United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service

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Contact Us

October 13, 2022

Contents

The next release is October 20, 2022

WEEKLY HIGHLIGHTS

Union Rejects Tentative Agreement With Railroads

On Monday, October 11, the Brotherhood of Maintenance of Way Employees Division (BMWED) rejected its tentative agreement with the railroads—an action which reintroduces the possibility of a freight rail workers strike. Fifty-six percent of BMWED membership voted against making the agreement permanent. According to BMWED, the rejection of the agreement has resulted in a period of "status quo" (i.e., pre-agreement) conditions, forestalling a strike by the union until after November 19. Class I railroads have reduced their workforce significantly in recent years and now face a labor shortage. The lack of available labor is the primary factor behind the ongoing rail service problems impacting grain and other shippers.

Port of New York and New Jersey Implements Container Dwell Fee

On August 1, the Port of New York and New Jersey requested comments on its proposed container-imbalance tariff to address empty containers left behind by ocean carriers. The new tariff—revised according to ocean carrier's feedback—took effect October 1. The port authority will assess the new $100-per-container fee for each quarter in which an ocean carrier's empty units exceed its import/export balance. Also, the new tariff will introduce phased increases to the portions of excess empty containers that carriers must clear. In first quarter 2023, carriers must clear 25 percent of their excess empties. With each subsequent quarter, the portion to be cleared will rise another 25 percent until, by the end of next year, all empty containers should be cleared. To further enhance temporary storage of empties, the port authority has repurposed 12 acres in nearby ports. In 2020, the Port of New York and New Jersey handled 1.1 million metric tons (mmt) of containerized grain, 13 percent of the total of all U.S. ports.

BNSF Builds Southern California Facility for Intermodal Transloading

BNSF Railway (BNSF) plans to build a new $1.5 billion multiuse rail facility in Southern California to ease movement of inland containers from the West Coast ports. Encompassing approximately 4,500 acres, the Barstow International Gateway facility will include a rail yard, an intermodal facility, and warehousing—all of which will facilitate transloading from international containers to domestic containers. From the ports of Los Angeles and Long Beach, BNSF will transport cargo to Barstow via the Alameda Corridor and the BNSF main line. BNSF expects the gateway to maximize rail and distribution efficiency while helping reduce truck traffic and highway congestion in the region. Improvements in BNSF's west-to-east intermodal service could mean better service for grain and feed shippers who rely on BNSF for service from the Midwest to California.

Snapshots by Sector

Export Sales

For the week ending September 29, **unshipped balances** of wheat, corn, and soybeans for marketing year 2022/23 totaled 39.81 million metric tons (mmt), down 22 percent from the same time last year and down 2 percent from last week. Net **corn export sales** for marketing year 2022/23 were 0.227 mmt, down 56 percent from last week. Net **soybean export sales** were 0.777 mmt, down 23 percent from last week. Net weekly **wheat export sales** were 0.229 mmt, down 18 percent from last week.

Rail

U.S. Class I railroads originated 22,745 **grain carloads** during the week ending October 1. This was a 16-percent increase from the previous week, 12 percent less than last year, and 3 percent lower than the 3-year average.

Average October shuttle **secondary railcar bids/offers** (per car) were $2,000 above tariff for the week ending October 6. This was $254 more than last week and $1,941 more than this week last year.

Barge

For the week ending October 8, **barged grain movements** totaled 648,063 tons. This was 105 percent higher than the previous week and 10 percent higher than the same period last year.

For the week ending October 8, 427 grain barges **moved down river**—207 more barges than last week. There were 472 grain barges **unloaded** in the New Orleans region, 18 percent fewer than last week.

Ocean

For the week ending October 6, 23 **oceangoing grain vessels** were loaded in the Gulf—12 percent fewer than the same period last year. Within the next 10 days (starting October 7), 49 vessels were expected to be loaded—8 percent fewer than the same period last year.

As of October 6, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $61.25. This was relatively unchanged from the previous week. The rate from the Pacific Northwest to Japan was $36.00 per mt, unchanged from the previous week.

Fuel

For the week ending October 10, the U.S. average **diesel fuel price** increased 38.8 cents from the previous week to $5.224 per gallon, 163.8 cents above the same week last year.

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Feature Article/Calendar

New Research Examines Competition Between Truck and Rail

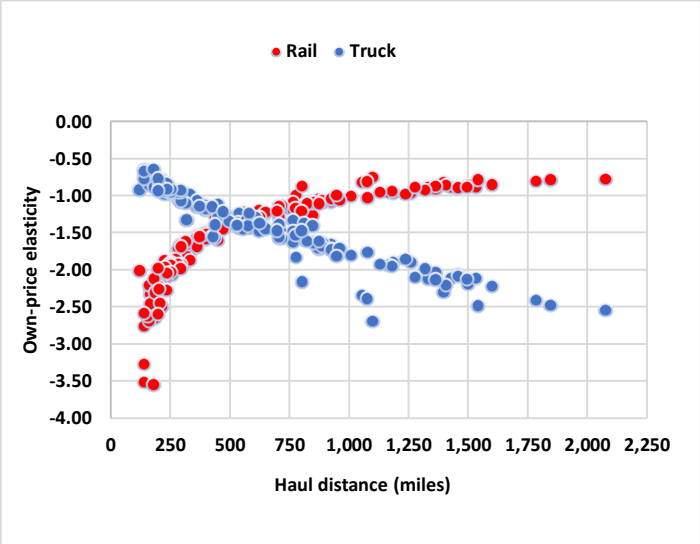
To access domestic and export markets, agricultural producers and shippers depend on truck and rail transportation—modes that both complement and compete with one another. To some extent, railroads need trucking services: trucks must be used to ship freight to rail origins and distribute it from rail destinations. Yet rail and trucking also compete—at least on some routes. Where this competition exists, it ensures shippers' access to reliable, affordable freight transportation. Typically, shippers choose a mode for a given agricultural product based on market characteristics, transportation costs, and service quality (speed, reliability, consistency, etc.). Generally, trucks are likely to be more cost efficient than rail for short distances, while rail is likely to be more cost efficient for long distances, especially for bulk commodities such as grain.

The article describes recent USDA-sponsored research from Eric Jessup, Jake Wagner, and Timur Dincer[1] at Washington State University.[2] The authors analyzed short- and long-haul competition between truck and rail to determine what factors influenced the choice of truck or rail for bulk grain shipments in different U.S. regions.[3] A demand model was used to estimate own-price and cross-price elasticities. Elasticity measures how quantity responds to a change in price—e.g., the effect of a change in the rate of one mode of transport on the quantity of service demanded of that same mode. Rail's own-price elasticity refers to the percentage change in the quantity of rail service demanded given a 1-percent change in rail rates. Cross-price elasticity refers to the effect of a change in the rate of one mode (e.g., rail) on the quantity of service demanded of another mode (e.g., truck). Elasticities estimated using 2018 data are used to evaluate how much competition exists between modes and what switching opportunities might exist on each shipping lane.[4] The next section describes the study's main results.[5]

Rail-Truck Competitiveness by Distance

The researchers found bulk grain movements by rail averaged 1,055 miles, and volumes moved per shipment averaged 14,044 tons. The per-ton-mile rate for bulk grain shipments averaged $0.09.[6] As hauls lengthened, truck demand became more elastic, because of more competition from rail freight. Rail and truck elasticities intersected at around 500 miles. For lanes under 500 miles, truck shipping demand became less elastic (nearer to zero) than rail demand. This finding suggests shippers were less sensitive to changes in truck prices for short-to-medium hauls, and more dependent on trucks in short-to-medium hauls. For lanes over 500 miles, rail shipping demand was less elastic (nearer to zero) than truck demand. This finding suggests shippers were less sensitive to changes in rail prices for long hauls, giving rail carriers more market power for long-haul freight (fig. 1).

Figure 1. Own price elasticities of grain shipping by haul distance



Source: See footnotes 3 and 4.

[1] Jessup is a research professor; Wagner is a research professor; and Dincer is a research assistant in the School of Economic Sciences at Washington State University

[2] The Transportation Services Division (TSD) of USDA's Agricultural Marketing Service continually sponsors cooperative research on transportation matters relevant to USDA stakeholders. Visit TSD's Cooperative Research Summaries page to access the full list of cooperative research reports and summaries.

[3] Data from four different data sets are collected, matched by lane, and aggregated for the 2018 study period. Data on rail carriers are provided by the Surface Transportation Board's unmasked confidential Carload Waybill Sample. Data on grain truck rates are from the Weekly Grain Hopper Truck Rates data, derived from Bulkloads rate data and maintained by USDA. Data on shipping mode shares are provided by the Freight Analysis Framework, maintained by the Bureau of Transportation Statistics and the Federal Highway Administration.

[4] Figures 1-4 are based on 2018 data.

[5] The study also analyses truck/rail competition for frozen food shipments. This article highlights the results for grain shipments.

