United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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Contents

The next release is April 29, 2021

WEEKLY HIGHLIGHTS

DOT Announces $1 Billion in Competitive Grant Funding for Infrastructure Projects

On April 13, the U.S. Department of Transportation (DOT) published a notice of funding opportunity for applications to the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program. Previously known as the Better Utilizing Investments to Leverage Development (BUILD) and Transportation Investment Generating Economic Recovery (TIGER) discretionary grants, the RAISE program will provide $1 billion in discretionary grant funding. Its funding opportunities serve projects that are multi-modal (rail, transit, and port) and multi-jurisdictional at the State and local levels. Grant applications will be evaluated on merit criteria, including safety, environmental sustainability, quality of life, economic competitiveness, state of good repair, innovation, and partnership. The deadline to submit an application is July 12, 2021, at 5 pm Eastern.

Panama Canal's Neopanamax Locks Have Expanded Shipping Routes Since Opening in 2016

According to the Panama Canal Authority, global commerce has measurably improved since the Canal's Neopanamax locks opened in 2016. Since then, the Canal began serving 36 new maritime routes, which connect an additional 220 ports and 10 countries. In total, the Canal serves 180 maritime routes and links 1,920 ports across 170 countries. The Canal's top user is the United States, followed by China and Japan. Dry bulk cargo, such as soybeans, corn, and other grains are main commodities that transit the Canal. Most of the Canal's grain shipments originate in the U.S. Gulf and are destined for China, the West Coast of South America, Japan, or the West Coast of Central America. Over the last few months, U.S. grain exports through the Canal have increased with surging Chinese soybean demand for livestock and poultry feed.

Canadian National Bids for Kansas City Southern

Canadian National Railway (CN) recently offered $33.7 billion to acquire Kansas City Southern Railway (KCS). CN's offer follows an offer in March by Canadian Pacific Railway to acquire KCS for $29 billion. It is not yet clear how KCS will respond to the two offers. CN has sent an initial filing to the Surface Transportation Board, indicating it plans to apply formally, in 3 to 6 months, for authority to combine with KCS.

Snapshots by Sector

Export Sales

For the week ending April 8, **unshipped balances** of wheat, corn, and soybeans totaled 38.6 million metric tons (mmt). This was 6 percent lower than last week, but still represented a significant increase in outstanding sales from the same time last year. Net **corn export sales** were 0.328 mmt, down 57 percent from the past week. Net **soybean export sales** were 0.090 mmt, down significantly from the previous week. Net **wheat export sales** were −0.057 mmt, significantly down from the previous week.

Rail

U.S. Class I railroads originated 24,347 **grain carloads** during the week ending April 10. This was a 5-percent decrease from the previous week, 10 percent more than last year, and 6 percent more than the 3-year average.

Average May shuttle **secondary railcar** bids/offers (per car) were $92 above tariff for the week ending April 15. This was $33 less than last week and $140 more than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending April 17, **barge grain movements** totaled 798,298 tons. This was 12 percent lower than the previous week and 21 percent higher than the same period last year.

For the week ending April 17, 505 grain barges **moved down river**—100 barges fewer than the previous week. There were 626 grain barges **unloaded in New Orleans**, 3 percent fewer than the previous week.

Ocean

For the week ending April 15, 33 **oceangoing grain vessels** were loaded in the Gulf—7 percent more than the same period last year. Within the next 10 days (starting April 16, 2021), 49 vessels were expected to be loaded—23 percent more than the same period last year.

As of April 15, the rate for shipping a metric ton of grain from the U.S. Gulf to Japan was $58.00. This was 5 percent less than the previous week. The rate from the Pacific Northwest to Japan was $34.00 per metric ton, 4 percent less than the previous week.

Fuel

For the week ending April 19, the U.S. average **diesel fuel price** decreased 0.5 cents from the previous week to $3.124 per gallon, 64.4 cents above the same week last year.

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Feature Article/Calendar

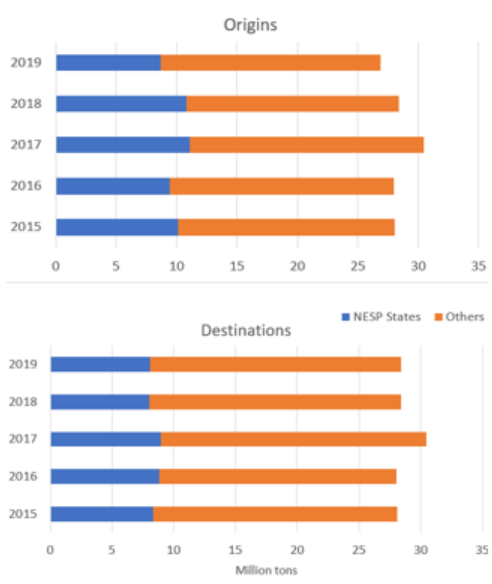
Importance of Navigation on the Upper Mississippi River System to the Grain Industry

Within the inland waterways system, the locks of the Upper Mississippi River (UMR) and the Illinois River are among the most vital to U.S. agriculture. However, most of the UMR and Illinois's locks and dams were built in the 1930s. This older infrastructure—including 600-foot locks—is prone to mechanical failures that result in closures or delays. In response, shippers and producers must bear the higher transportation costs due to outages and delays, potentially hobbling the competitiveness of U.S. exports.[1] This article details the UMR's value to U.S. agriculture, as well as efforts to make its locks and those of the Illinois River more efficient and able to handle rising volumes of grain shipments in the future.

UMR's Importance to Agriculture

U.S. farmers depend on the inland waterways system to offer a competitive and cost-effective method of shipping grains both domestically and to ports for export. In fact, the inland waterways move almost half of U.S. grain and oilseed production bound for export. In 2020, the Mississippi River locking system moved more than 40 million tons (around $10 billion) of U.S. corn, soybeans, and wheat to export markets (***GTR* table 10**).[2] This is in part because barge transportation provides the lowest cost method for shipping bulk commodities over long distances—from interior States where production occurs to coastal export destinations. Compared to other modes, shipping via the inland waterways saves $7 billion to $9 billion annually.[3] Furthermore, the UMR system provides direct waterway access to five major production States (Illinois, Iowa, Minnesota, Missouri, and Wisconsin), which produced roughly 45 percent of U.S. corn and soybeans and 10 percent of total wheat production (in volume) over the past 5 years.

Figure 1: Fertilizer barge movements



Source: U.S. Army Corps of Engineers

Besides grain shipments, agricultural producers also use inland waterways to ship animal feed, fertilizer, and other materials for agricultural production. From 2005 to 2019, 10 million tons of fertilizer that shipped to other States annually originated in the five UMR States. The UMR States' share amounted to about 35 percent of the total tonnage (28.4 million tons) for all origin States. During the same period, the five UMR States received 8.4 million tons of fertilizer annually, or 29 percent of the total tonnage (28.7 million tons) for all destination States (fig. 1). Although modes other than barge shipped most U.S. domestic fertilizer,[4] the five UMR States contributed more than 30 percent of the total U.S. waterborne fertilizer movements via the inland waterways locking system.

The Navigation and Ecosystem Sustainability Program

Authorized by the U.S. Congress in 2007, the Navigation and Ecosystem Sustainability Program (NESP) is led by the U.S. Army Corps of Engineers (USACE) to improve navigation and restore the UMR's ecology over

[1] USDA/AMS *and Informa Agribusiness Consulting*, *Importance of Inland Waterways to U.S. Agriculture*, 2019
[2] The dollar value is measured by applying the locking volumes from the Army Corps of Engineers' Lock Performance Monitoring System data with the unit grain value (in the Gulf Custom District) generated by USDA's Global Agricultural Trade System (GATS).
[3] Same source as in footnote 1.
[4] USDA/AMS, *The Importance of Freight Transportation to Agriculture*, 2010—a study of rural transportation issues.

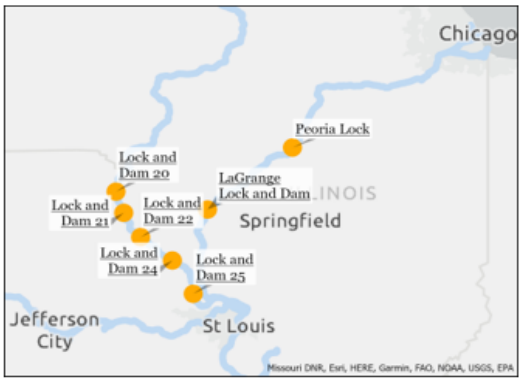
the next 50 years.[1] For agricultural transportation, one of NESP's key components is the proposed construction of seven 1,200-foot lock chambers adjacent to existing chambers at the following sites: the UMR (Locks 20-22 and 24-25) and Illinois River (Peoria Lock and LaGrange Lock) (fig. 2).

If constructed, the NESP 1,200-foot locks would provide shippers with additional capacity to handle the projected rise in volume of commodity grain shipments. Currently, because modern-day 15-barge tows are typically 1,200-foot long, barge operators need to untie and split their barges into two parts before they enter the 600-foot lock chambers. After locking, the operators then need to regroup the barges to allow the towboats to continue their journey. This practice, known as "double locking," not only incurs extra time, it can also create operational hazards and logistical challenges, especially in high-water and severe weather conditions.

USACE projects the 1,200-foot lock chambers would improve locking efficiency by eliminating the double-locking time. Also, used in combination with the existing 600-foot locks, the new locks would provide two-way traffic to reduce wait time. Moreover, the NESP projects would reduce closures and delays by allowing continuous locking, even if one of the two locks required maintenance or repair.

