	0.425

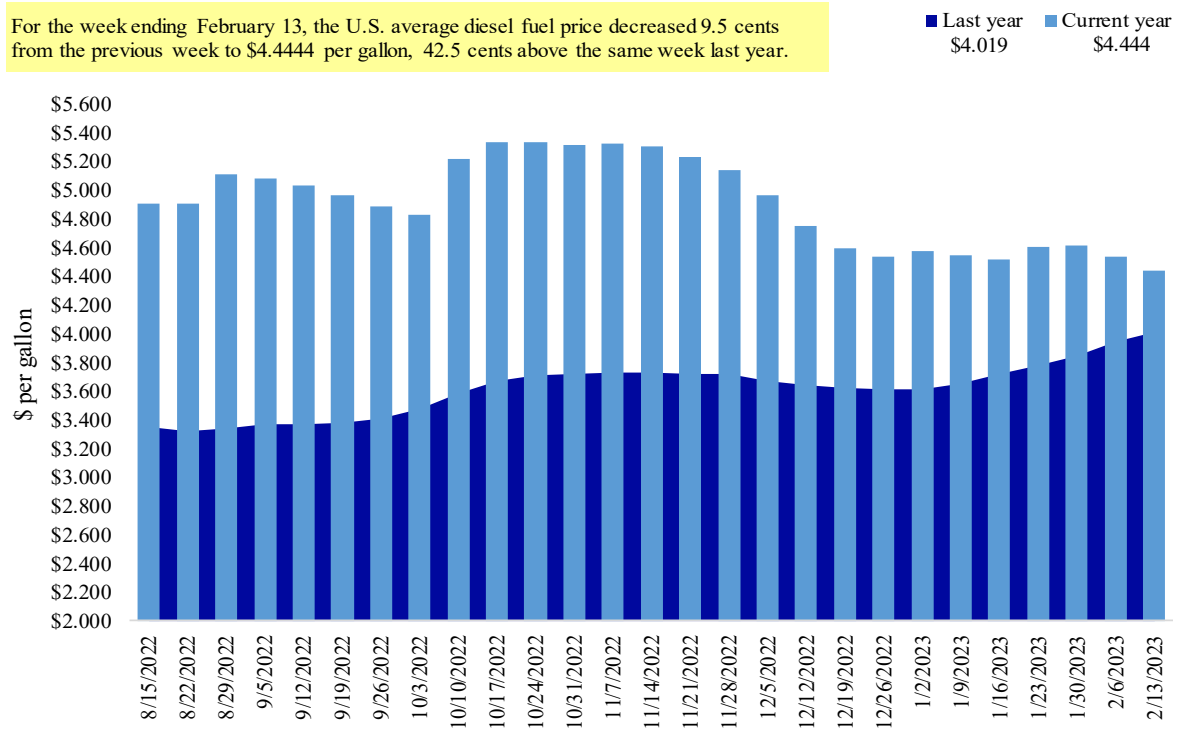
[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