[6] For grain shipping, ton-mile rail rates were relatively constant for hauls over 1,000 miles (about $0.085/ton-mile), but higher for shorter moves, likely to recoup the increased marginal costs for shorter shipments. Rail rate variations for different locations were generally driven by differing transport costs and competition from alternative shipping modes. The rail lanes near the Mississippi River (New Orleans) and the Columbia River (Portland) had lower rail rates than lanes where waterborne transportation was not a feasible substitute. Higher rates were typically found on lanes that originated in the Great Plains and terminated on the East Coast. On those lanes, the higher rail rates were due to the relatively short distances, lack of high-volume grain export markets (like those between the Great Plains and the Pacific Northwest), and lack of inland waterway competition.

Long, cross-country moves typically had high truck elasticities and low rail elasticities (fig. 2). Trucking was typically more competitive for short-to-medium hauls, as evidenced by the low truck elasticities (i.e., greater truck dependency) on short-to-medium hauls (fig. 3).

Mode Dominance and Switching Opportunities

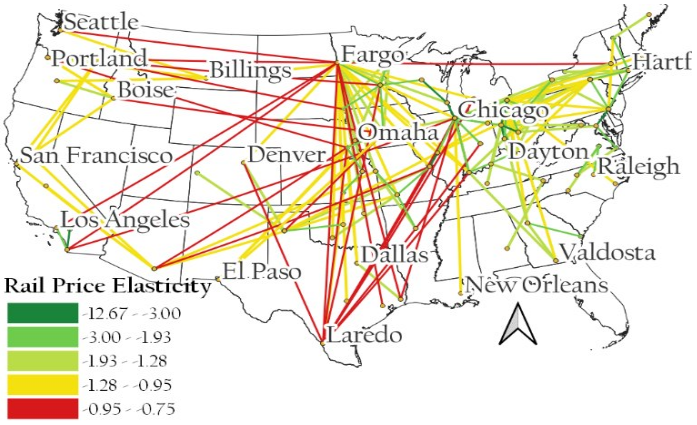
Mode dominance classifications were useful to identify which lanes railroads were likely to have market power and set price above cost. The researchers classified each lane as rail dominated, truck dominated, or competitive (fig. 4). For grain shipping, lane distance was the main factor that determined rail or truck dominance: the average distance of truck-dominant lanes was 183 miles (short hauls); the average distance of rail dominated lanes, 1,658 miles (long hauls); and the average distance of competitive lanes, 657 (medium hauls). Lanes with tight competition between truck and rail freight were ideal candidates for switching. These lanes may have had low rates because of competition and flexibility to withstand transportation disruptions (at least disruptions that affect only one mode at a time). The researchers postulated these lanes may also be the best locations for regulators or marketers to successfully encourage shippers to switch from truck to rail—i.e., to the mode with lower environmental costs. Additionally, the researchers found rail-dominated routes hold the most potential for railroads to charge unreasonably high rates.

Conclusions

Valuable to both industry and regulators, this research explored intermodal competition of shipping lanes across U.S. markets. Results highlighted regions and lanes where railroads and trucks competed and others where each mode dominated. As a rule of thumb, railroads tended to have market dominance over longer, cross-country lanes (greater than 500 miles), whereas trucking tended to dominate on shipments less than 500 miles. The study results may be useful in identifying particular transportation lanes where competition is lacking—places that invite additional regulatory scrutiny over high rates.

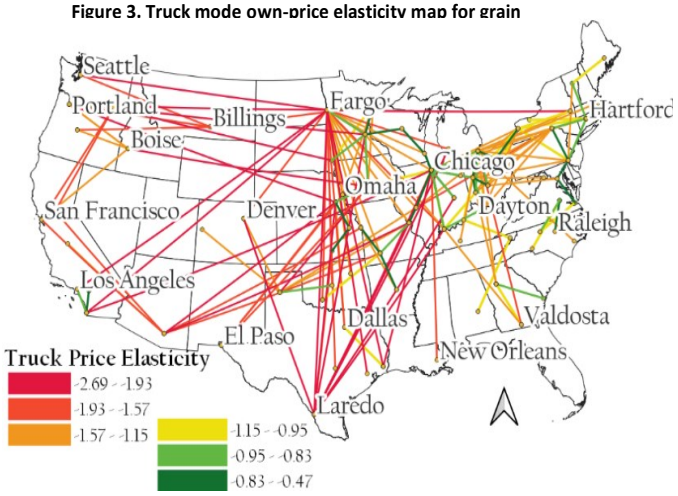
Kranti.Mulik@usda.gov

Figure 1. Rail mode own-price elasticity map for grain



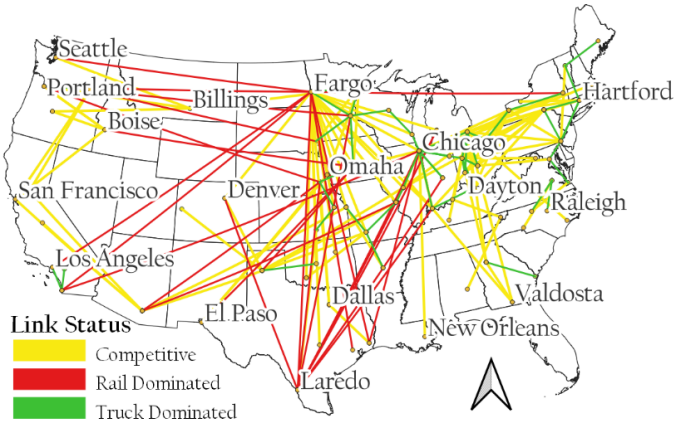
Source: See footnotes 3 and 4.

Figure 3. Truck mode own-price elasticity map for grain



Source: See footnotes 3 and 4.

Figure 4: Dominant shipment mode map for grain



Source: See footnotes 3 and 4.

Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
10/12/22	351	332	340	1153	274	255
10/05/22	325	332	327	1045	273	255

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

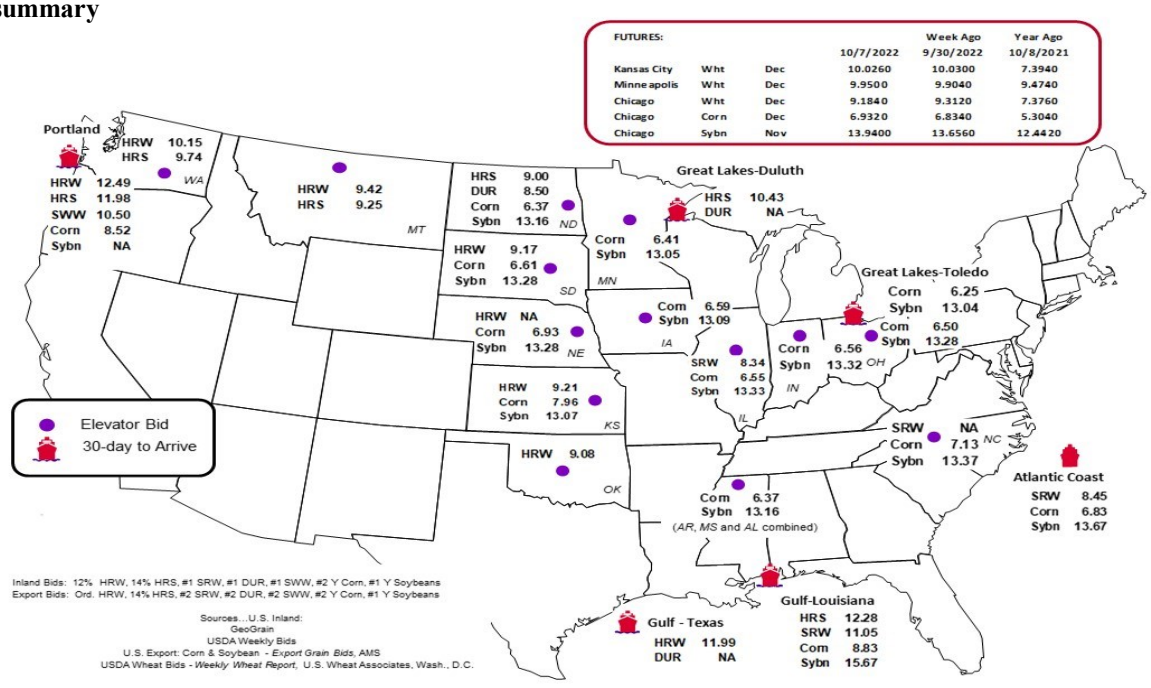
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	10/7/2022	9/30/2022
Corn	IL–Gulf	-2.28	-1.61
Corn	NE–Gulf	-1.90	-1.27
Soybean	IA–Gulf	-2.58	-2.60
HRW	KS–Gulf	-2.78	-2.69
HRS	ND–Portland	-2.98	-3.02

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

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

Figure 1
Grain bid summary



Rail Transportation

Table 3

Rail deliveries to port (carloads)[1]

For the week ending	Mississippi Gulf	Texas Gulf	Pacific Northwest	Atlantic & East Gulf	Total	Week ending	Cross-border Mexico[3]
10/5/2022[p]	1,483	325	4,303	384	6,495	10/1/2022	2,620
9/28/2022[r]	105	650	2,825	41	3,621	9/24/2022	2,835
2022 YTD[r]	43,618	31,452	187,718	16,166	278,954	2022 YTD	107,343
2021 YTD[r]	37,815	50,611	210,458	11,599	310,483	2021 YTD	111,570
2022 YTD as % of 2021 YTD	115	62	89	139	90	% of 2021 YTD	96
Last 4 weeks as % of 2021[2]	237	54	66	50	70	Last 4wks. % 2021	97
Last 4 weeks as % of 4-year avg.[2]	80	56	62	40	62	Last 4wks. % 4 yr.	103
Total 2021	53,554	68,335	305,865	21,913	449,667	Total 2021	145,883
Total 2020	45,177	63,348	296,060	24,202	428,787	Total 2020	126,407

