United States Department of Agriculture

Grain Transportation Report

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

Contact Us

February 27, 2020

Contents

The next release is March 5, 2020

WEEKLY HIGHLIGHTS

High Water Persists in the Mississippi River System, Barge Surplus Remains

Several gauges on the Mississippi and Ohio Rivers remain at flood stage, but the navigation challenges have not resulted in higher barge rates. Now at their lowest level since 2017, rates have declined or not changed for the past 6 weeks at all river spans in ***GTR* table 9**. In some areas, such as the lower Mississippi and Ohio Rivers, grain elevators have been inoperable, reducing shippers' demand for barge services. A number of other factors reduce demand for what are typically export-driven barge services. These factors include increased domestic use of corn for feed and an uncertainty surrounding international trade. Lowered demand for barge services puts downward pressure on rates. That dampening effect has, so far, outweighed the upward rate pressure from supply chain difficulties. Because both supply and demand reductions produce lower quantities sold, the current market has few shipments selling despite low rates.

USDA Agricultural Outlook Forum: Presentations and 2020/21 Commodity Outlooks Available

Last week, USDA held its 96th Agricultural Outlook Forum. This year's theme was "The Innovation Imperative: Shaping the Future of Agriculture." Presentation slides to the sessions are now available online. Of note, USDA, Agricultural Marketing Service staff participated on a panel covering the "Black Sea Grain Export Market," which collectively discussed transportation costs for Ukrainian wheat and corn and dynamic and structural changes affecting the region. At the Forum, USDA also released its first projections for the next marketing year (2020/21).

DOT Allocates $15.9 Million for Port of Milwaukee

The U.S. Department of Transportation (DOT) has awarded a $15.9 million grant to establish an Agricultural Maritime Export Facility for the Port of Milwaukee, WI. The facility will be the first of its kind on the Great Lakes–St. Lawrence Seaway System. Initially, the facility will handle the export of dried distillers grain with solubles (DDGS), a byproduct of ethanol production. In the future, the facility is also expected to ship soybeans, corn, and other grains. This project is anticipated to benefit Wisconsin in many ways, including improving the State's transportation infrastructure, increasing the reliability of its movement of goods, enhancing its agribusiness access to international markets, and creating new jobs in Milwaukee.

USDA Releases Third-Quarter 2019 Mexico Transport Cost Indicator Report

On February 27, 2020, USDA's Agricultural Marketing Service released the third-quarter *Mexico Transport Cost Indicator Report*. This quarterly report examines, in depth, the specific cost components of transporting grain, soybeans, fruit, vegetables, and container shipments from the United States to Mexico.

Snapshots by Sector

Export Sales

For the week ending February 13, **unshipped balances** of wheat, corn, and soybeans totaled 22.4 million metric tons (mmt). This represented a 33-percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached 1.25 mmt, up 29 percent from the past week. Net **soybean export sales** were .494 mmt, down 23 percent from the previous week. Net weekly **wheat export sales** reached .346 mmt, down 46 percent from the previous week.

Rail

U.S. Class I railroads originated 18,325 **grain carloads** during the week ending February 15. This was a 12-percent decrease from the previous week, 14 percent less than last year, and 16 percent lower than the 3-year average.

Average March shuttle **secondary railcar** bids/offers (per car) were $142 below tariff for the week ending February 20. This was $108 more than last week and $1,454 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending February 22, **barge grain movements** totaled 396,760. This was a 28.3-percent decrease from the previous week and 2 percent more than the same period last year.

For the week ending February 22, 253 grain barges **moved down river**—121 barges fewer than the previous week. There were 524 grain barges **unloaded in New Orleans**, 20 percent fewer than the previous week.

Ocean

For the week ending February 20, 27 **oceangoing grain vessels** were loaded in the Gulf—22.9 percent fewer than the same period last year. Within the next 10 days (starting February 21), 39 vessels were expected to be loaded—40.0 percent fewer than the same period last year.

As of February 20, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $43.25. This was 1 percent more than the previous week. The rate from the Pacific Northwest to Japan was $22.75 per mt, 2 percent more than the previous week.

Fuel

For the week ending February 24, the U.S. average **diesel fuel price** decreased 0.8 cents from the previous week to $2.882 per gallon, 16.6 cents below the same week last year.