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



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]									
2/2/2023	895	634	1,168	1,059	83	3,839	13,787	10,314	27,940
This week year ago	1,937	652	1,182	698	55	4,523	24,997	9,163	38,684
Cumulative exports-marketing year[2]									
2022/23 YTD	3,592	1,917	3,708	3,017	229	12,463	13,006	37,417	62,886
2021/22 YTD	4,958	1,908	3,466	2,379	113	12,824	20,715	37,597	71,136
YTD 2022/23 as % of 2021/22	72	100	107	127	202	97	63	100	88
Last 4 wks. as % of same period 2021/22	49	104	110	174	211	94	51	133	75
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 2/2/2023	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	11,995	13,397	(10)	15,227
China	4,355	12,070	(64)	12,616
Japan	2,527	5,952	(58)	10,273
Columbia	931	2,895	(68)	4,398
Korea	211	82	158	2,563
Top 5 importers	**20,019**	**34,395**	(42)	**45,077**
Total U.S. corn export sales	**26,792**	**45,712**	(41)	**56,665**
% of projected exports	55%	73%		
Change from prior week[2]	**1,160**	**589**		
Top 5 importers' share of U.S. corn export sales	75%	75%		80%
USDA forecast February 2023	**48,982**	**62,875**	(22)	
Corn use for ethanol USDA forecast, February 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 2/2/2023	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	29,542	25,693	15	27,283
Mexico	3,724	4,427	(16)	4,929
Egypt	782	2,287	(66)	3,553
Japan	1,656	1,527	8	2,266
Indonesia	866	944	(8)	2,116
Top 5 importers	**36,571**	**34,879**	5	**40,147**
Total U.S. soybean export sales	**47,731**	**46,760**	2	**54,231**
% of projected exports	88%	80%		
change from prior week[2]	**459**	**1,596**		
Top 5 importers' share of U.S. soybean export sales	77%	75%		**74%**
USDA forecast, February 2023	**54,223**	**58,801**	(8)	

[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 2/2/2023	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	2,810	2,986	(6)	3,566
Philippines	1,792	2,545	(30)	2,985
Japan	1,895	2,037	(7)	2,453
China	750	848	(12)	1,537
Nigeria	706	1,861	(62)	1,528
Korea	1,132	1,105	2	1,459
Taiwan	652	764	(15)	1,106
Indonesia	299	67	346	711
Thailand	593	531	12	703
Colombia	461	561	(18)	621
Top 10 importers	**11,090**	**13,303**	(17)	**16,669**
Total U.S. wheat export sales	**16,302**	**17,347**	(6)	**22,763**
% of projected exports	77%	80%		
change from prior week[2]	**131**	**85**		
Top 10 importers' share of U.S. wheat export sales	68%	77%		73%
USDA forecast, February 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 02/09/23	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	298	402	74	1,558	1,278	122	121	102	9,836
Corn	1	1	n/a	485	1,228	40	25	31	9,615
Soybeans	346	575	60	2,799	2,532	111	122	142	14,178
Total	**645**	**978**	**66**	**4,842**	**5,038**	**96**	**99**	**106**	**33,629**
Mississippi Gulf									
Wheat	43	111	39	273	431	63	82	92	4,053
Corn	317	287	110	1,702	4,354	39	44	48	30,781
Soybeans	1,041	1,080	96	6,277	4,463	141	158	137	31,283
Total	**1,401**	**1,478**	**95**	**8,252**	**9,249**	**89**	**98**	**96**	**66,116**
Texas Gulf									
Wheat	57	34	167	210	354	59	66	76	3,421
Corn	0	0	n/a	28	114	25	25	37	648
Soybeans	0	0	n/a	52	0	n/a	0	0	685
Total	**57**	**34**	**167**	**290**	**468**	**62**	**54**	**50**	**4,754**
Interior									
Wheat	60	75	80	350	306	114	126	145	2,912
Corn	184	197	93	1,045	996	105	100	108	8,961
Soybeans	136	274	50	1,122	900	125	119	119	7,109
Total	**380**	**547**	**70**	**2,517**	**2,202**	**114**	**112**	**118**	**18,982**
Great Lakes									
Wheat	12	0	n/a	15	6	249	202	167	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	**12**	**0**	**n/a**	**18**	**6**	**285**	**231**	**191**	**1,312**
Atlantic									
Wheat	28	0	n/a	35	4	781	n/a	n/a	169
Corn	0	0	n/a	16	22	73	38	114	309
Soybeans	59	86	69	517	388	133	107	113	2,867
Total	**87**	**86**	**102**	**568**	**415**	**137**	**116**	**126**	**3,345**
U.S. total from ports*									
Wheat	497	622	80	2,441	2,379	103	110	105	20,786
Corn	502	485	104	3,276	6,715	49	48	54	50,471
Soybeans	1,582	2,016	78	10,769	8,284	130	139	133	56,882
Total	**2,582**	**3,123**	**83**	**16,487**	**17,379**	**95**	**99**	**101**	**128,139**