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

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

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

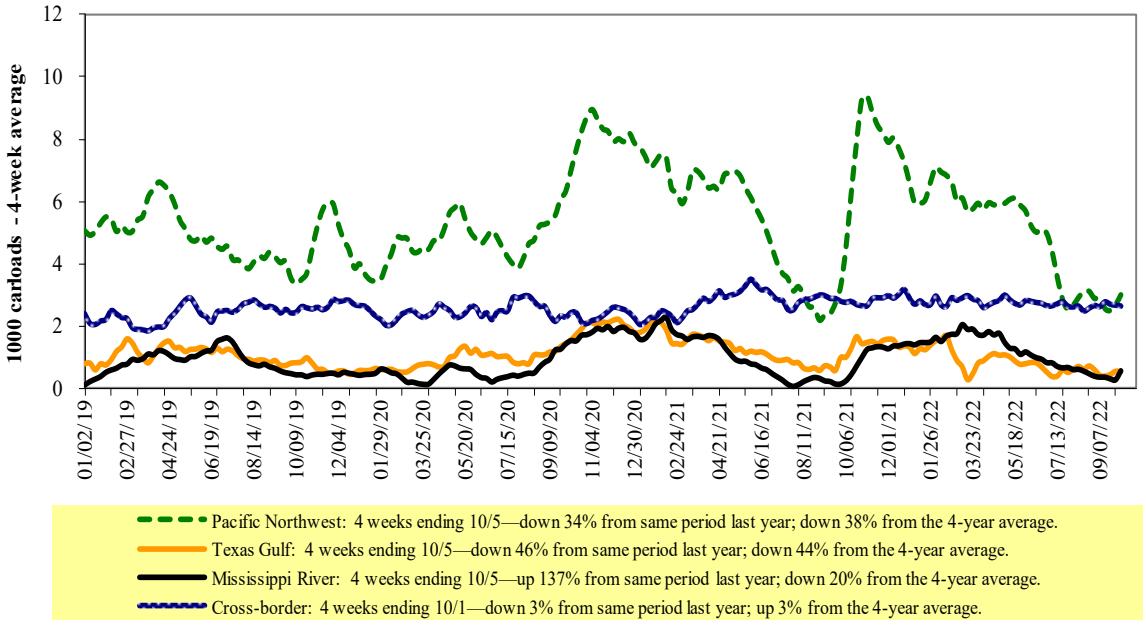
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

Source: USDA, Agricultural Marketing Service.

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

Figure 2

Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

Table 4

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

For the week ending:	East		West			U.S. total	Canada	
10/1/2022	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,204	2,070	11,250	1,936	6,285	22,745	5,664	5,388
This week last year	1,773	2,290	13,807	2,004	6,096	25,970	4,240	5,242
2022 YTD	66,937	92,490	420,869	48,323	222,862	851,481	137,481	139,495
2021 YTD	68,484	92,660	447,718	46,222	237,393	892,477	158,350	185,064
2022 YTD as % of 2021 YTD	98	100	94	105	94	95	87	75
Last 4 weeks as % of 2021*	84	119	94	90	95	95	132	127
Last 4 weeks as % of 3-yr. avg.**	75	102	93	106	100	95	131	114
Total 2021	93,935	120,554	609,890	64,818	318,002	1,207,199	209,991	242,533

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

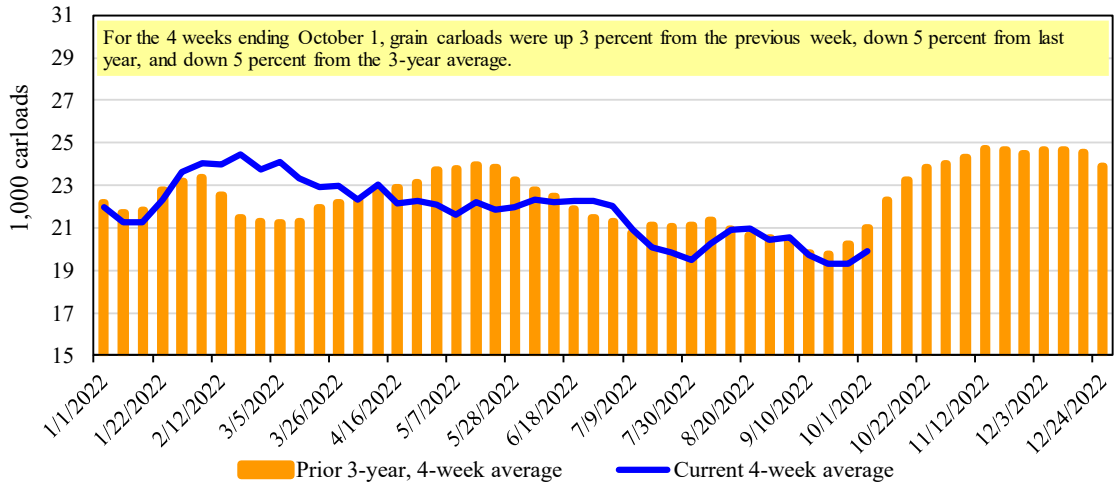
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 5

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

For the week ending:		Delivery period							
10/6/2022		Oct-22	Oct-21	Nov-22	Nov-21	Dec-22	Dec-21	Jan-23	Jan-22
BNSF[3]	COT grain units	no bids	No offer	0	0	0	no bids	0	no bids
	COT grain single-car	no bids	No offer	194	0	87	0	11	no bids
UP[4]	GCAS/Region 1	no offer	n/a	no offer	n/a	no offer	n/a	n/a	n/a
	GCAS/Region 2	no offer	n/a	no offer	n/a	no offer	n/a	n/a	n/a

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

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

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

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

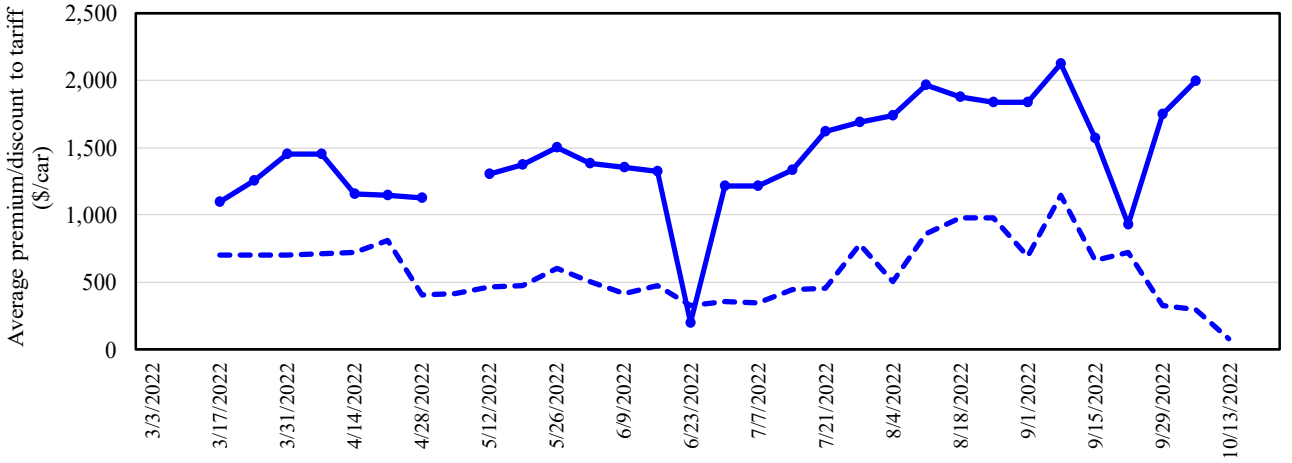
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

Source: USDA, Agricultural Marketing Service.