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Web: **http://dx.doi.org/10.9752/TS056.02-27-2020**

Feature Article/Calendar

Outlook on Transportation in 2020 Based on USDA's 2019 December Grain Stocks

Throughout the year, available grain supplies strongly influence transportation demand. To locate trends in grain transportation demand, we examine supply numbers (from period to period), along with other data, to provide insights into recent, current, and future changes in grain stocks and transportation.[1] Overall, we find truck movements of grain increased earlier in marketing year (MY) 2019/20 (September through November) than they had in MY 2018/19. Furthermore, the demand for grain transportation between December 1 and the end of the marketing year could be weak overall.[2] However, the demand for transportation could increase significantly in MY 2020/21, if projected numbers are realized.

September 1 to December 1, 2019—Increased Truck Movements

Disappearance (the difference between grain supplies across periods) can be used as a proxy for the demand for transportation, because everything that leaves storage must enter the transportation system. Disappearance coupled with known barge and rail shipments can indicate how much is moved by truck.

According to USDA's National Agricultural Statistics Service, U.S. grain stocks were a record 5.8 billion bushels (bbu) on September 1, 2019. From September 1 to December 1, producers harvested only 17.6 bbu of new crop corn, soybeans, and grain sorghum—8 percent less than the year before. This shortfall contributed to relatively low grain stocks on December 1, which reached 16.9 bbu, down 7 percent from 2018.

At the same time, grain disappearance during this period was 6.5 bbu, 4 percent higher than 2018 and 1 percent lower than the prior 3-year average, also contributing to lower December 1 grain stocks compared to 2018.

Between September 1 and December 1, rail and barge grain movements were down 7 percent and 4 percent respectively, compared to the year before. These two observations—higher disappearance with lower rail and barge movements—suggest increased truck shipments of grain likely made up the difference.

At the commodity level, corn disappearance was about the same as the prior year, soybean disappearance was up 8 percent, and wheat disappearance was up 35 percent. With corn exports down 363 million bushels (mbu) and total domestic use (industrial use, feed, etc.) up 355 mbu in the quarter, corn transportation tonnages shifted from export to domestic movements.[3] On the other hand, soybean exports increased (up 88 mbu or 23 percent), while the number of soybeans crushed (a major domestic use category) fell 7 mbu (1 percent).[4] Wheat domestic use (largely food) was up 90 mbu, and exports were up 33 mbu.[5] All told, domestic movements were up considerably in the quarter. This shift likely spurred the increased truck share, as trucks move about three-quarters of the Nation's grain tonnage destined to domestic markets.[6]

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[1] For example, USDA's National Agricultural Statistics Service reports the level of the Nation's grain held in storage (i.e., "stocks") on a quarterly basis, most recently for December 1, 2019.
[2] Based on earlier grain disappearance and on grain ending stocks projections in the *World Agricultural Supply and Demand Estimates* report. For wheat, the marketing year ends on May 31, and for corn, sorghum, and soybeans, it ends on August 31.
[3] USDA-ERS, *Feed Grains Data: Yearbook Tables*, February 11, 2020.
[4] USDA-NASS, *Fats and Oils: Oilseed Crushings, Production, Consumption and Stocks*, various issues.
[5] USDA-ERS, *Wheat Data: Yearbook Tables*, February 12, 2020.
[6] USDA-AMS, *Transportation of U.S. Grains: A Modal Share Analysis*, April 2019.

Post-December 1, 2019—Low Transportation Demand in Rest of MY2019/20

Although data sources revealing grain movement patterns after December 1 are limited, a few sources do exist—for example, data on projected disappearance, as well as recent rail, barge, and export volumes. In the USDA's *World Agricultural Supply and Demand Estimates (WASDE)* report in February, MY 2019/20 ending stocks were projected to be 1.9 bbu of corn (ending in August), 0.4 bbu of soybeans (August), and 0.9 bbu of wheat (May). These projections imply further disappearance of 9.5 bbu of corn, 2.8 bbu of soybeans, and 0.9 bbu of wheat between December 1, 2019 and the end of the marketing year.