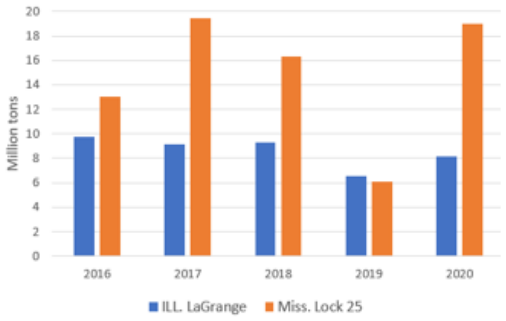
Volumes of downbound grain through the locks continue to grow. Except for the low tonnages in 2019 due to the U.S./China trade dispute, the volumes transiting Mississippi River Lock 25 have trended up over the past 5 years, indicating rising demand for barged grain. In 2020, Lock 25 transited 19 million tons of downbound grain, about 47 percent of U.S. total downbound tonnages and 17 percent higher than the 4-year average. Illinois River LaGrange Lock transited 8 million tons of downbound grain, about 20 percent of the U.S. total for the year (fig. 3). The relatively moderate recovery of locking tonnages for LaGrange can be explained by a June-September 2020 lock closure.

Figure 2: NESP authorized construction projects



Source: USDA/AMS/Transportation and Marketing

Figure 3: Downbound grain barge movements: Mississippi River Lock 25 and Illinois River LaGrange Lock



Source: U.S. Army Corps of Engineers

A Look Downstream at the Waterways

Although the seven NESP UMR construction projects were authorized in 2007, they still await appropriation to begin construction. Most recently, $4.5 million was provided in pre-construction funding to complete detailed technical studies and design needed for the construction. According to USACE's latest estimate, the cost to construct these seven locks will be approximately $4.2 billion. However, U.S. agricultural exports are projected to continue increasing over the next decade.[2] With this growth, maintaining reliable, efficient, modern infrastructure on the inland waterways becomes crucial to keeping a competitive advantage in export markets, fulfilling overseas demand, and maximizing income opportunities for U.S. producers.
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[1] The NESP UMR project starts where the Ohio becomes a tributary of the Mississippi River near Cairo, IL, and ends at the Upper St. Anthony Falls Lock in Minneapolis-St. Paul, MN. The Illinois Waterway system starts at the Illinois River's confluence with the Mississippi River at Grafton, IL, and ends at the T. J. O'Brien Lock in Chicago, IL.
[2] USDA, Agricultural Projection to 2030 (February, 2021).

Grain Transportation Indicators

Table 1

Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
04/21/21	210	295	224	192	259	241
04/14/21	210	295	236	188	273	252

[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

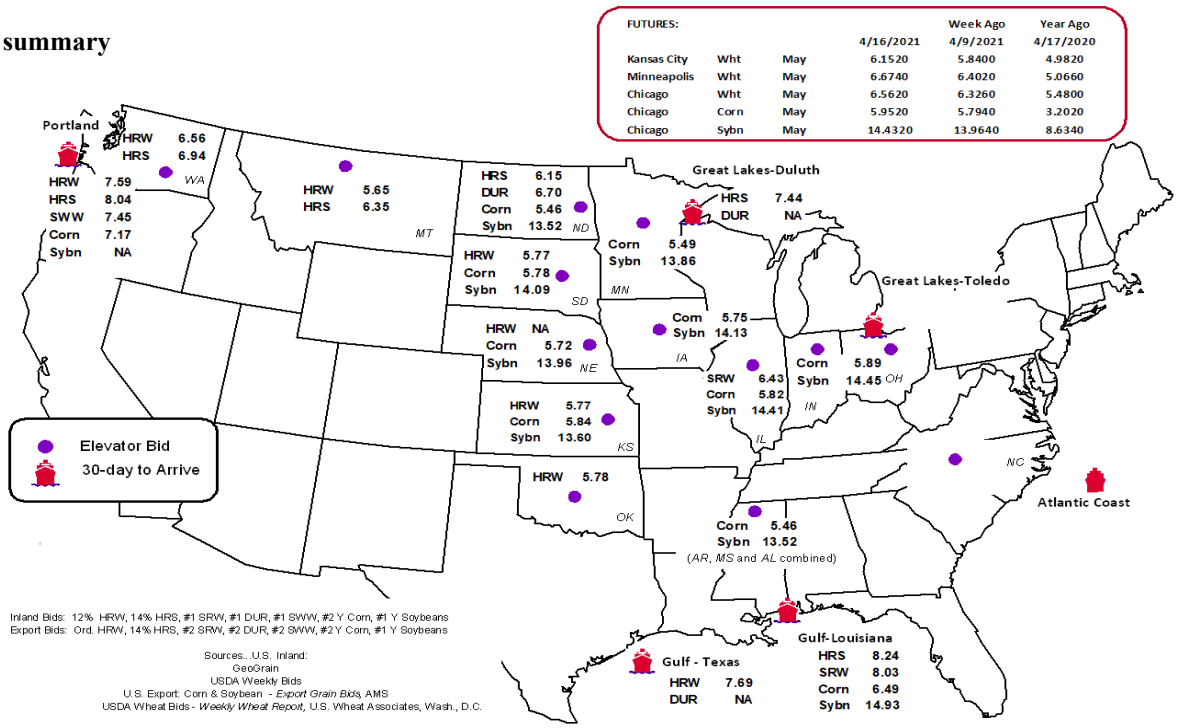
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	4/16/2021	4/9/2021
Corn	IL–Gulf	-0.67	-0.71
Corn	NE–Gulf	-0.77	-0.84
Soybean	IA–Gulf	-0.80	-0.83
HRW	KS–Gulf	-1.92	-1.88
HRS	ND–Portland	-1.89	-2.07

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]
4/14/2021[p]	1,404	2,026	6,181	223	9,834	4/10/2021	3,235
4/07/2021[r]	2,008	1,447	6,712	460	10,627	4/3/2021	2,528
2021 YTD[r]	26,897	26,532	100,839	8,906	163,174	2021 YTD	37,758
2020 YTD[r]	5,203	9,951	64,351	3,096	82,601	2020 YTD	35,308
2021 YTD as % of 2020 YTD	517	267	157	288	198	% change YTD	107
Last 4 weeks as % of 2020[2]	368	236	137	176	167	Last 4wks. % 2020	108
Last 4 weeks as % of 4-year avg.[2]	267	117	108	89	120	Last 4wks. % 4 yr.	133
Total 2020	45,294	64,116	299,882	24,458	433,750	Total 2020	126,407
Total 2019	40,974	51,167	251,181	16,192	359,514	Total 2019	127,622

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

[2] Compared with same 4-weeks in 2020 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.

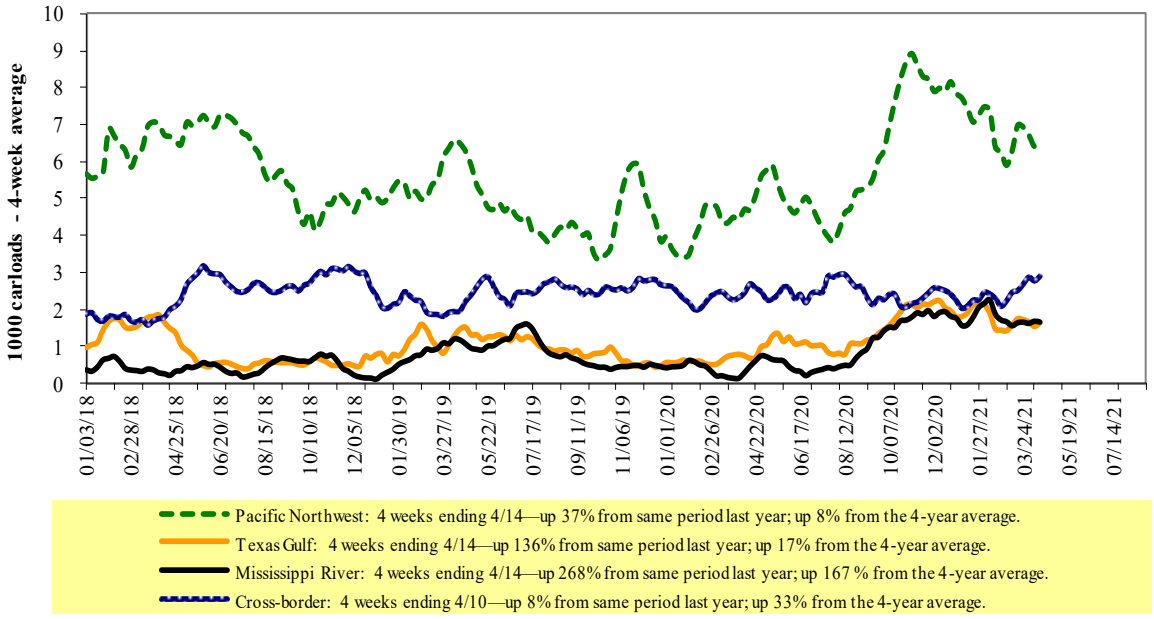
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