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

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

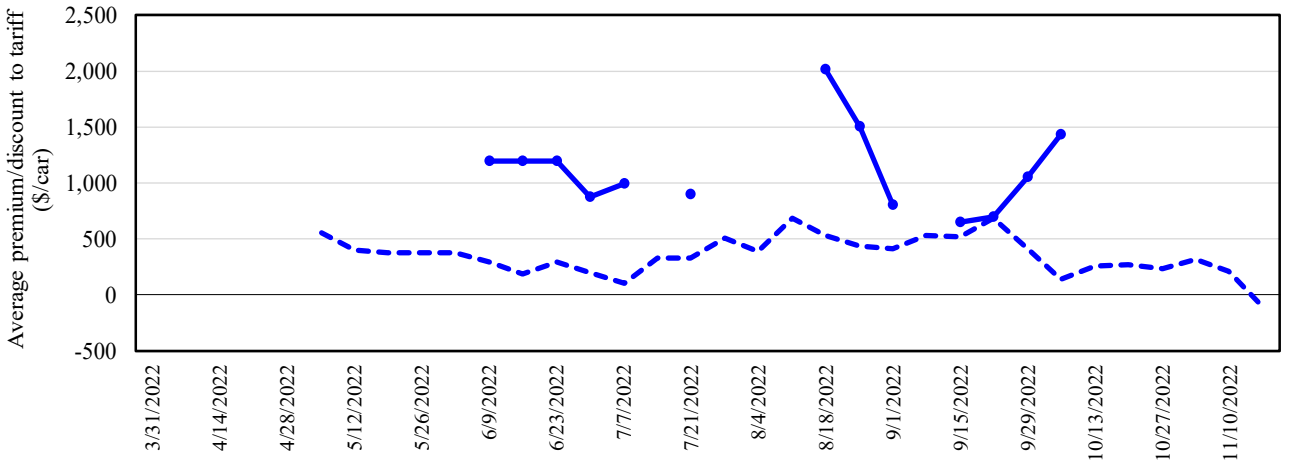


10/6/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$2,000	$2,000

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $254 this week and are $125 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 November 2022



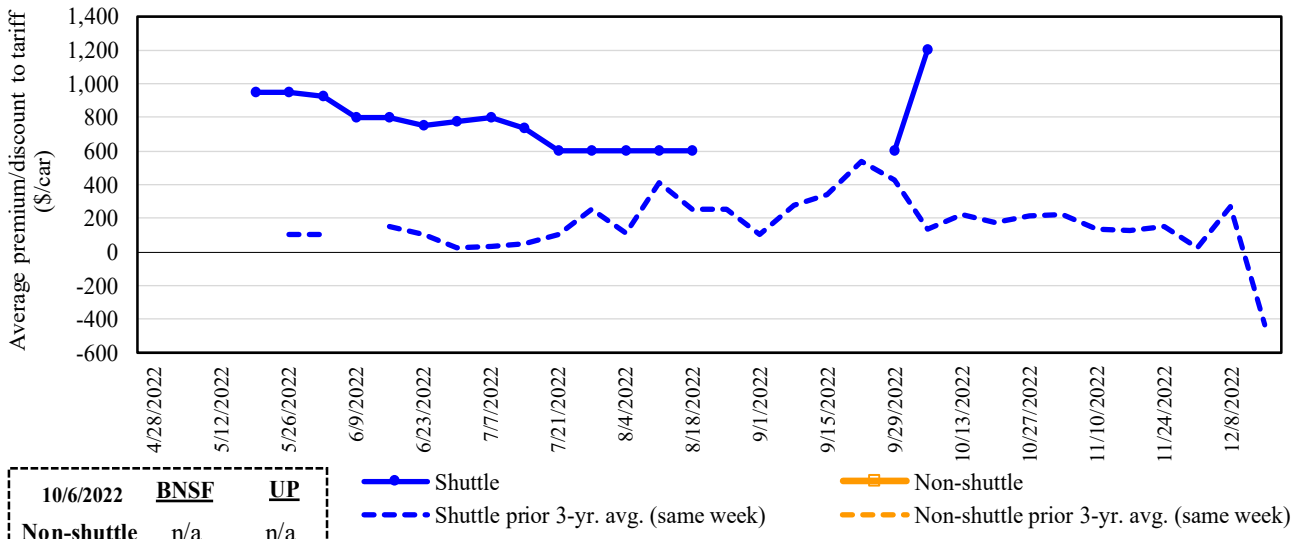
10/6/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$1,875	$1,000

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $382 this week and are $571 below the peak.

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

Figure 6

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



10/6/2022	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	$1,200

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $600 this week and are at the peak.

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

Table 6

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

For the week ending: 10/6/2022		Delivery period					
		Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-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 2021	n/a	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2021	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**2,000**	**1,875**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	408	819	n/a	n/a	n/a	n/a
	Change from same week 2021	2,048	1,942	n/a	n/a	n/a	n/a
	UP-Pool	**2,000**	**1,000**	**1,200**	**n/a**	**n/a**	**n/a**
	Change from last week	100	n/a	n/a	n/a	n/a	n/a
	Change from same week 2021	1,833	950	1,100	n/a	n/a	n/a

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

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

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

Source: USDA, Agricultural Marketing Service.

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

Table 7

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

October 2022	Origin region[3]	Destination region[3]	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per: metric ton	Tariff plus surcharge per: bushel[2]	Percent change Y/Y[4]
Unit train							
Wheat	Wichita, KS	St. Louis, MO	$3,695	$299	$39.66	$1.08	4
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$134	$39.64	$1.08	9
	Wichita, KS	Los Angeles, CA	$7,490	$689	$81.22	$2.21	12
	Wichita, KS	New Orleans, LA	$4,600	$525	$50.89	$1.39	8
	Sioux Falls, SD	Galveston-Houston, TX	$7,226	$565	$77.37	$2.11	11
	Colby, KS	Galveston-Houston, TX	$4,850	$575	$53.88	$1.47	7
	Amarillo, TX	Los Angeles, CA	$5,121	$801	$58.80	$1.60	8
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$594	$45.62	$1.16	8
	Toledo, OH	Raleigh, NC	$8,551	$654	$91.41	$2.32	13
	Des Moines, IA	Davenport, IA	$2,655	$126	$27.61	$0.70	9
	Indianapolis, IN	Atlanta, GA	$6,593	$491	$70.35	$1.79	14
	Indianapolis, IN	Knoxville, TN	$5,564	$318	$58.41	$1.48	12
	Des Moines, IA	Little Rock, AR	$4,250	$369	$45.87	$1.17	11
	Des Moines, IA	Los Angeles, CA	$6,130	$1,076	$71.55	$1.82	13
Soybeans	Minneapolis, MN	New Orleans, LA	$4,431	$917	$53.11	$1.45	37
	Toledo, OH	Huntsville, AL	$7,037	$466	$74.51	$2.03	12
	Indianapolis, IN	Raleigh, NC	$7,843	$663	$84.47	$2.30	15
	Indianapolis, IN	Huntsville, AL	$5,689	$315	$59.62	$1.62	12
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$594	$54.21	$1.48	9
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$396	$47.56	$1.29	14
	Wichita, KS	Galveston-Houston, TX	$4,311	$308	$45.87	$1.25	5
	Chicago, IL	Albany, NY	$7,090	$617	$76.54	$2.08	16
	Grand Forks, ND	Portland, OR	$6,051	$684	$66.88	$1.82	15
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$712	$60.69	$1.65	7
	Colby, KS	Portland, OR	$5,923	$943	$68.19	$1.86	7
Corn	Minneapolis, MN	Portland, OR	$5,660	$833	$64.48	$1.64	21
	Sioux Falls, SD	Tacoma, WA	$5,620	$763	$63.38	$1.61	20
	Champaign-Urbana, IL	New Orleans, LA	$4,170	$594	$47.30	$1.20	14
	Lincoln, NE	Galveston-Houston, TX	$4,360	$445	$47.71	$1.21	18
	Des Moines, IA	Amarillo, TX	$4,670	$464	$50.99	$1.30	11
	Minneapolis, MN	Tacoma, WA	$5,660	$826	$64.41	$1.64	21
	Council Bluffs, IA	Stockton, CA	$5,580	$855	$63.90	$1.62	21
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$763	$70.63	$1.92	18
	Minneapolis, MN	Portland, OR	$6,400	$833	$71.83	$1.95	19
	Fargo, ND	Tacoma, WA	$6,250	$678	$68.80	$1.87	16
	Council Bluffs, IA	New Orleans, LA	$5,095	$684	$57.39	$1.56	10
	Toledo, OH	Huntsville, AL	$5,277	$466	$57.03	$1.55	16
	Grand Island, NE	Portland, OR	$5,730	$966	$66.49	$1.81	16

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

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

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

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

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

Table 8

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

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

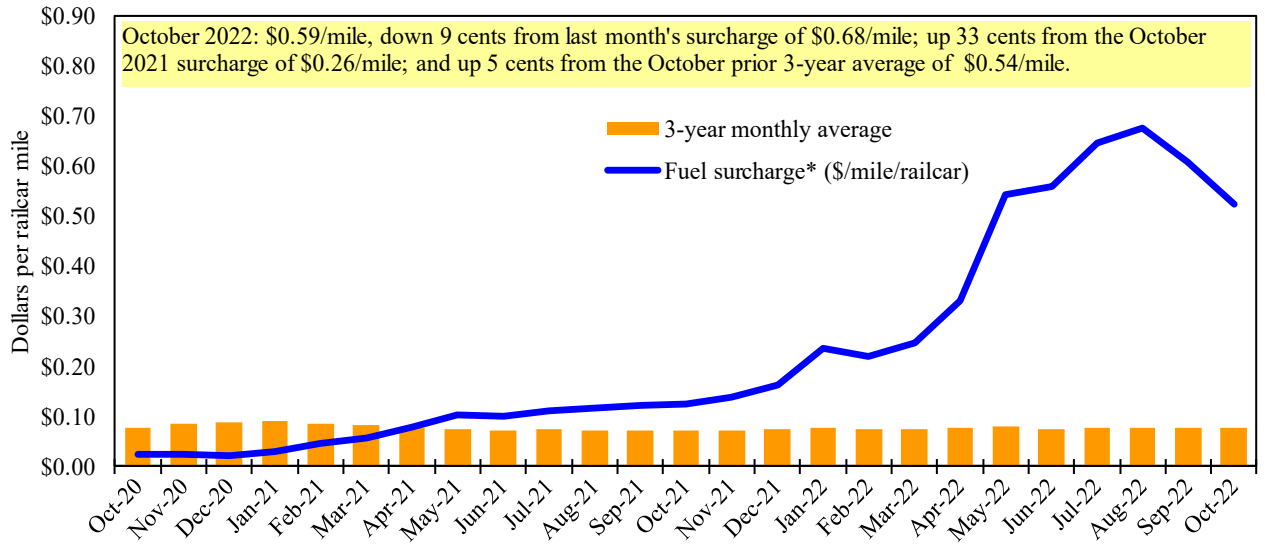
[5] As of January 1, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