Compared to this same timeframe last year, this projected disappearance is down 2 percent (specifically, 2 and 4 percent less for corn and wheat, respectively, and unchanged for soybeans). Additionally, 10.1 bbu of corn, soybeans, and wheat remain to be used for domestic purposes, along with 3.2 bbu for export. Both are down 2 percent compared to last year. Therefore, with total post-December 1 disappearance down, overall grain transportation demand is likely to be weaker than in MY 2018/19. Further, given the projected low exports and domestic use, it is likely this weaker demand will extend across all modes (truck, rail, and barge). These projections include activity that has already taken place between December and February.

From December 1 to mid-February, rail grain carloads were well below last year and the prior 3-year average. Over the same span, barge grain shipments exceeded last year's by 8 percent but remained below average. Both rail and barge tend to supply export grain markets, which have also been low, totaling 985 mbu of corn, soybeans, and wheat since December, 7 percent below the same MY 2018/19 period.

A Sneak Peek at the Upcoming Marketing Year

Looking past the current marketing year and into the next, USDA's recent Agricultural Outlook Forum 2020 released several outlook reports, such as the *Grains and Oilseeds Outlook*, which provide the Department's first estimates for MY 2020/21.[7] For MY 2020/21, USDA projects corn production at 15.5 bbu, up 13 percent from MY 2019/20, with a 5-percent increase in domestic use and a 375-mbu increase in exports. Similarly, soybean production, crush, and exports are all forecast to increase, with total disappearance projected to increase by 6 percent from MY 2019/20. Wheat exports are forecast to be unchanged from the current marketing year, while wheat use is forecast down slightly.

These figures suggest an increase in corn transportation demand, including truck, barge, and rail in 2020/21. Renewed soybean demand from China will play an important role in the increase in soybean exports and will likely require increased rail shipments out of the Pacific Northwest and increased barge shipments out of the Gulf. The combination of the *WASDE* and Agricultural Outlook projections suggest that, although overall transportation demand is likely to remain somewhat low for the rest of MY 2019/20, it will likely rebound in 2020/21.

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[7] These forecasts will next be updated in the May *WASDE*, which incorporates farmers' 2020 planting intentions as indicated in the March 31 NASS *Prospective Plantings* report and survey-based forecasts for winter wheat production, as well as global, country-by-country supply and demand projections.

Grain Transportation Indicators

Table 1

Grain transport cost indicators [1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit train	Shuttle		Gulf	Pacific
02/26/20	193	n/a	219	158	193	161
02/19/20	194	n/a	212	162	191	158

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

Source: USDA, Agricultural Marketing Service.

Table 2

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

Commodity	Origin–destination	2/21/2020	2/14/2020
Corn	IL–Gulf	-0.54	-0.56
Corn	NE–Gulf	-0.68	-0.71
Soybean	IA–Gulf	-1.13	-1.13
HRW	KS–Gulf	-2.14	-2.26
HRS	ND–Portland	-2.24	-2.38

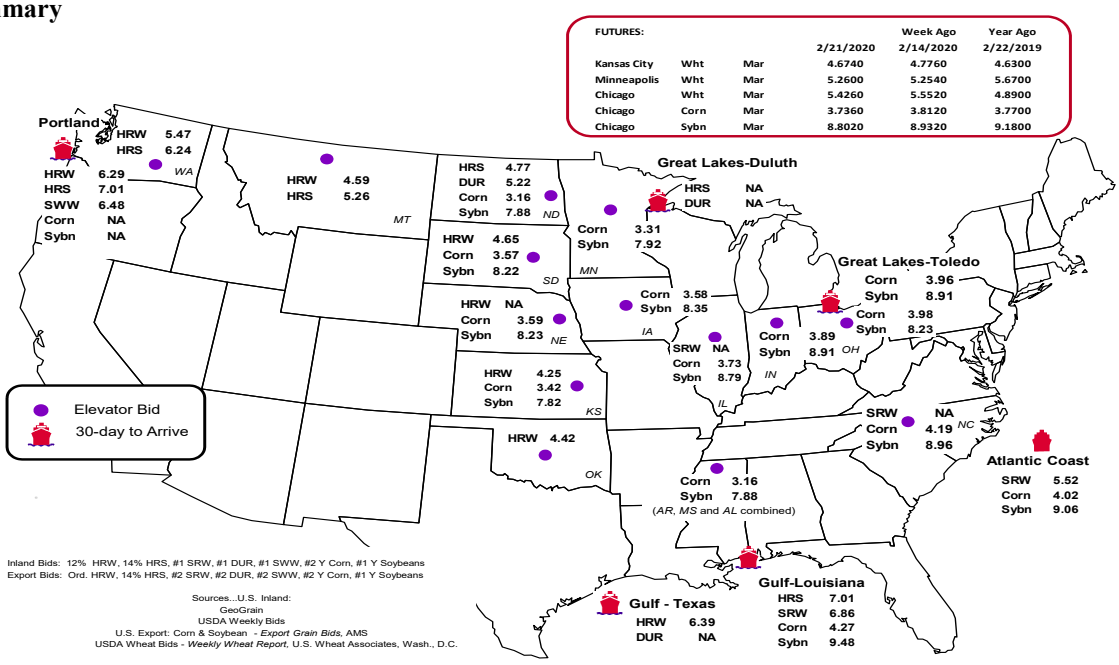
Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