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	
4/10/2021	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,605	2,654	12,054	1,029	7,005	24,347	5,711	6,564
This week last year	1,462	2,373	11,793	1,008	5,563	22,199	5,265	5,500
2021 YTD	28,620	36,291	182,579	14,431	91,563	353,484	69,480	74,538
2020 YTD	25,623	34,637	158,529	16,212	68,996	303,997	54,843	59,072
2021 YTD as % of 2020 YTD	112	105	115	89	133	116	127	126
Last 4 weeks as % of 2020*	116	97	119	104	131	118	115	133
Last 4 weeks as % of 3-yr. avg.**	98	95	113	105	128	113	115	133
Total 2020	91,659	130,848	613,630	57,782	296,701	1,190,620	238,897	261,778

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

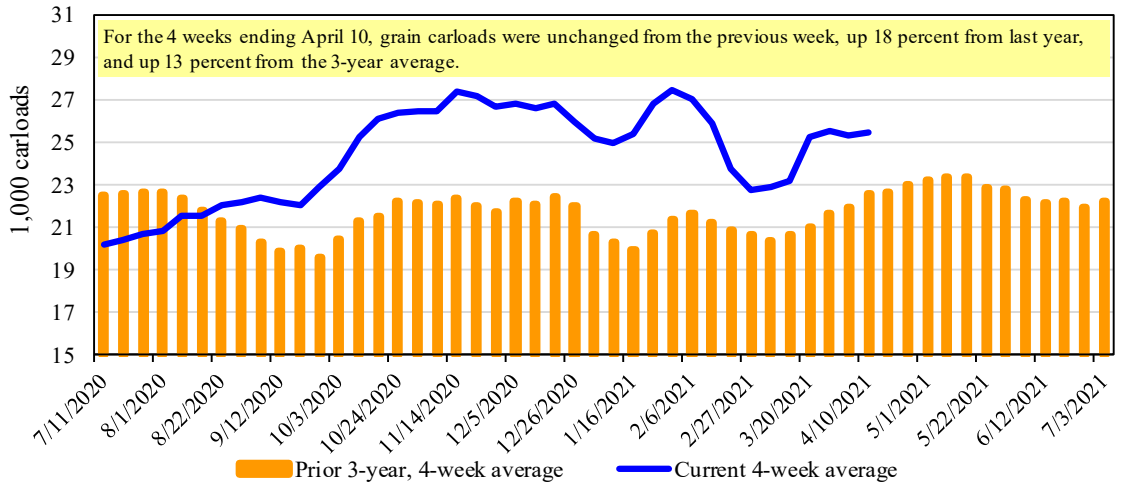
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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							
4/15/2021		May-21	May-20	Jun-21	Jun-20	Jul-21	Jul-20	Aug-21	Aug-20
BNSF[3]	COT grain units	0	0	no bids	no bids	no bids	no bids	0	no bids
	COT grain single-car	0	0	0	0	0	no bids	0	no bids
UP[4]	GCAS/Region 1	no offer	10	no offer	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	no offer	no bid	no offer	no bid	no offer	no bid	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.

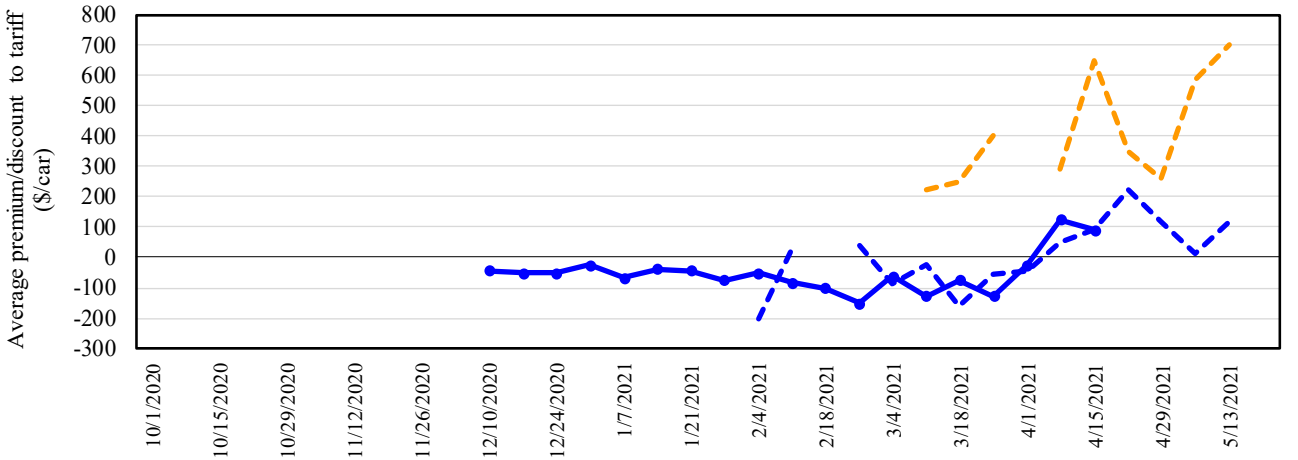
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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
Bids/offers for railcars to be delivered in May 2021, secondary market

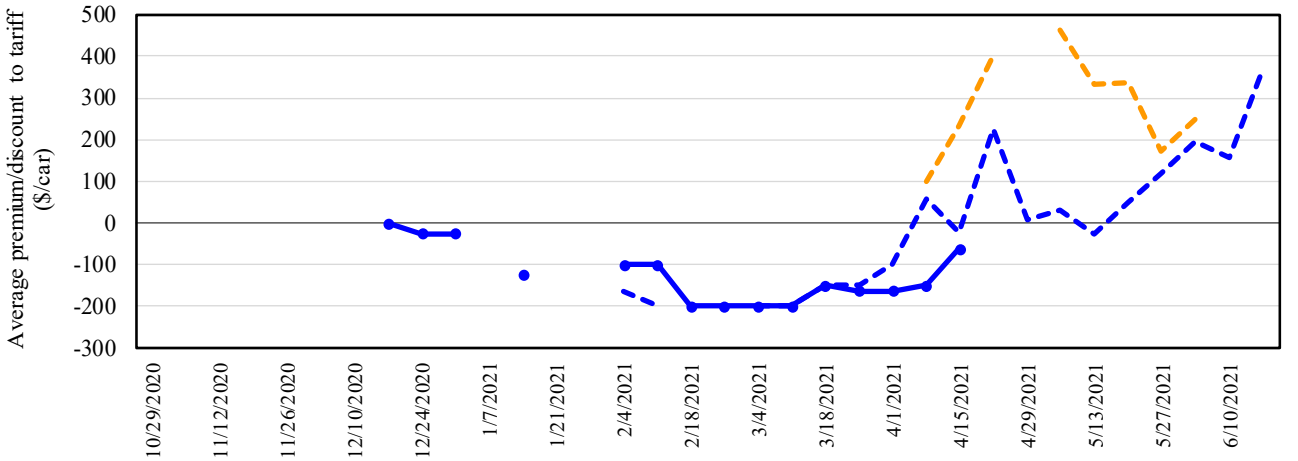


4/15/2021	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$21	$163

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $33 this week and are $33 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
Bids/offers for railcars to be delivered in June 2021, secondary market



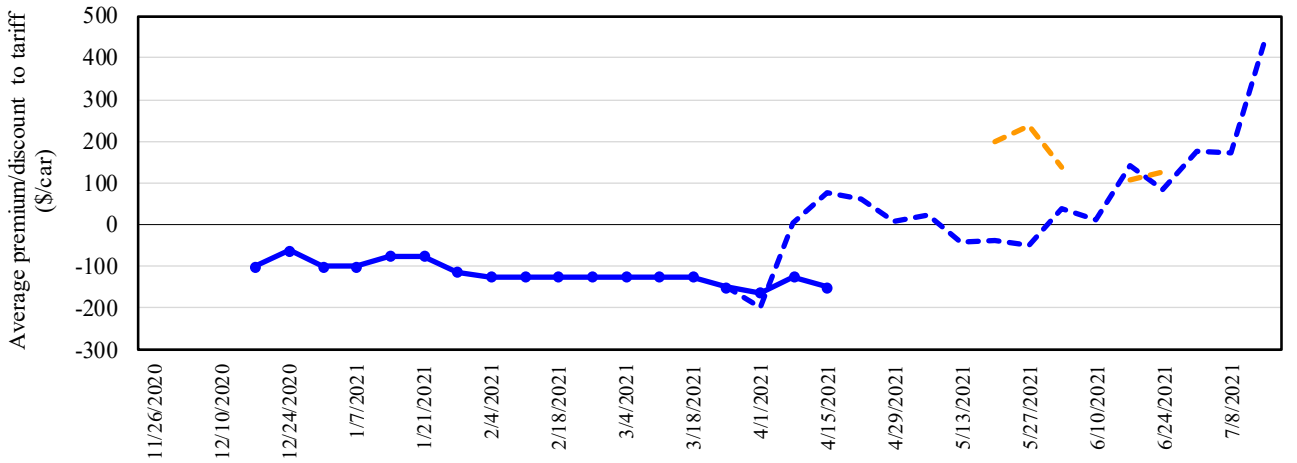
4/15/2021	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$125	$0

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $88 this week and are $63 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

Bids/offers for railcars to be delivered in July 2021, secondary market



4/15/2021	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$200	-$100

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $25 this week and are $88 below the peak.

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

Table 6

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

	For the week ending: 4/15/2021	Delivery period					
		May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21
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 2020	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 2020	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**21**	**(125)**	**(200)**	**(200)**	**192**	**813**
	Change from last week	(42)	25	(50)	(50)	317	13
	Change from same week 2020	92	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**163**	**0**	**(100)**	**(150)**	**(150)**	**625**
	Change from last week	(25)	n/a	0	0	0	0
	Change from same week 2020	188	50	n/a	n/a	n/a	n/a

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

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

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

Source: USDA, Agricultural Marketing Service.