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

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

Figure 7

Railroad fuel surcharges, North American weighted average[1]



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

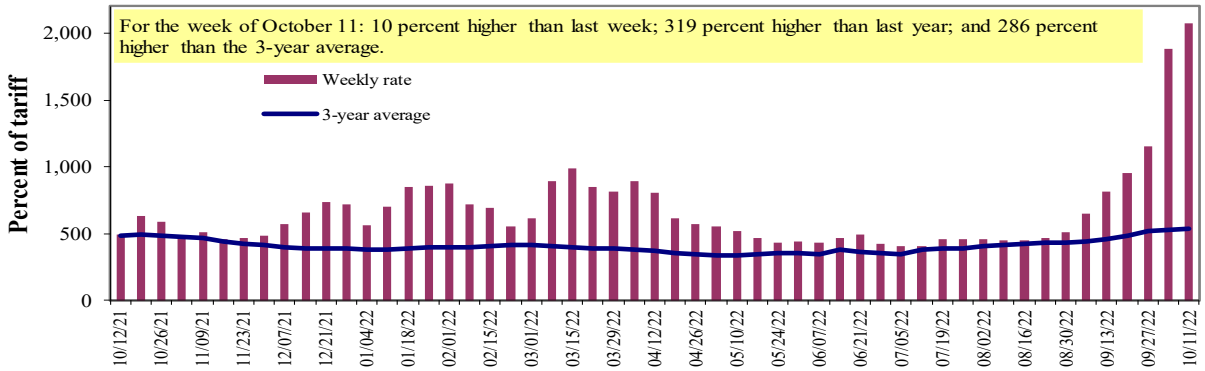
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

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

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

Barge Transportation

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



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

Table 9
Weekly barge freight rates: Southbound only

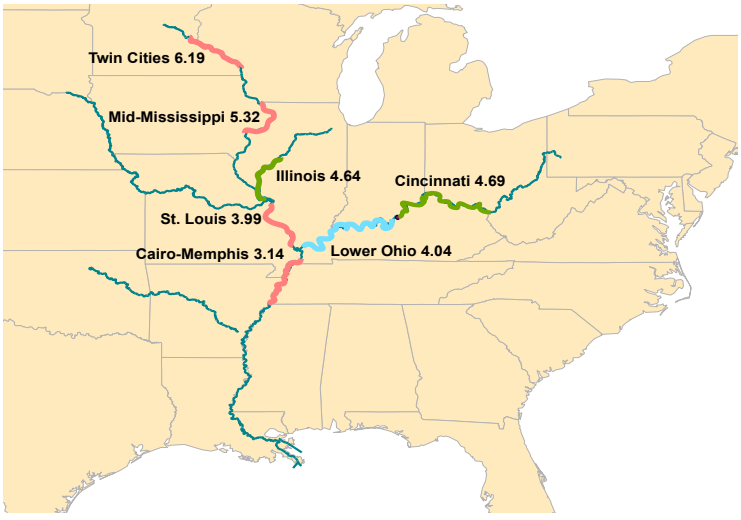
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	10/11/2022	1713	2025	2075	2653	2538	2538	2813
	10/4/2022	1622	1836	1881	2267	2094	2094	2428
$/ton	10/11/2022	106.03	107.73	96.28	105.85	119.03	102.54	88.33
	10/4/2022	100.40	97.68	87.28	90.45	98.21	84.60	76.24
Current week % change from the same week:								
	Last year	247	290	319	383	343	343	429
	3-year avg. [2]	232	271	286	445	385	385	448
Rate[1]	November	1164	1169	1109	1050	1144	1144	1119
	January	-	-	825	696	743	743	681

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

Figure 9
Benchmark tariff rates

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

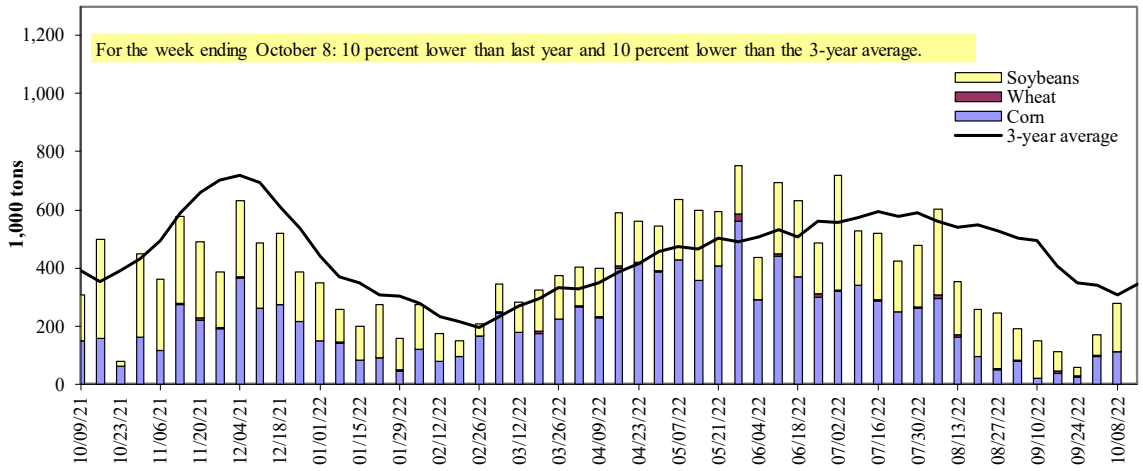
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 10

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



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

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 10

Barge grain movements (1,000 tons)

For the week ending 10/08/2022	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	24	2	100	0	126
Winfield, MO (L25)	41	2	140	0	182
Alton, IL (L26)	134	2	180	0	316
Granite City, IL (L27)	111	2	164	0	277
Illinois River (La Grange)	52	0	117	0	169
Ohio River (Olmsted)	132	2	221	0	355
Arkansas River (L1)	0	0	17	0	17
Weekly total - 2022	243	3	402	0	648
Weekly total - 2021	281	15	295	0	591
2022 YTD[1]	13,693	1,495	9,425	190	24,803
2021 YTD[1]	19,560	1,456	6,537	225	27,778
2022 as % of 2021 YTD	70	103	144	85	89
Last 4 weeks as % of 2021[2]	78	52	132	64	97
Total 2021	23,516	1,634	11,325	297	36,772

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

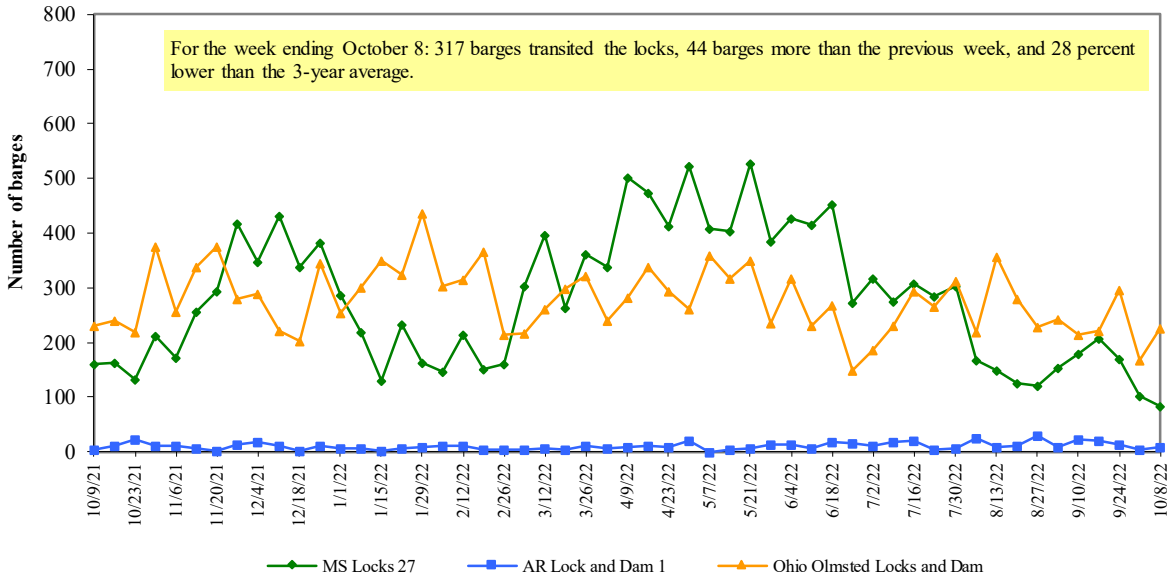
[2] As a percent of same period in 2021.