Source: USDA, Agricultural Marketing Service.

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

Figure 1

Grain bid summary



Rail Transportation

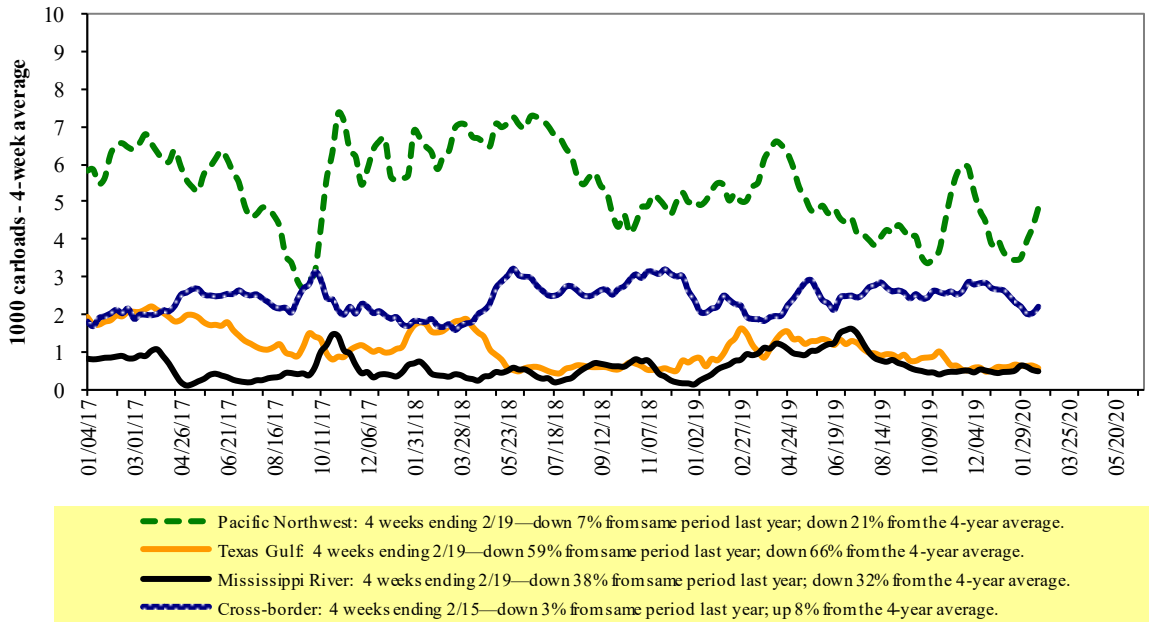
Table 3
Rail deliveries to port (carloads)[1]