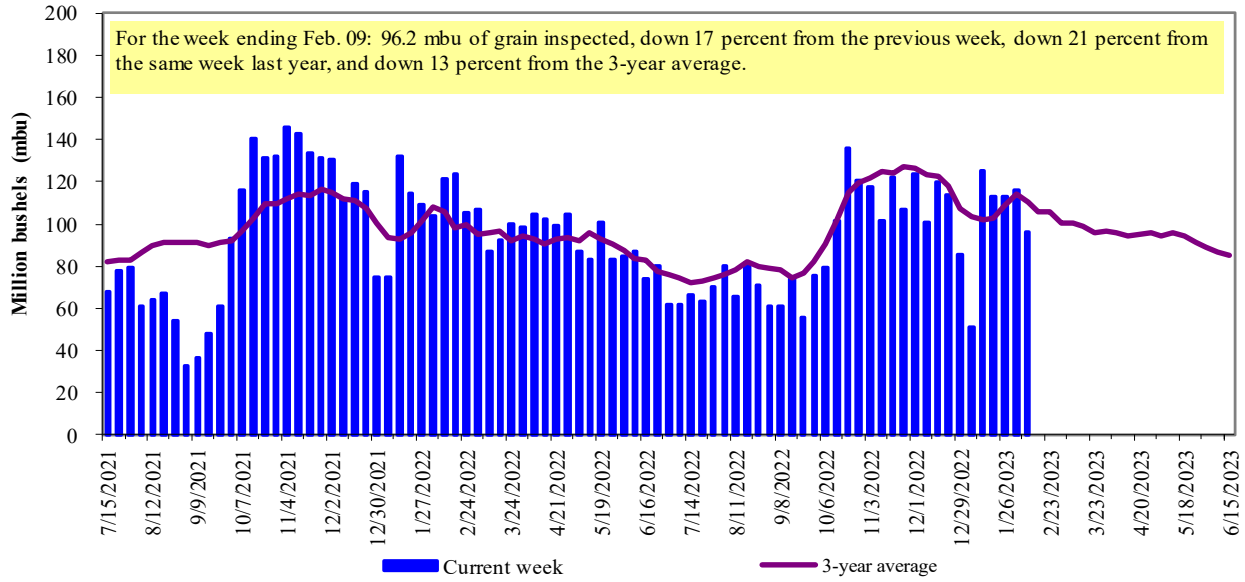
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