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

Table 7

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

April 2021	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	$3,983	$76	$40.31	$1.10	0
	Grand Forks, ND	Duluth-Superior, MN	$4,208	$0	$41.79	$1.14	-3
	Wichita, KS	Los Angeles, CA	$7,115	$0	$70.66	$1.92	-2
	Wichita, KS	New Orleans, LA	$4,525	$134	$46.26	$1.26	0
	Sioux Falls, SD	Galveston-Houston, TX	$6,851	$0	$68.03	$1.85	-2
	Colby, KS	Galveston-Houston, TX	$4,801	$146	$49.13	$1.34	0
	Amarillo, TX	Los Angeles, CA	$5,121	$204	$52.88	$1.44	-1
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,900	$151	$40.23	$1.02	0
	Toledo, OH	Raleigh, NC	$7,833	$0	$77.79	$1.98	15
	Des Moines, IA	Davenport, IA	$2,455	$32	$24.70	$0.63	1
	Indianapolis, IN	Atlanta, GA	$5,979	$0	$59.37	$1.51	3
	Indianapolis, IN	Knoxville, TN	$5,040	$0	$50.05	$1.27	3
	Des Moines, IA	Little Rock, AR	$3,900	$94	$39.66	$1.01	2
	Des Moines, IA	Los Angeles, CA	$5,780	$273	$60.11	$1.53	1
Soybeans	Minneapolis, MN	New Orleans, LA	$5,246	$148	$53.56	$1.46	42
	Toledo, OH	Huntsville, AL	$6,595	$0	$65.49	$1.78	17
	Indianapolis, IN	Raleigh, NC	$7,125	$0	$70.75	$1.93	3
	Indianapolis, IN	Huntsville, AL	$5,247	$0	$52.11	$1.42	3
	Champaign-Urbana, IL	New Orleans, LA	$4,645	$151	$47.63	$1.30	0
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,018	$0	$39.90	$1.09	-3
	Wichita, KS	Galveston-Houston, TX	$4,236	$0	$42.07	$1.14	-3
	Chicago, IL	Albany, NY	$6,376	$0	$63.32	$1.72	-10
	Grand Forks, ND	Portland, OR	$5,676	$0	$56.37	$1.53	-2
	Grand Forks, ND	Galveston-Houston, TX	$5,996	$0	$59.54	$1.62	-2
	Colby, KS	Portland, OR	$6,012	$240	$62.08	$1.69	-1
Corn	Minneapolis, MN	Portland, OR	$5,180	$0	$51.44	$1.31	0
	Sioux Falls, SD	Tacoma, WA	$5,140	$0	$51.04	$1.30	0
	Champaign-Urbana, IL	New Orleans, LA	$3,820	$151	$39.43	$1.00	-1
	Lincoln, NE	Galveston-Houston, TX	$3,880	$0	$38.53	$0.98	0
	Des Moines, IA	Amarillo, TX	$4,320	$118	$44.07	$1.12	2
	Minneapolis, MN	Tacoma, WA	$5,180	$0	$51.44	$1.31	0
	Council Bluffs, IA	Stockton, CA	$5,100	$0	$50.65	$1.29	2
Soybeans	Sioux Falls, SD	Tacoma, WA	$5,850	$0	$58.09	$1.58	0
	Minneapolis, MN	Portland, OR	$5,900	$0	$58.59	$1.59	0
	Fargo, ND	Tacoma, WA	$5,750	$0	$57.10	$1.55	0
	Council Bluffs, IA	New Orleans, LA	$4,875	$174	$50.14	$1.36	0
	Toledo, OH	Huntsville, AL	$4,945	$0	$49.11	$1.34	3
	Grand Island, NE	Portland, OR	$5,260	$246	$54.67	$1.49	-1

[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: April 2021							
Commodity	Origin state	Destination region	Tariff rate per car[1]	Fuel surcharge per car[2]	Tariff rate plus fuel surcharge per: metric ton[3]	bushel[3]	Percent change[4] Y/Y
Wheat	MT	Chihuahua, CI	$7,384	$0	$75.45	$2.05	-2
	OK	Cuautitlan, EM	$6,713	$105	$69.65	$1.89	-1
	KS	Guadalajara, JA	$7,471	$644	$82.91	$2.25	1
	TX	Salinas Victoria, NL	$4,347	$64	$45.07	$1.23	0
Corn	IA	Guadalajara, JA	$8,902	$531	$96.38	$2.45	1
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	0
	NE	Queretaro, QA	$8,300	$218	$87.04	$2.21	0
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,665	$213	$80.49	$2.04	0
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	0
Soybeans	MO	Bojay (Tula), HG	$8,547	$500	$92.43	$2.51	1
	NE	Guadalajara, JA	$9,157	$517	$98.84	$2.69	1
	IA	El Castillo, JA	$9,410	$0	$96.15	$2.61	-1
	KS	Torreon, CU	$8,014	$349	$85.45	$2.32	1
Sorghum	NE	Celaya, GJ	$7,772	$463	$84.15	$2.14	1
	KS	Queretaro, QA	$8,108	$131	$84.17	$2.14	0
	NE	Salinas Victoria, NL	$6,713	$105	$69.66	$1.77	0
	NE	Torreon, CU	$7,092	$314	$75.67	$1.92	1

[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.

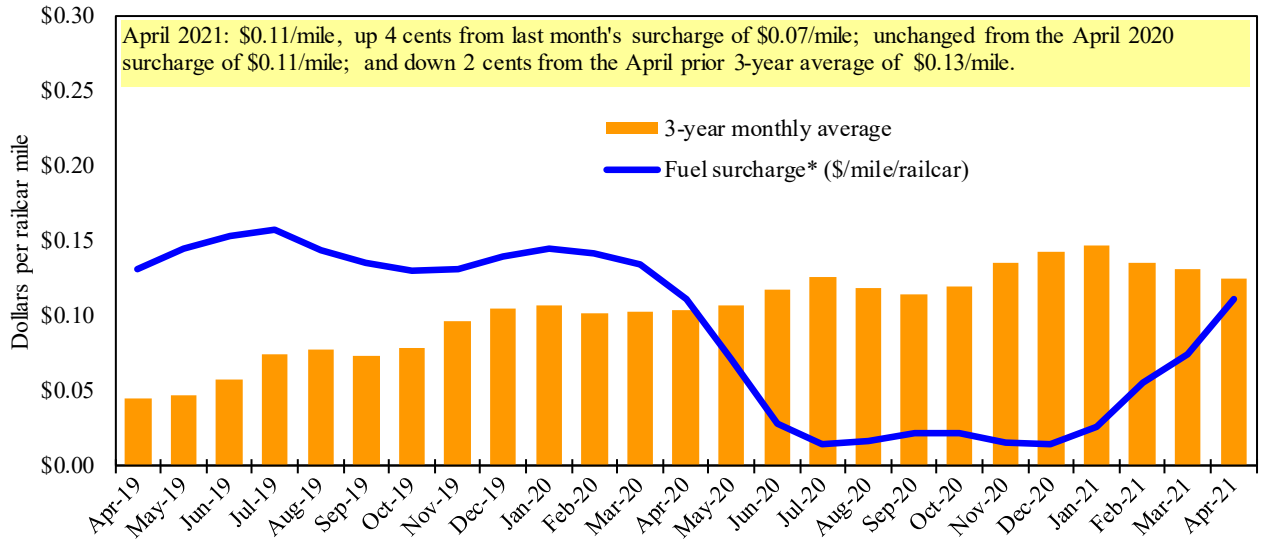
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

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

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.

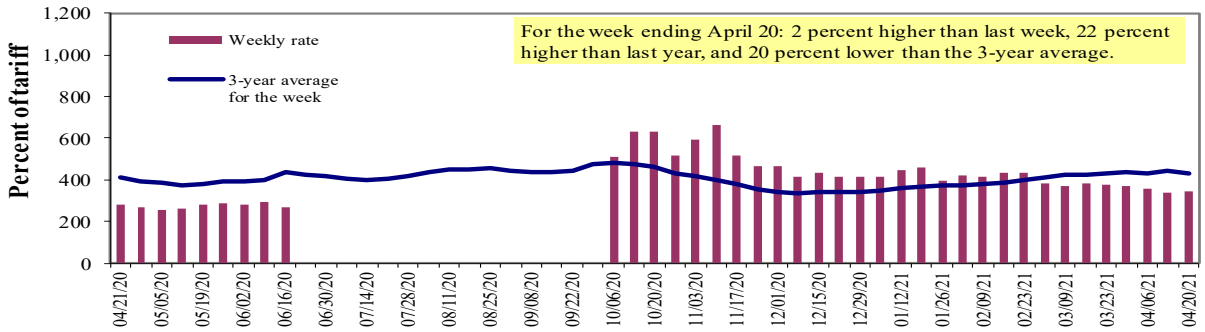
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

**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[1,2,3]



[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average of the 3-year average.
[3]No rates data from 06/23/20 to 9/29/20 due to the lock closure for rehabilitation and replacement of lock machinery.
Source: USDA, Agricultural Marketing Service.