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 11

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

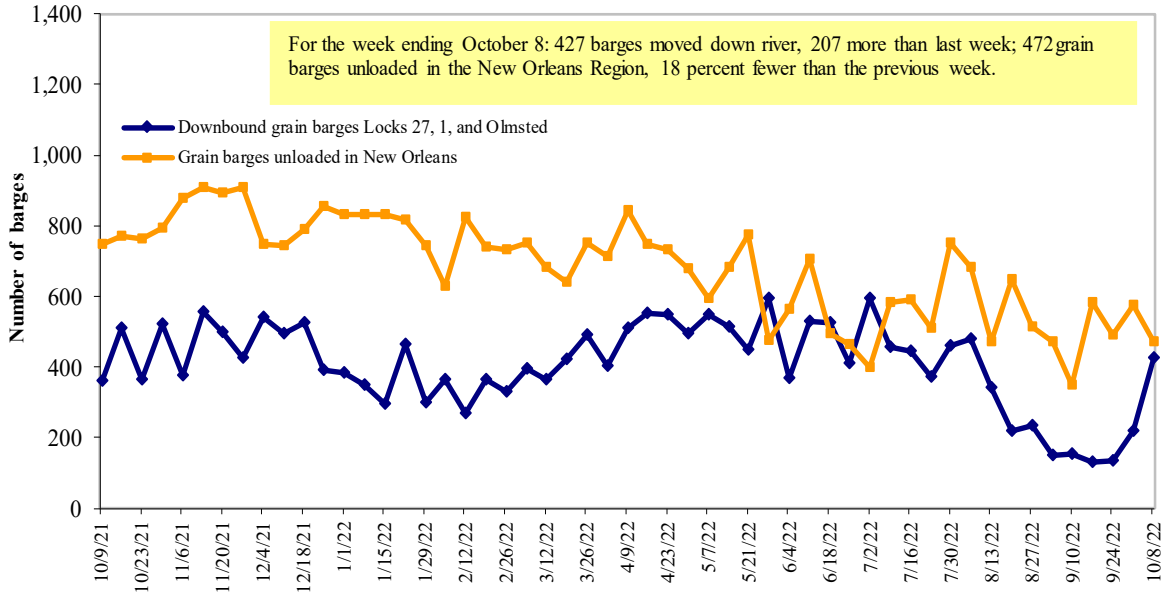


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 12

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 11

Retail on-highway diesel prices, week ending 10/10/2022 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	5.130	0.333	1.568
	New England	5.149	0.275	1.690
	Central Atlantic	5.326	0.332	1.621
	Lower Atlantic	5.056	0.340	1.572
II	Midwest	5.270	0.451	1.732
III	Gulf Coast	4.897	0.340	1.562
IV	Rocky Mountain	5.199	0.329	1.526
V	West Coast	5.972	0.437	1.839
	West Coast less California	5.521	0.458	1.737
	California	6.489	0.412	2.064
Total	United States	5.224	0.388	1.638

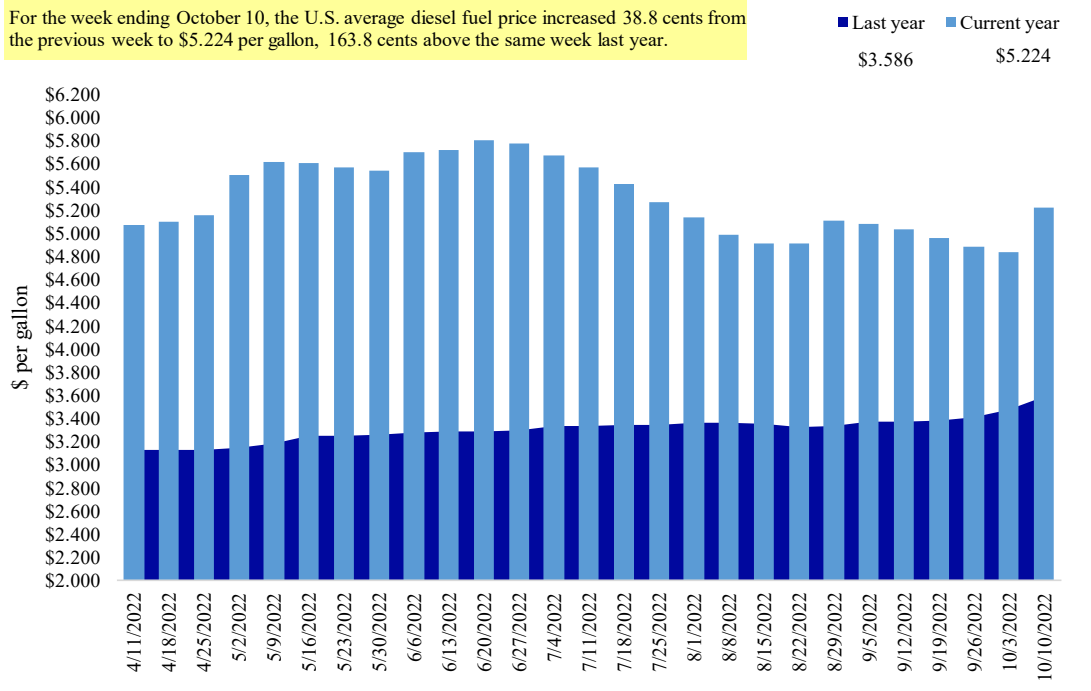
[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

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 13

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 12

U.S. export balances and cumulative exports (1,000 metric tons)

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
9/29/2022	793	540	1,005	730	90	3,158	10,976	25,676	39,810
This week year ago	1,518	672	852	553	61	3,655	24,085	23,327	51,066
Cumulative exports-marketing year[2]									
2022/23 YTD	2,275	1,500	2,184	1,721	78	7,757	2,247	1,832	11,836
2021/22 YTD	2,839	1,093	2,233	1,526	61	7,753	2,497	1,845	12,094
YTD 2022/23 as % of 2021/22	80	137	98	113	126	100	90	99	98
Last 4 wks. as % of same period 2021/22	65	86	132	175	162	103	47	108	79
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 13

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

For the week ending 09/29/2022	Total commitments[2]		% change	Exports[3]
	2022/23 current MY	2021/22 last MY	current MY from last MY	3-yr. avg. 2019-21
		1,000 mt -		
Mexico	5391.6	6,285	(14)	15,227
China	3386	11,918	(72)	12,616
Japan	1034	1,882	(45)	10,273
Columbia	260	1,041	(75)	4,398
Korea	7	72	(90)	2,563
Top 5 importers	**10,079**	**21,198**	(52)	**45,077**
Total U.S. corn export sales	**13,223**	**26,581**	(50)	**56,665**
% of projected exports	24%	42%		
Change from prior week[2]	**227**	**1,265**		
Top 5 importers' share of U.S. corn export sales	76%	80%		80%
USDA forecast October 2022	**54,707**	**62,875**	(13)	
Corn use for ethanol USDA forecast, October 2022	**133,985**	**135,331**	(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 14

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

For the week ending 09/29/2022	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	14,031	12,440	13	27,283
Mexico	2,085	1,683	24	4,929
Egypt	652	588	11	3,553
Japan	640	596	7	2,266
Indonesia	251	288	(13)	2,116
Top 5 importers	**17,660**	**15,594**	13	**40,147**
Total U.S. soybean export sales	**27,508**	**25,171**	9	**54,231**
% of projected exports	49%	43%		
change from prior week[2]	**777**	**971**		
Top 5 importers' share of U.S. soybean export sales	64%	62%		**74%**
USDA forecast, October 2022	**55,722**	**58,801**	(5)	

[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.

-5.24%

Table 15

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

For the week ending 9/29/2022	Total Commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2018-20
		1,000 mt -		- 1,000 mt -
Mexico	1,888	1,984	(5)	3,388
Philippines	1,449	1,738	(17)	3,121
Japan	1,077	1,179	(9)	2,567
Korea	614	746	(18)	1,501
Nigeria	573	1,263	(55)	1,490
China	613	848	(28)	1,268
Taiwan	414	449	(8)	1,187
Indonesia	236	59	299	1,131
Thailand	289	290	(0)	768
Italy	231	118	95	681
Top 10 importers	**7,385**	**8,674**	(15)	**17,102**
Total U.S. wheat export sales	**10,915**	**11,408**	(4)	**24,617**
% of projected exports	52%	52%		
change from prior week[2]	**229**	**333**		
Top 10 importers' share of U.S. wheat export sales	68%	76%		69%
USDA forecast, October 2022	**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 16