For the week ending	Mississippi Gulf	Texas Gulf	Pacific Northwest	Atlantic & East Gulf	Total	Week ending	Cross-border Mexico[3]
2/19/2020[p]	428	511	5,119	111	6,169	2/15/2020	2,665
2/12/2020[r]	114	532	5,391	360	6,397	2/8/2020	2,382
2020 YTD[r]	3,748	4,805	33,040	1,445	43,038	2020 YTD	15,795
2019 YTD[r]	4,454	8,565	42,004	3,361	58,384	2019 YTD	17,734
2020 YTD as % of 2019 YTD	84	56	79	43	74	% change YTD	89
Last 4 weeks as % of 2019[2]	62	41	93	40	78	Last 4wks. % 2019	97
Last 4 weeks as % of 4-year avg.[2]	68	34	79	28	67	Last 4wks. % 4 yr.	108
Total 2019	40,974	51,167	251,181	16,192	359,514	Total 2019	127,622
Total 2018	22,118	46,532	310,449	21,432	400,531	Total 2018	129,674

[1]Data is incomplete as it is voluntarily provided.
[2] Compared with same 4-weeks in 2019 and prior 4-year average.
[3] Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads. to reflect switching between Kansas City Southern de Mexico (KCSM) and Grupo Mexico.
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.
Source: USDA, Agricultural Marketing Service.

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

Figure 2
Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

Table 4

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

For the week ending:	East		West			U.S. total	Canada	
2/15/2020	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,350	1,640	10,321	897	4,117	18,325	2,359	3,660
This week last year	2,131	2,588	9,947	1,294	5,337	21,297	4,157	3,645
2020 YTD	11,974	15,545	71,578	7,444	30,845	137,386	23,284	25,011
2019 YTD	13,577	18,649	77,127	7,427	36,368	153,148	27,002	27,640
2020 YTD as % of 2019 YTD	88	83	93	100	85	90	86	90
Last 4 weeks as % of 2019*	90	86	98	101	90	94	81	103
Last 4 weeks as % of 3-yr. avg.**	89	83	95	103	85	91	87	89
Total 2019	91,611	137,272	568,369	58,527	260,269	1,116,048	212,590	235,892

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

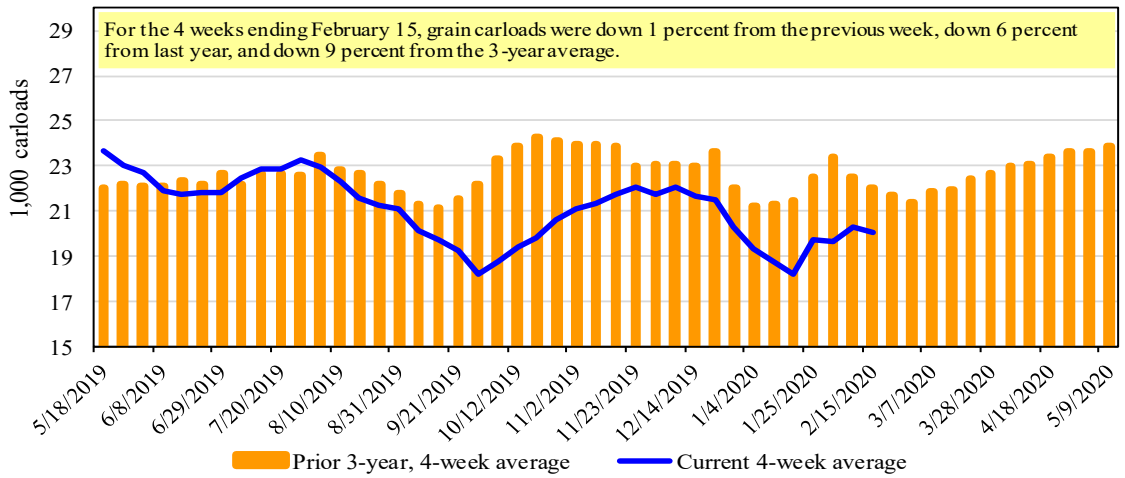
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

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

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 5

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

For the week ending:		Delivery period							
2/20/2020		Mar-20	Mar-19	Apr-20	Apr-19	May-20	May-19	Jun-20	Jun-19
BNSF[3]	COT grain units	0	0	0	0	no bid	0	no bid	0
	COT grain single-car	0	0	0	0	0	0	0	no bids
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	no bid	no offer	no bid	no offer	no bid	no offer	n/a	n/a