Table 9
Weekly barge freight rates: Southbound only

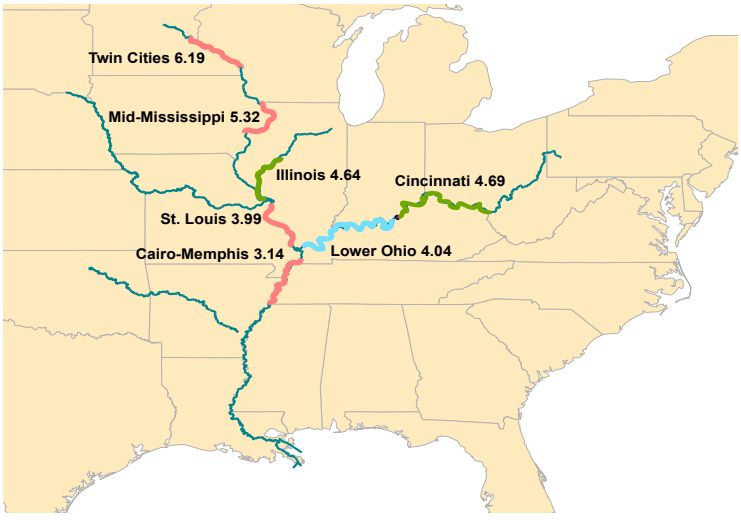
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	4/20/2021	433	350	345	238	275	275	220
	4/13/2021	425	343	338	230	280	280	221
$/ton	4/20/2021	26.80	18.62	16.01	9.50	12.90	11.11	6.91
	4/13/2021	26.31	18.25	15.68	9.18	13.13	11.31	6.94
Current week % change from the same week:								
	Last year	25	18	22	31	41	41	26
	3-year avg. [2]	-13	-23	-20	-28	-24	-25	-28
Rate[1]	May	425	346	343	235	270	270	220
	July	411	330	329	229	256	256	218

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

Figure 9
Benchmark tariff rates

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

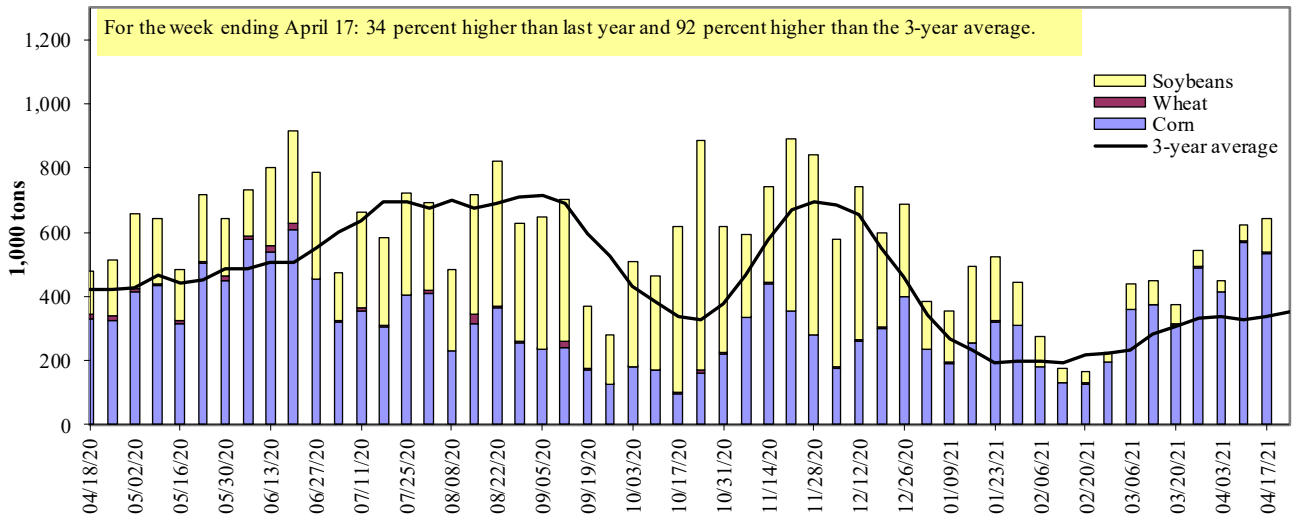
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 10

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



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

Source: U.S. Army Corps of Engineers.

Table 10

Barge grain movements (1,000 tons)

For the week ending 04/17/2021	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	195	0	25	0	220
Winfield, MO (L25)	334	0	63	0	397
Alton, IL (L26)	525	5	71	0	601
Granite City, IL (L27)	535	5	101	0	640
Illinois River (La Grange)	220	5	13	0	237
Ohio River (Olmsted)	103	2	30	2	136
Arkansas River (L1)	0	17	4	0	21
Weekly total - 2021	638	24	135	2	798
Weekly total - 2020	428	46	188	0	661
2021 YTD[1]	8,208	292	3,199	116	11,815
2020 YTD[1]	4,005	468	3,098	13	7,583
2021 as % of 2020 YTD	205	62	103	864	156
Last 4 weeks as % of 2020[2]	191	105	66	1,597	148
Total 2020	18,942	1,765	19,205	237	40,149

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

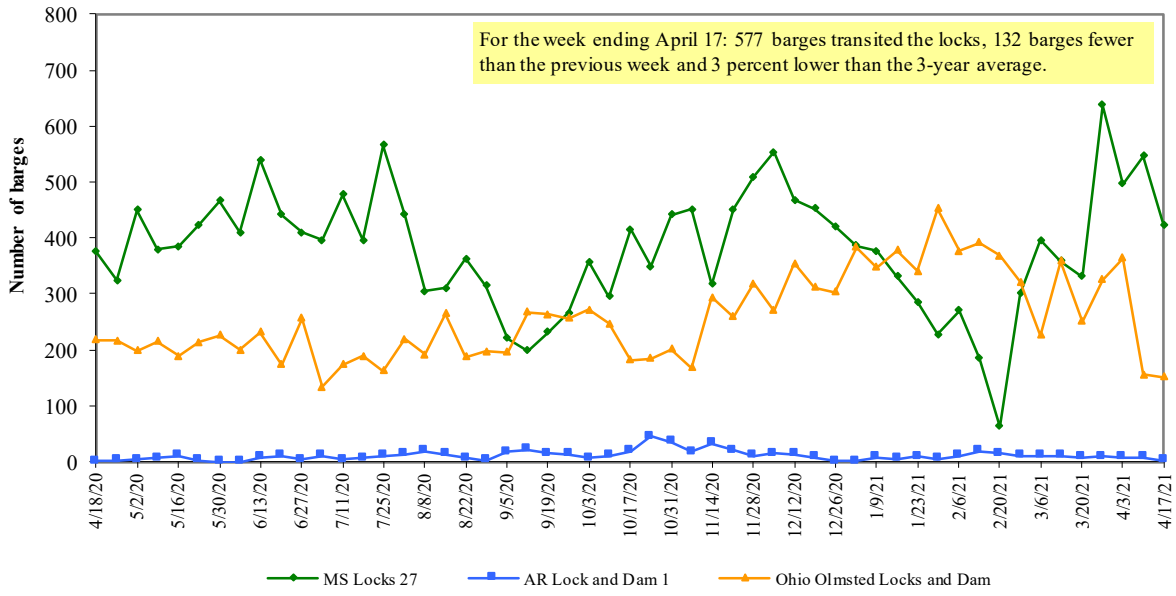
[2] As a percent of same period in 2020.

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

Source: U.S. Army Corps of Engineers.

Figure 11

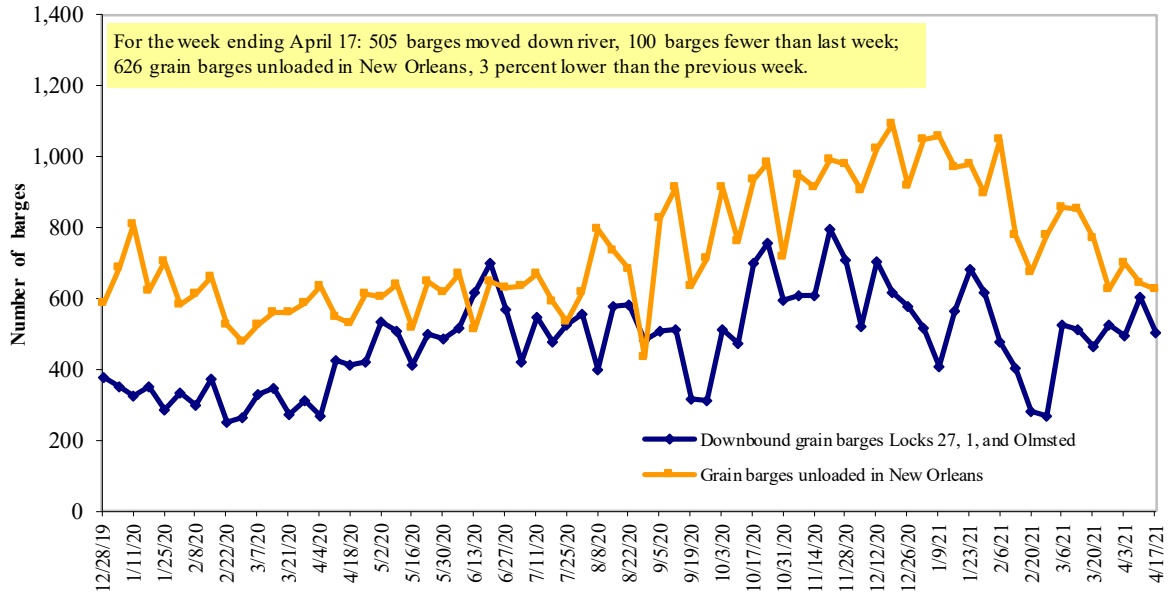
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



Source: U.S. Army Corps of Engineers.