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

Port regions	For the week ending 10/06/22	Previous week*	Current week as % of previous	2022 YTD*	2021 YTD*	2022 YTD as % of 2021 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2021 total*
Pacific Northwest									
Wheat	362	487	74	8,453	12,009	70	140	131	13,243
Corn	0	0	n/a	8,952	12,368	72	0	0	13,420
Soybeans	288	0	n/a	5,500	5,275	104	20	22	14,540
Total	**650**	**487**	**133**	**22,905**	**29,652**	**77**	**71**	**67**	**41,203**
Mississippi Gulf									
Wheat	128	25	522	3,801	2,626	145	151	143	3,202
Corn	296	447	66	26,971	32,719	82	83	97	38,498
Soybeans	582	533	109	17,523	13,226	132	118	64	27,159
Total	**1,006**	**1,004**	**100**	**48,295**	**48,571**	**99**	**103**	**80**	**68,858**
Texas Gulf									
Wheat	119	136	88	2,870	3,365	85	130	133	3,888
Corn	0	7	0	565	503	112	9	11	627
Soybeans	0	0	n/a	2	711	0	0	0	1,611
Total	**119**	**143**	**83**	**3,436**	**4,579**	**75**	**100**	**98**	**6,126**
Interior									
Wheat	34	22	157	2,361	2,460	96	98	117	2,973
Corn	150	192	78	6,905	7,580	91	71	90	10,157
Soybeans	123	82	151	4,976	4,403	113	93	64	6,525
Total	**308**	**296**	**104**	**14,242**	**14,444**	**99**	**80**	**84**	**19,656**
Great Lakes									
Wheat	1	0	n/a	268	343	78	93	37	536
Corn	0	7	0	148	94	158	n/a	n/a	145
Soybeans	22	0	n/a	261	89	294	101	38	592
Total	**23**	**7**	**323**	**676**	**526**	**129**	**107**	**42**	**1,273**
Atlantic									
Wheat	2	34	7	167	125	134	134	353	128
Corn	2	8	31	266	57	468	310	481	85
Soybeans	5	2	307	1,603	1,150	139	23	14	2,184
Total	**10**	**43**	**22**	**2,037**	**1,331**	**153**	**93**	**81**	**2,397**
U.S. total from ports*									
Wheat	647	703	92	17,920	20,929	86	134	129	23,969
Corn	449	661	68	43,808	53,321	82	77	86	62,932
Soybeans	1,020	616	166	29,865	24,853	120	71	50	52,612
Total	**2,116**	**1,980**	**107**	**91,593**	**99,103**	**92**	**89**	**78**	**139,512**

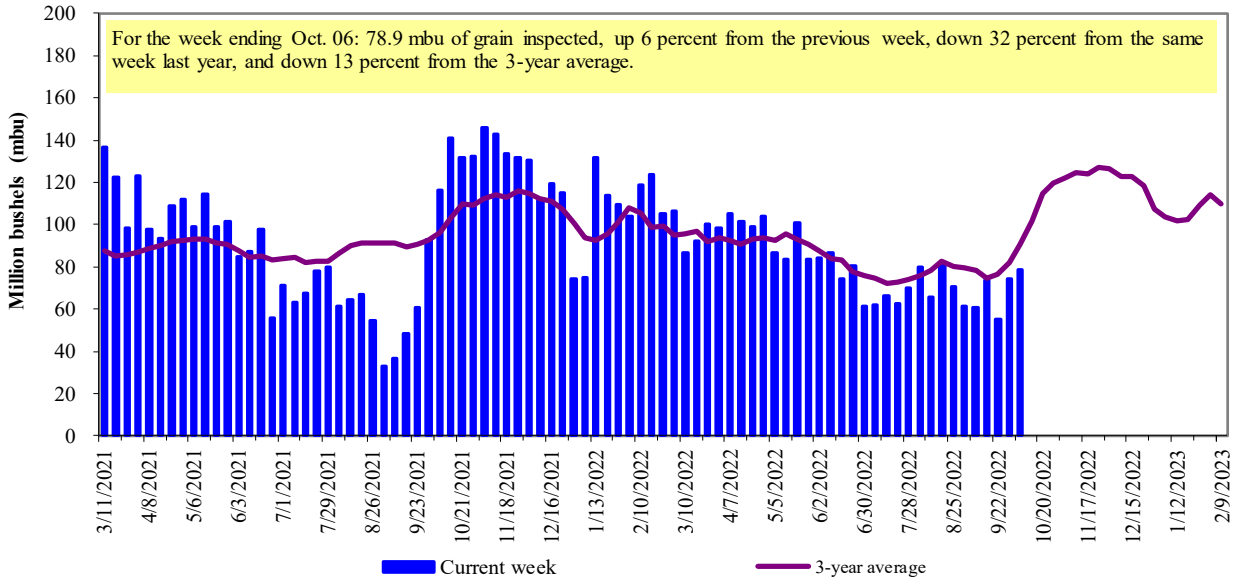
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: USDA, Federal Grain Inspection Service; YTD= year-to-date; n/a = not applicable or no change.

The United States exports approximately one-quarter of the grain it produces. On average, this includes nearly 45 percent of U.S.-grown wheat, 50 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 55 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2019.

Figure 14

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

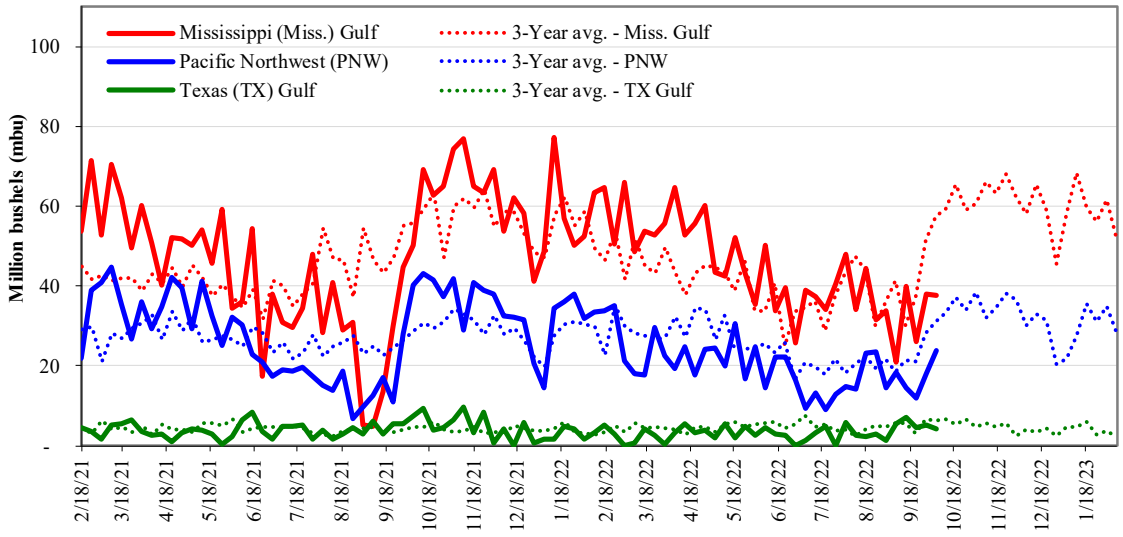


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 10/06/22 inspections (mbu):	
MS Gulf:	37.8
PNW:	23.9
TX Gulf:	4.4

Percent change	MS Gulf	TX	U.S. Gulf	PNW
Last wk:	unchanged	down 17	down 3	up 33
Last Year (same wk):	down 25	down 42	down 27	down 41
3-yr avg. (4-wk. mov. Avg):	down 14	down 20	down 15	down 6

Source: USDA, Federal Grain Inspection Service.

Table 17

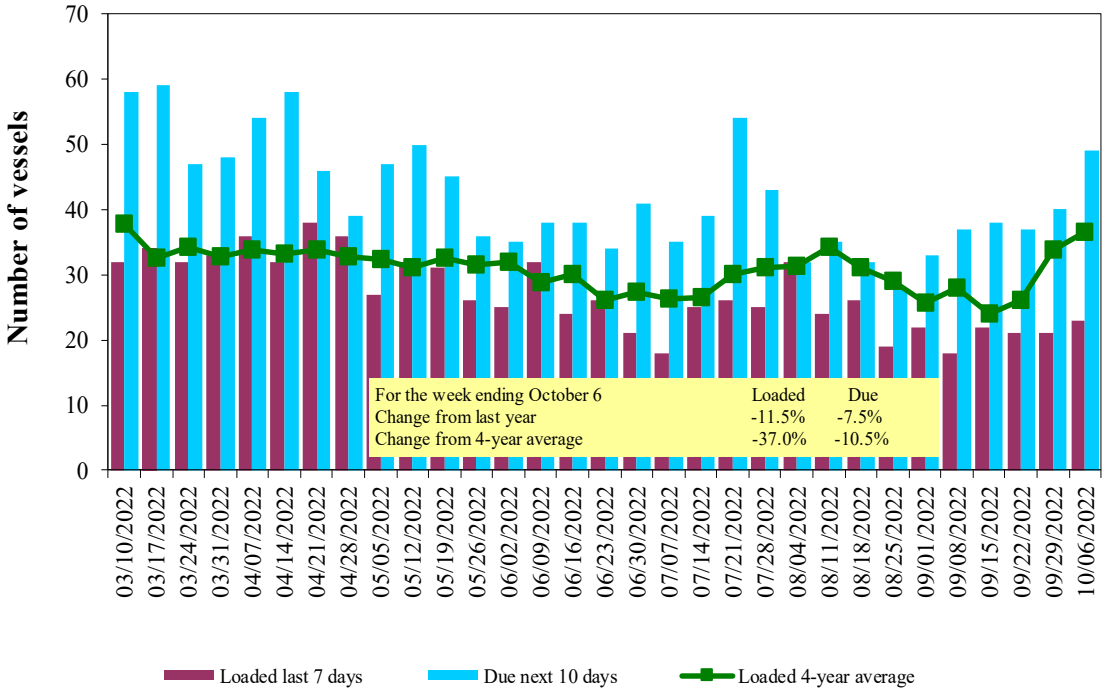
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
10/6/2022	35	23	49	17
9/29/2022	36	21	40	10
2021 range	(10…57)	(5...48)	(15...69)	(4…27)
2021 average	34	32	49	15