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

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

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

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

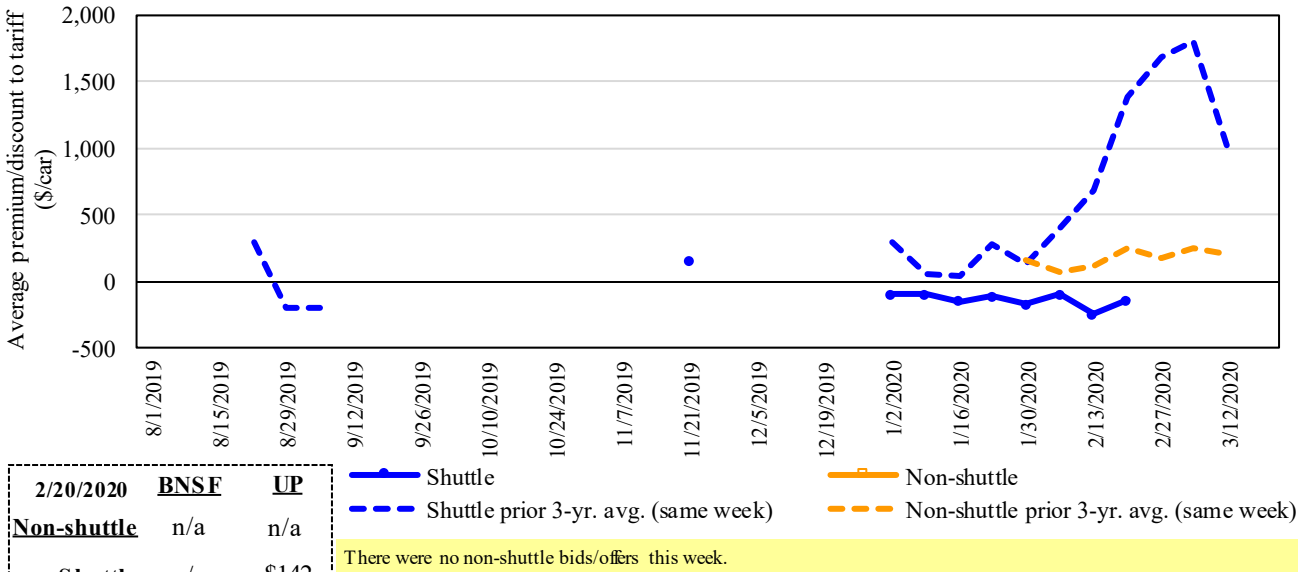
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

Source: USDA, Agricultural Marketing Service.

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

Figure 4
Bids/offers for railcars to be delivered in March 2020, secondary market