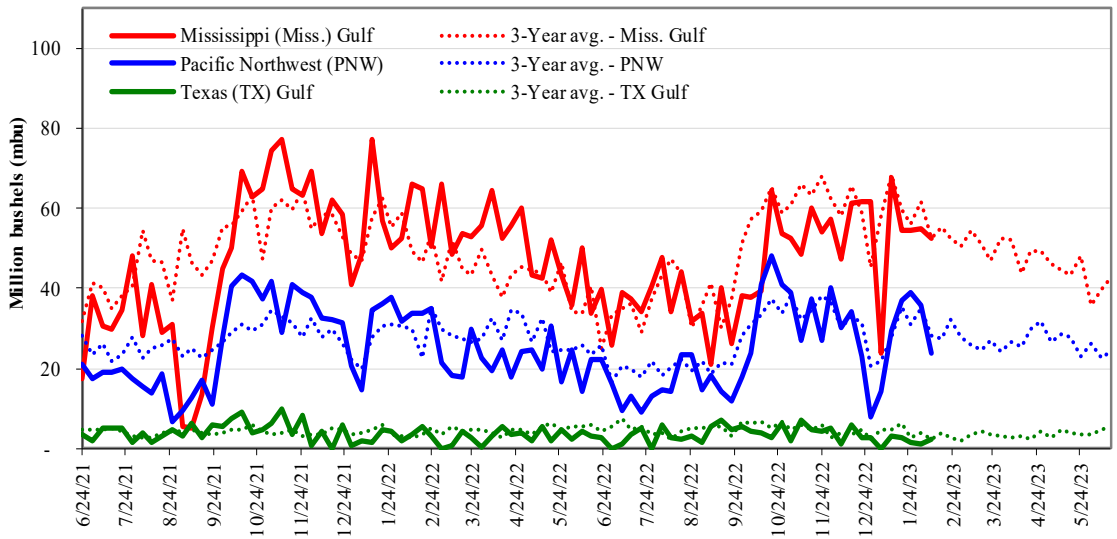


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 14

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



Week ending 02/09/23 inspections (mbu):	
MS Gulf:	52.3
PNW:	23.7
TX Gulf:	2.1

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 5	up 67	down 3	down 34
Last Year (same wk):	down 21	down 36	down 22	down 29
3-yr avg. (4-wk. mov. Avg):	down 9	down 44	down 11	down 27

Source: USDA, Federal Grain Inspection Service.

Ocean Transportation

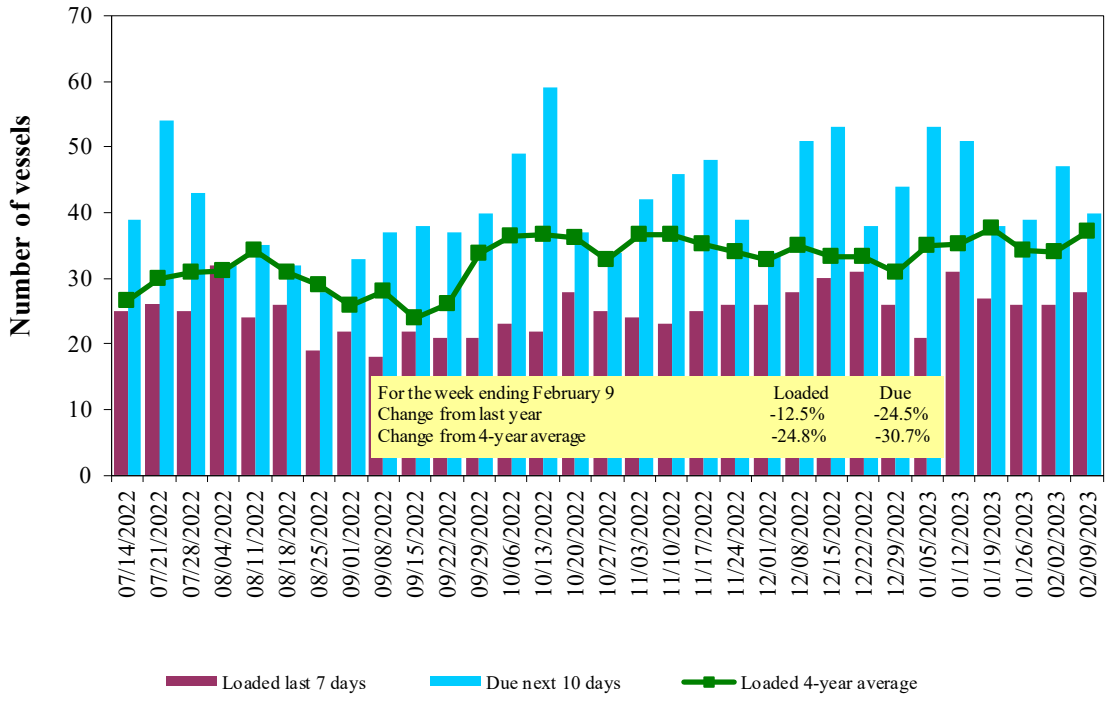
Table 16

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
2/9/2023	24	28	40	13
2/2/2023	23	26	47	14
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.