Figure 12

Grain barges for export in New Orleans region



Note: Olmsted = Olmsted Locks and Dam.

Source: U.S. Army Corps of Engineers and USDA, Agricultural Marketing Service.

Truck Transportation

The **weekly diesel price** provides a proxy for trends in U.S. truck rates as diesel fuel is a significant expense for truck grain movements.

Table 11

Retail on-highway diesel prices, week ending 4/19/2021 (U.S. $/gallon)

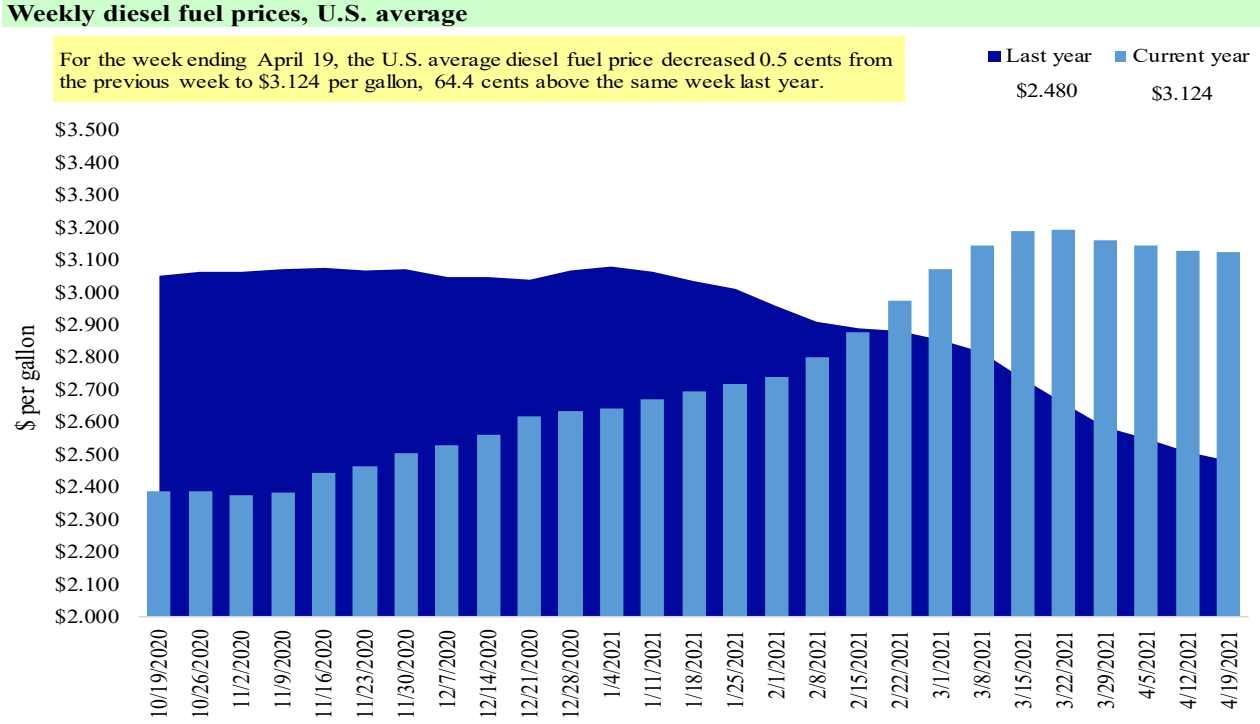
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.096	-0.004	0.520
	New England	3.071	0.000	0.362
	Central Atlantic	3.259	0.002	0.512
	Lower Atlantic	2.993	-0.008	0.559
II	Midwest	3.054	-0.007	0.728
III	Gulf Coast	2.923	-0.001	0.651
IV	Rocky Mountain	3.232	-0.024	0.761
V	West Coast	3.645	0.001	0.671
	West Coast less California	3.248	0.000	0.608
	California	3.977	0.002	0.729
Total	United States	3.124	-0.005	0.644

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

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

Figure 13

Weekly diesel fuel prices, U.S. average



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

Grain Exports

Table 12

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

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
4/8/2021	1,146	259	1,251	1,607	78	4,342	29,024	5,265	38,630
This week year ago	1,663	257	1,345	858	221	4,344	13,844	4,983	23,171
Cumulative exports-marketing year[2]									
2020/21 YTD	7,400	1,513	6,270	5,010	595	20,788	37,787	55,498	114,073
2019/20 YTD	7,934	2,108	6,009	4,126	699	20,876	20,819	32,494	74,189
YTD 2020/21 as % of 2019/20	93	72	104	121	85	100	182	171	154
Last 4 wks. as % of same period 2019/20*	79	122	109	215	36	115	225	117	181
Total 2019/20	9,526	2,318	6,960	4,751	922	24,477	42,622	43,994	111,094
Total 2018/19	8,591	3,204	6,776	5,164	479	24,214	48,924	46,189	119,327

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

[2] Shipped export sales to date; 2020/21 marketing year now in effect for wheat, corn, and soybeans.

Note: marketing year: wheat = 6/01-5/31, corn and soybeans = 9/01-8/31. YTD = year-to-date; wks. = weeks; HRW= hard red winter; SRW = soft red winter; HRS= hard red spring; SWW= soft white wheat; DUR= durum.

Source: USDA, Foreign Agricultural Service.

Table 13

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

For the week ending 4/8/2021	Total commitments[2]		% change	Exports[3]
	2020/21 current MY	2019/20 last MY	current MY from last MY	3-yr. avg. 2017-19
		- 1,000 mt -		
Mexico	12,915	12,036	7	14,869
Japan	9,369	7,842	19	11,221
Columbia	3,353	3,237	4	4,830
Korea	2,779	1,734	60	4,011
China	23,260	880	2,543	909
Top 5 importers	**51,677**	**25,729**	**101**	**35,840**
Total U.S. corn export sales	**66,811**	**34,663**	**93**	**49,983**
% of projected exports	98%	77%		
Change from prior week[2]	**328**	**907**		
Top 5 importers' share of U.S. corn export sales	77%	74%		72%
USDA forecast April 2021	**68,066**	**45,242**	**50**	
Corn use for ethanol USDA forecast, March 2021	**126,365**	**123,368**	**2**	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2019/20; 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 4/08/2021	Total commitments[2] 2020/21 current MY	2019/20 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2017-19
		- 1,000 mt -		- 1,000 mt -
China	35,700	12,623	183	19,106
Mexico	4,574	4,096	12	4,591
Egypt	2,619	2,447	7	2,980
Indonesia	1,905	1,559	22	2,360
Japan	1,911	2,103	(9)	2,288
Top 5 importers	**46,709**	**22,828**	**105**	**31,324**
Total U.S. soybean export sales	**60,763**	**37,477**	**62**	**49,352**
% of projected exports	98%	82%		
change from prior week[2]	**90**	**245**		
Top 5 importers' share of U.S. soybean export sales	77%	61%		**63%**
USDA forecast, April 2021	**62,125**	**45,831**	**136**	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2019/20; marketing year (MY) = Sep 1 - Aug 31.

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

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

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 15

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

For the week ending 4/8/2021	Total Commitments 2020/21 current MY	2019/20 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2017-19
		1,000 mt -		- 1,000 mt -
Mexico	3,417	3,713	(8)	3,213
Philippines	3,193	3,210	(1)	2,888
Japan	2,458	2,681	(8)	2,655
Nigeria	1,390	1,533	(9)	1,433
Korea	1,842	1,551	19	1,372
Indonesia	879	997	(12)	1,195
Taiwan	1,139	1,292	(12)	1,175
Thailand	809	854	(5)	727
Italy	588	850	(31)	622
Colombia	382	767	(50)	618
Top 10 importers	**16,097**	**17,448**	(8)	**15,897**
Total U.S. wheat export sale	**25,129**	**25,220**	(0)	**23,821**
% of projected exports	94%	96%		
change from prior week[2]	**-57**	**178**		
Top 10 importers' share of U.S. wheat export sales	64%	69%		67%
USDA forecast, April 2021	**26,839**	**26,294**	2	