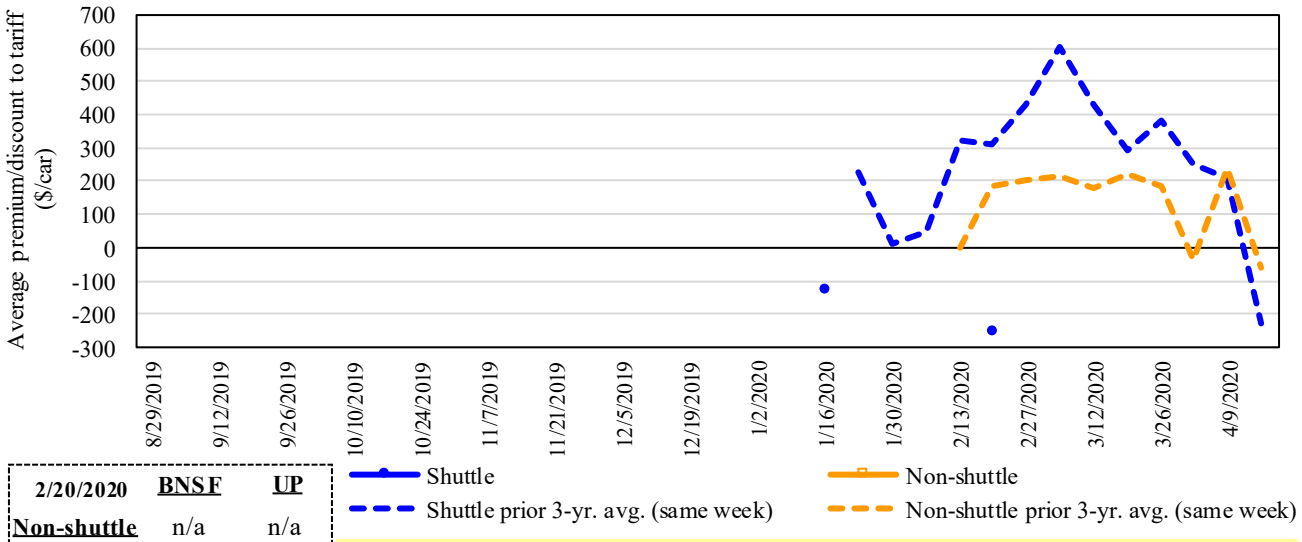


2/20/2020	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	-$142

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $108 this week and are $292 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 April 2020, secondary market



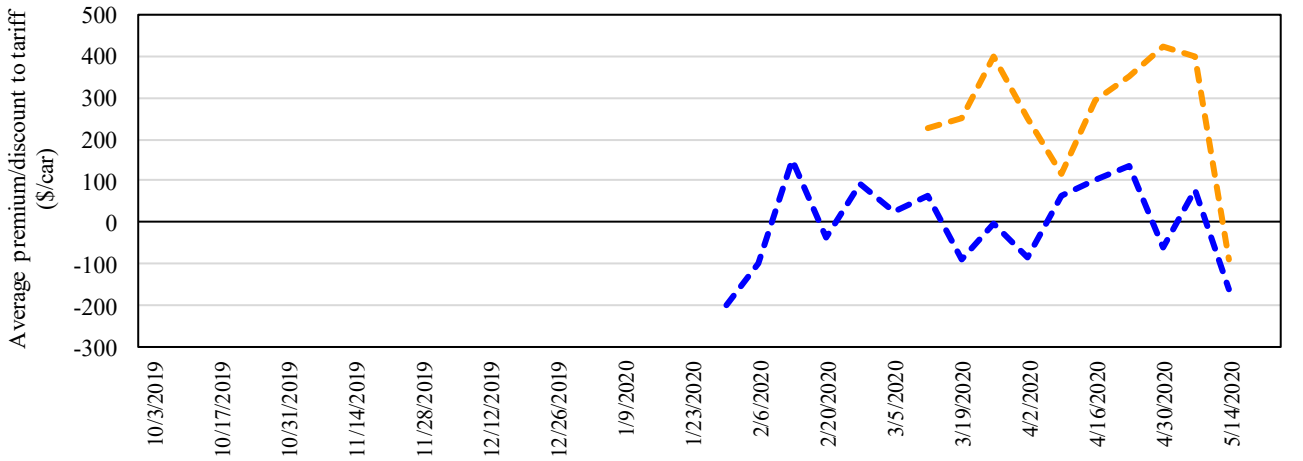
2/20/2020	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$250	n/a

There were no non-shuttle bids/offers this week.
There were no shuttle bids/offers last week. Average non-shuttle bids/offers this week 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 6

Bids/offers for railcars to be delivered in May 2020, secondary market



2/20/2020	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	n/a

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

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

Table 6

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

	For the week ending:	Delivery period					
	2/20/2020	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
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 2019	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 2019	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**n/a**	**(250)**	**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 2019	n/a	(850)	n/a	n/a	n/a	n/a
	UP-Pool	**(142)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	8	n/a	n/a	n/a	n/a	n/a
	Change from same week 2019	(967)	n/a	n/a	n/a	n/a	n/a

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

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

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

Source: USDA, Agricultural Marketing Service.