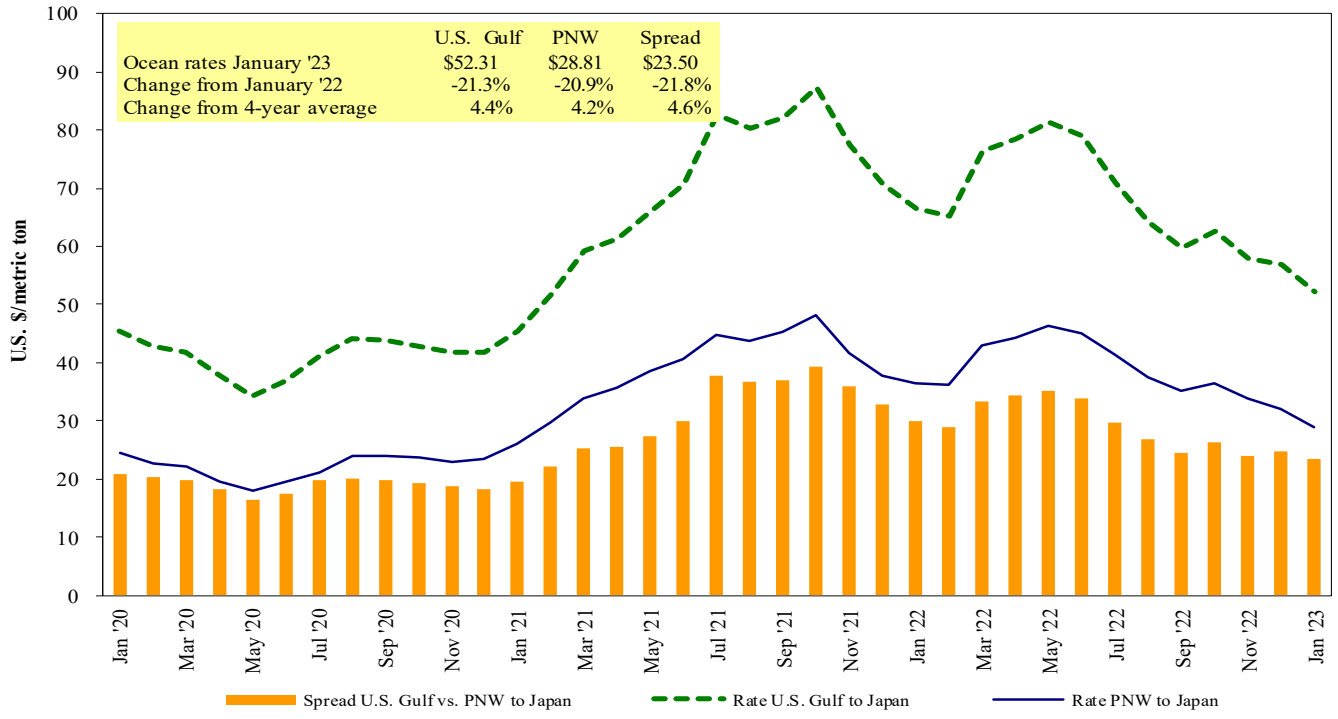
Figure 15
U.S. Gulf[1] vessel loading activity