[1] Based on USDA, Foreign Agricultural Service(FAS) marketing year ranking reports for 2019/20; 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 04/15/21	Previous week*	Current week as % of previous	2021 YTD*	2020 YTD*	2021 YTD as % of 2020 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2020 total*
Pacific Northwest									
Wheat	463	309	150	4,796	4,777	100	109	117	15,966
Corn	436	441	99	5,710	1,884	303	224	128	9,969
Soybeans	0	20	0	3,645	2,347	155	15	7	14,028
Total	**898**	**769**	**117**	**14,150**	**9,007**	**157**	**143**	**105**	**39,963**
Mississippi Gulf									
Wheat	62	68	91	609	1,136	54	77	55	3,422
Corn	858	1,054	81	15,160	8,549	177	156	150	28,781
Soybeans	58	187	31	9,115	7,899	115	55	59	38,013
Total	**977**	**1,309**	**75**	**24,885**	**17,585**	**142**	**124**	**119**	**70,215**
Texas Gulf									
Wheat	77	67	115	1,088	1,116	97	150	91	4,248
Corn	0	0	n/a	174	182	96	66	50	723
Soybeans	0	8	0	656	7	n/a	n/a	n/a	2,098
Total	**77**	**75**	**103**	**1,918**	**1,304**	**147**	**150**	**94**	**7,068**
Interior									
Wheat	44	42	103	794	742	107	98	156	2,263
Corn	180	196	92	2,679	2,352	114	109	115	8,683
Soybeans	123	127	97	2,172	2,082	104	126	105	7,274
Total	**347**	**365**	**95**	**5,645**	**5,176**	**109**	**112**	**116**	**18,220**
Great Lakes									
Wheat	1	0	n/a	21	45	45	4	6	891
Corn	25	0	n/a	25	0	n/a	n/a	n/a	111
Soybeans	0	0	n/a	0	0	n/a	n/a	0	1,111
Total	**26**	**0**	**n/a**	**45**	**45**	**100**	**59**	**73**	**2,113**
Atlantic									
Wheat	0	0	n/a	71	1	n/a	0	0	65
Corn	0	7	0	7	0	n/a	n/a	149	33
Soybeans	13	13	100	953	317	301	356	133	1,870
Total	**13**	**20**	**65**	**1,032**	**318**	**324**	**362**	**114**	**1,968**
U.S. total from ports*									
Wheat	646	486	133	7,378	7,817	94	106	101	26,854
Corn	1,498	1,698	88	23,756	12,967	183	162	138	48,301
Soybeans	194	355	55	16,541	12,651	131	77	64	64,394
Total	**2,338**	**2,538**	**92**	**47,675**	**33,435**	**143**	**129**	**113**	**139,548**

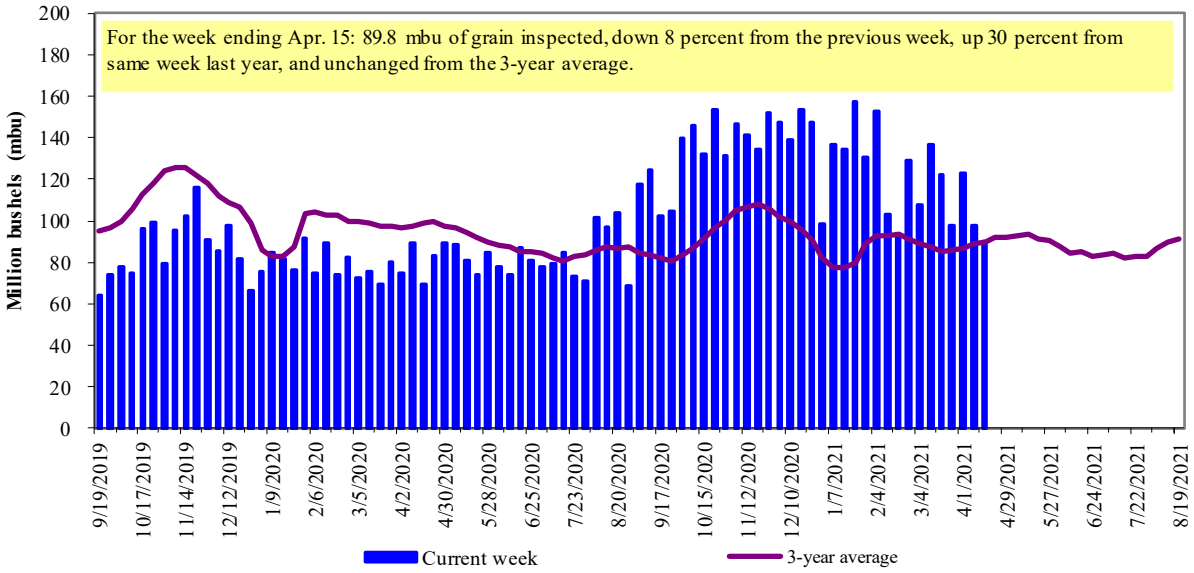
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

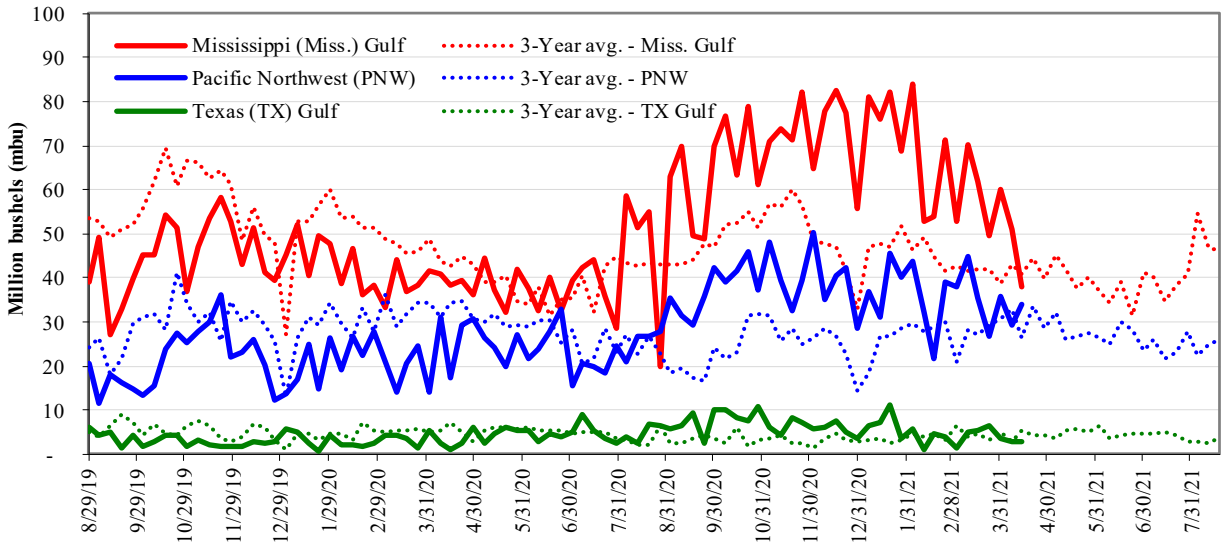


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 04/15/21 inspections (mbu):	
MS Gulf:	38.2
PNW:	34.2
TX Gulf:	2.8

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 25	up 3	down 24	up 16
Last Year (same wk):	unchanged	up 173	up 4	up 98
3-yr avg. (4-wk. mov. Avg):	down 7	down 32	down 10	up 15

Source: USDA, Federal Grain Inspection Service.

Ocean Transportation

Table 17

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

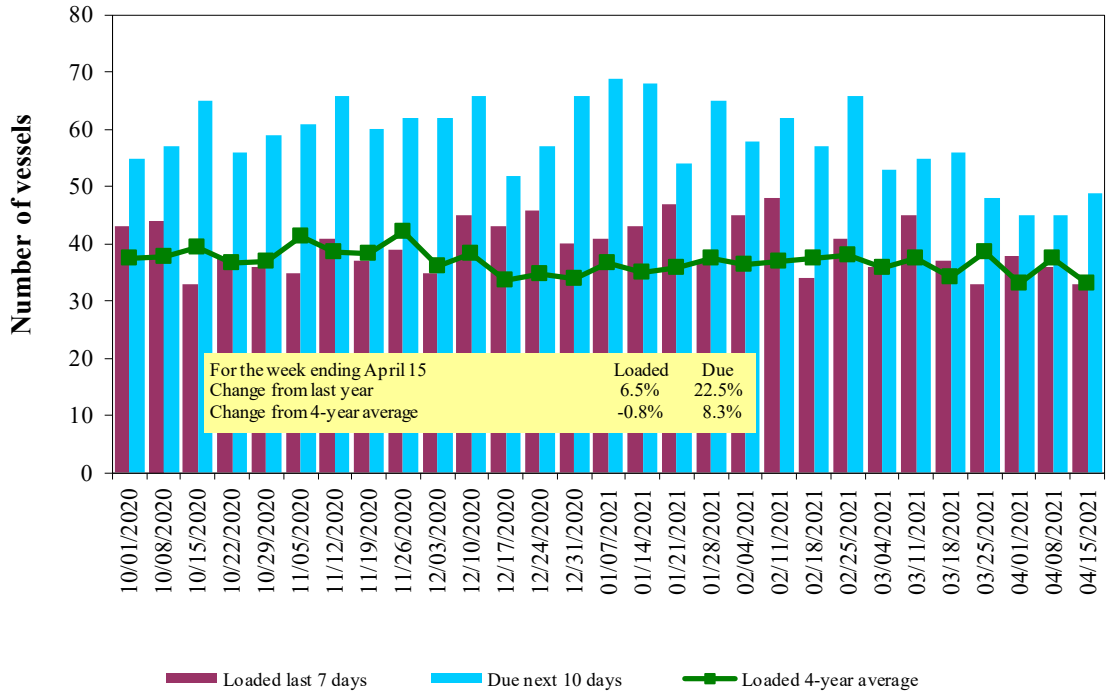
	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
4/15/2021	29	33	49	24
4/8/2021	40	36	45	20
2020 range	(22…60)	(23...46)	(34...68)	(7…24)
2020 average	37	33	49	15

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

Source: USDA, Agricultural Marketing Service.