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

Figure 16

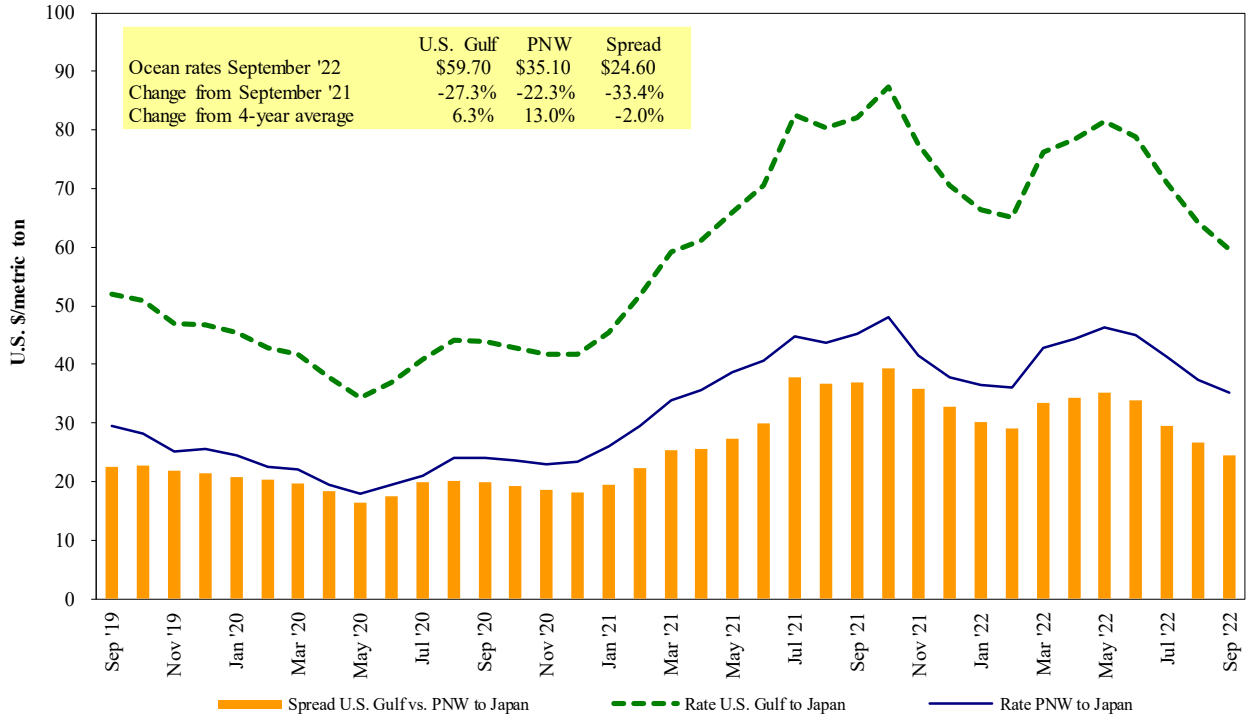
U.S. Gulf[1] vessel loading activity



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

Figure 17

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 18

Ocean freight rates for selected shipments, week ending 10/08/2022

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
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	Djibouti	Sorghum	Oct 5/15, 2022	13,920	94.08*
U.S. Gulf	Djibouti	Wheat	Nov 5/15, 2022	22,500	102.88*
U.S. Gulf	Honduras	Soybean Meal	Feb 18/28, 2022	7,820	57.15*
U.S. Gulf	S. Korea	Heavy grain	Jun 1/Jul, 2022	55,000	82.75
U.S. Gulf	Sudan	Sorghum	Mar 1/10, 2022	35,790	149.97*
PNW	Yemen	Wheat	Jul 10/20, 2022	27,000	169.50*
Brazil	N. China	Heavy grain	Mar 18/27, 2022	64,000	56.85
Argentina	Taiwan	Corn	May 1/Jun, 2022	65,000	85.00

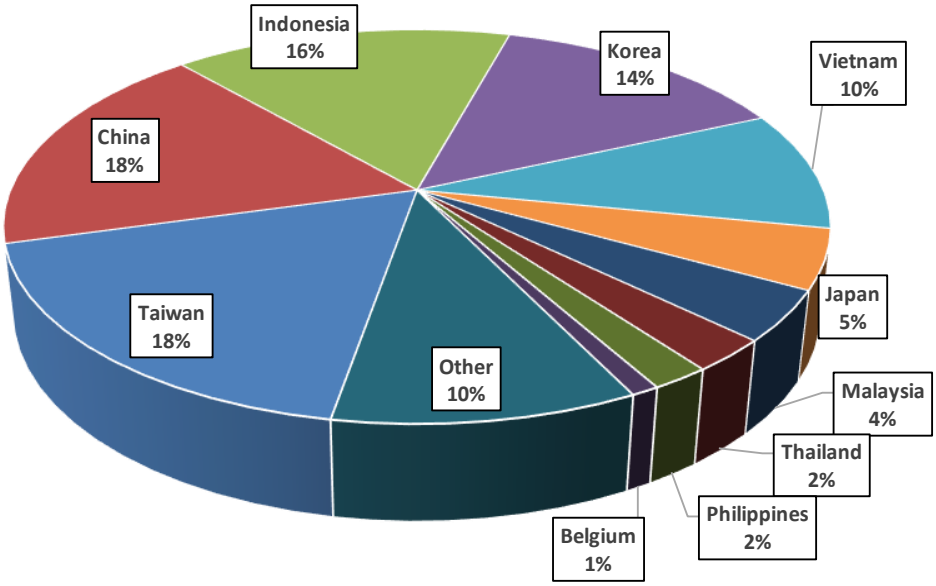
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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

Source: Maritime Research, Inc.

In 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.

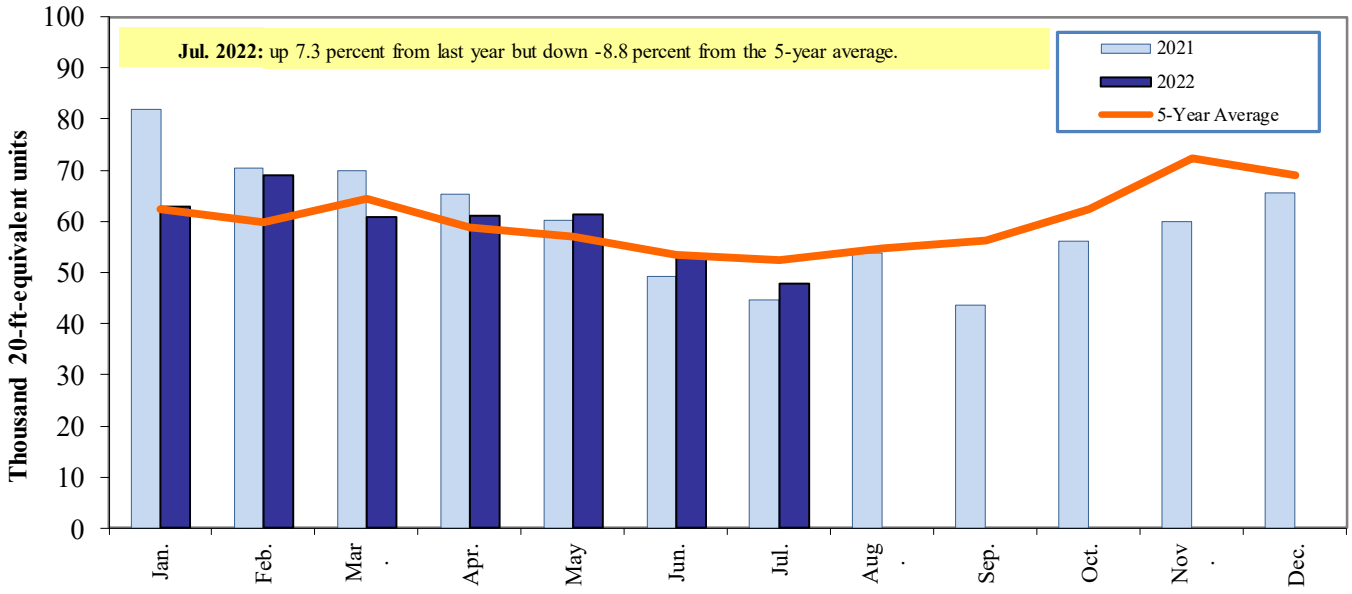
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Jul 2022



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 19
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
Barge Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Rich Henderson	richard.henderson2@usda.gov	(919) 855 - 7801
Truck Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Kranti Mulik	kranti.mulik@usda.gov	(202) 756 - 2577
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

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