[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 02/11/2023

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

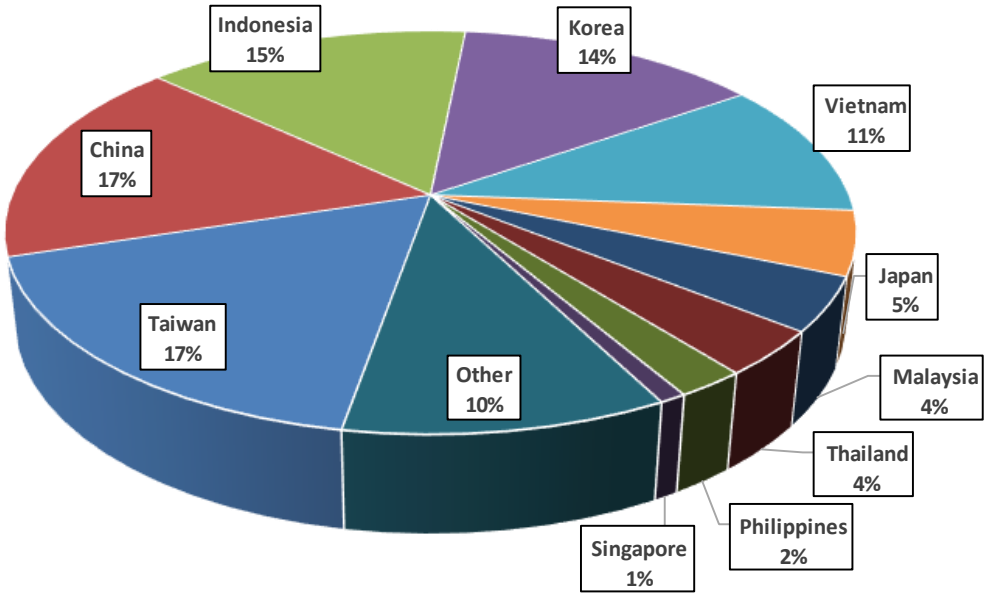
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

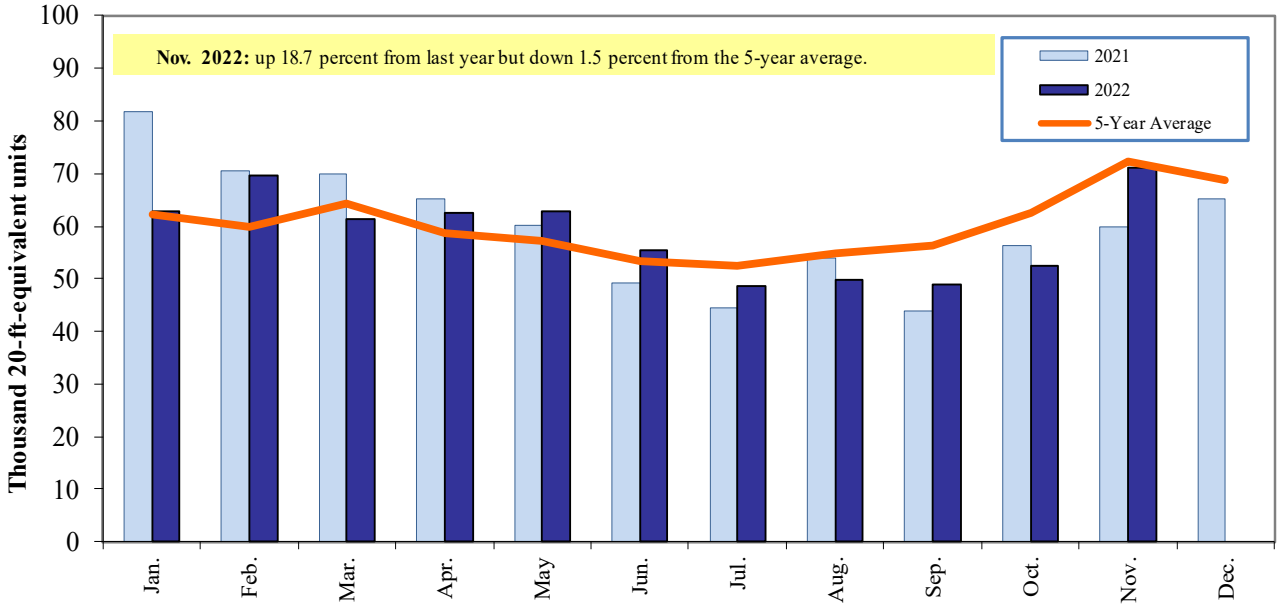
Figure 17
Top 10 destination markets for U.S. containerized grain exports, Jan-Nov 2022



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.

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