Figure 16

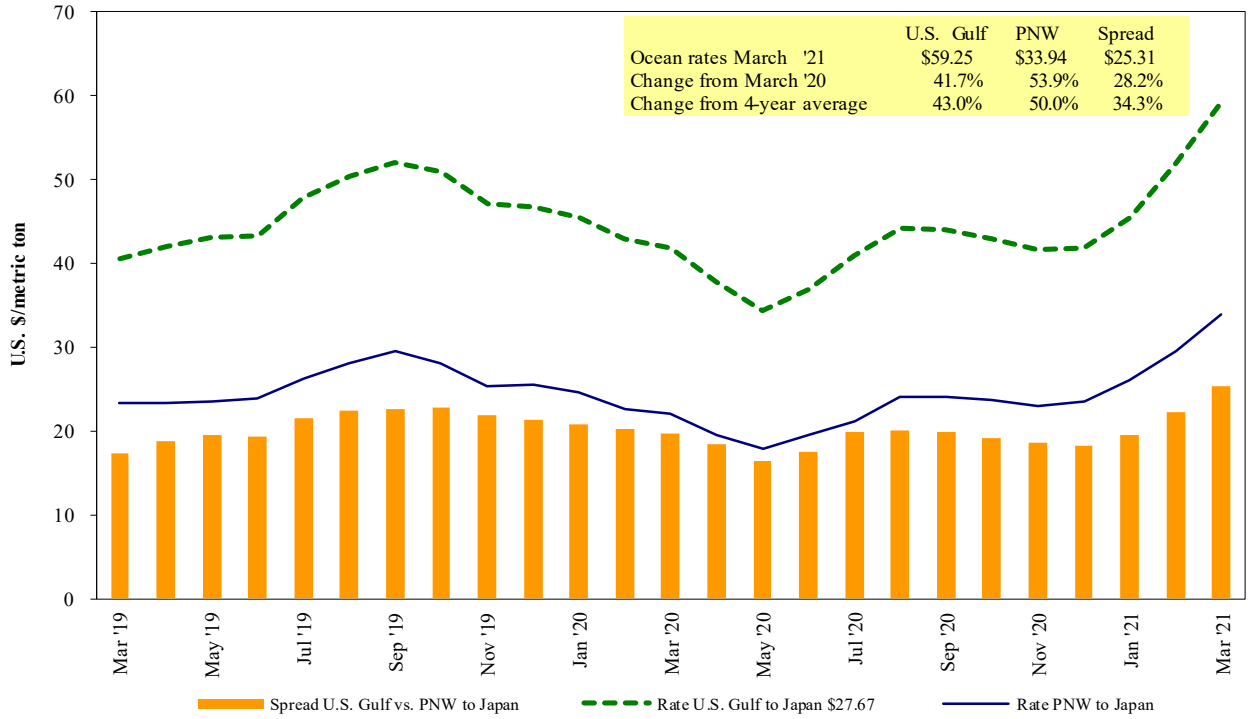
U.S. Gulf[1] vessel loading activity



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

Figure 17

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest

Source: O'Neil Commodity Consulting

Table 18

Ocean freight rates for selected shipments, week ending 04/17/2021

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	Japan	Heavy grain	Aug 21/Sep 9	50,000	60.90
U.S. Gulf	Japan	Grain	May 25/Jun 25	50,000	46.85 op 47.85
U.S. Gulf	Japan	Wheat	May 1/15	31,877	58.33
U.S. Gulf	Japan	Wheat	May 1/14	47,405	67.50
U.S. Gulf	Japan	Heavy grain	Apr 15/May 15	50,000	47.00
U.S. Gulf	Japan	Heavy grain	Apr 1/30	48,000	46.75
U.S. Gulf	China	Heavy grain	Apr 14/29	68,000	63.50
U.S. Gulf	South Korea	Heavy grain	Feb 20/28	51,000	51.50
U.S. Gulf	Sudan	Wheat	May 20/30	48,000	112.75*
U.S. Gulf	Pt Sudan	Sorghum	Feb 15/25	34,860	143.13*
U.S. Gulf	Vietnam	Corn	Feb 5/15	70,000	47.25
PNW	Japan	Grain	Mar 5/14	28,000	48.10
PNW	Taiwan	Wheat	May 29/Jun 12	45,665	48.00
PNW	Taiwan	Corn	Feb 20/Mar 15	65,000	24.90
Brazil	China	Heavy grain	Mar 21/31	66,000	44.00
Brazil	China	Heavy grain	Mar 21/30	66,000	45.50
River Plate	S. Korea	Corn	May 1/31	68,000	52.60*
Ukraine	China	Corn	Feb 10/17	60,000	36.40 op 38.90

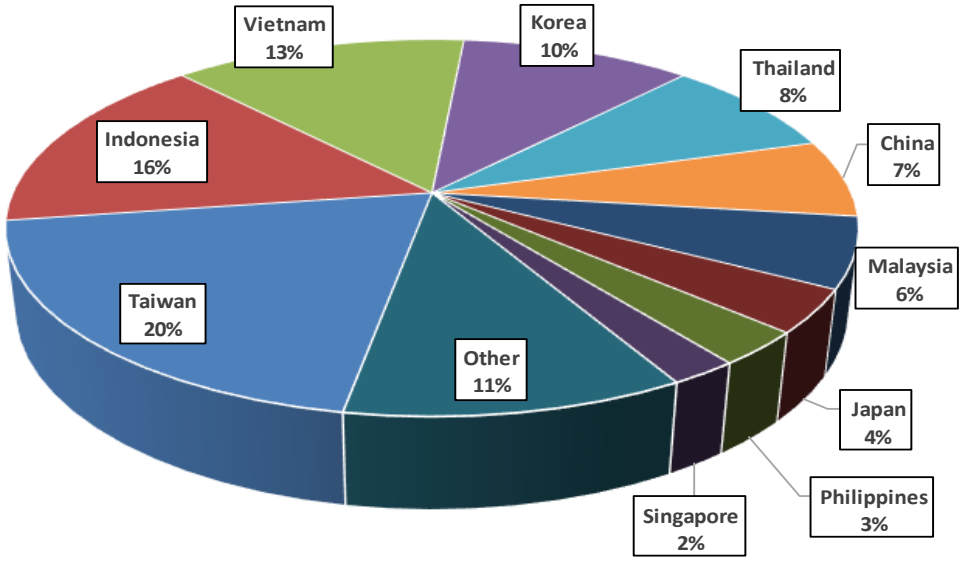
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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

Source: Maritime Research, Inc.

In 2019, containers were used to transport 9 percent of total U.S. waterborne grain exports. Approximately 60 percent of U.S. waterborne grain exports in 2019 went to Asia, of which 14 percent were moved in containers. Approximately 94 percent of U.S. waterborne containerized grain exports were destined for Asia.

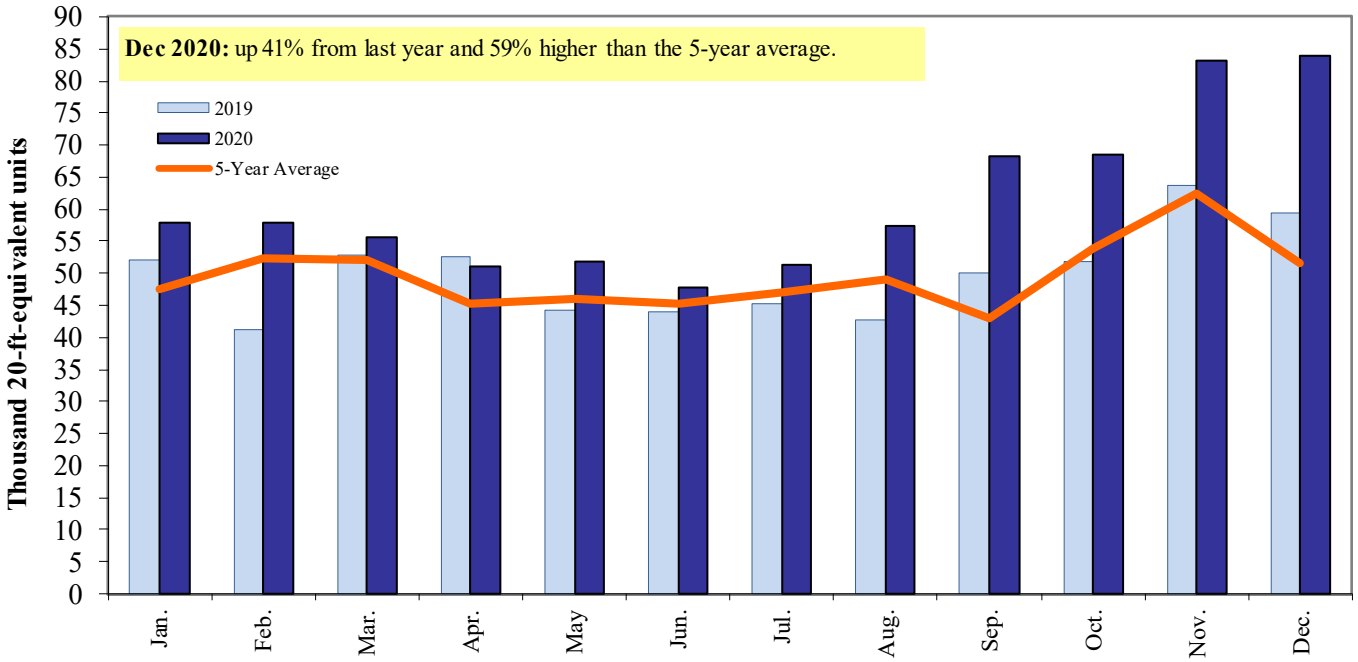
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Dec 2020



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

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

Figure 19
Monthly shipments of containerized grain to Asia



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 110220, 110290, 1201, 120100, 120190, 120810, 230210, 230310, 230330, and 230990.

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

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