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

Table 7

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

February 2020	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	$101	$40.56	$1.10	0
	Grand Forks, ND	Duluth-Superior, MN	$4,333	$0	$43.03	$1.17	2
	Wichita, KS	Los Angeles, CA	$7,240	$0	$71.90	$1.96	1
	Wichita, KS	New Orleans, LA	$4,525	$178	$46.70	$1.27	-1
	Sioux Falls, SD	Galveston-Houston, TX	$6,976	$0	$69.28	$1.89	1
	Colby, KS	Galveston-Houston, TX	$4,801	$195	$49.61	$1.35	0
	Amarillo, TX	Los Angeles, CA	$5,121	$271	$53.55	$1.46	0
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,900	$201	$40.73	$1.03	-3
	Toledo, OH	Raleigh, NC	$6,816	$0	$67.69	$1.72	4
	Des Moines, IA	Davenport, IA	$2,415	$43	$24.41	$0.62	7
	Indianapolis, IN	Atlanta, GA	$5,818	$0	$57.78	$1.47	3
	Indianapolis, IN	Knoxville, TN	$4,874	$0	$48.40	$1.23	4
	Des Moines, IA	Little Rock, AR	$3,800	$125	$38.98	$0.99	-2
	Des Moines, IA	Los Angeles, CA	$5,680	$365	$60.03	$1.52	-1
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$194	$37.98	$1.03	-12
	Toledo, OH	Huntsville, AL	$5,630	$0	$55.91	$1.52	3
	Indianapolis, IN	Raleigh, NC	$6,932	$0	$68.84	$1.87	3
	Indianapolis, IN	Huntsville, AL	$5,107	$0	$50.71	$1.38	3
	Champaign-Urbana, IL	New Orleans, LA	$4,645	$201	$48.13	$1.31	-2
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,143	$0	$41.14	$1.12	2
	Wichita, KS	Galveston-Houston, TX	$4,361	$0	$43.31	$1.18	2
	Chicago, IL	Albany, NY	$7,074	$0	$70.25	$1.91	20
	Grand Forks, ND	Portland, OR	$5,801	$0	$57.61	$1.57	1
	Grand Forks, ND	Galveston-Houston, TX	$6,121	$0	$60.78	$1.65	1
	Colby, KS	Portland, OR	$6,012	$320	$62.88	$1.71	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	$201	$39.93	$1.01	0
	Lincoln, NE	Galveston-Houston, TX	$3,880	$0	$38.53	$0.98	0
	Des Moines, IA	Amarillo, TX	$4,220	$157	$43.47	$1.10	4
	Minneapolis, MN	Tacoma, WA	$5,180	$0	$51.44	$1.31	0
	Council Bluffs, IA	Stockton, CA	$5,000	$0	$49.65	$1.26	0
Soybeans	Sioux Falls, SD	Tacoma, WA	$5,850	$0	$58.09	$1.58	2
	Minneapolis, MN	Portland, OR	$5,900	$0	$58.59	$1.59	2
	Fargo, ND	Tacoma, WA	$5,750	$0	$57.10	$1.55	2
	Council Bluffs, IA	New Orleans, LA	$4,875	$232	$50.71	$1.38	2
	Toledo, OH	Huntsville, AL	$4,805	$0	$47.72	$1.30	4
	Grand Island, NE	Portland, OR	$5,860	$327	$61.44	$1.67	2

[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: February 2020							
Commodity	Origin state	Destination region	Tariff rate/car[1]	Fuel surcharge per car[2]	Tariff plus surcharge per: metric ton[3]	Tariff plus surcharge per: bushel[3]	Percent change[4] Y/Y
Wheat	MT	Chihuahua, CI	$7,509	$0	$76.72	$2.09	3
	OK	Cuautitlan, EM	$6,775	$139	$70.65	$1.92	0
	KS	Guadalajara, JA	$7,534	$633	$83.44	$2.27	5
	TX	Salinas Victoria, NL	$4,329	$84	$45.09	$1.23	0
Corn	IA	Guadalajara, JA	$8,902	$542	$96.49	$2.45	6
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	3
	NE	Queretaro, QA	$8,278	$284	$87.49	$2.22	1
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,643	$277	$80.92	$2.05	1
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	3
Soybeans	MO	Bojay (Tula), HG	$8,547	$506	$92.49	$2.51	5
	NE	Guadalajara, JA	$9,172	$529	$99.11	$2.69	5
	IA	El Castillo, JA	$9,490	$0	$96.97	$2.64	4
	KS	Torreon, CU	$7,964	$366	$85.10	$2.31	4
Sorghum	NE	Celaya, GJ	$7,772	$479	$84.31	$2.14	5
	KS	Queretaro, QA	$8,108	$174	$84.62	$2.15	1
	NE	Salinas Victoria, NL	$6,713	$140	$70.01	$1.78	1
	NE	Torreon, CU	$7,157	$339	$76.59	$1.94	4

[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.

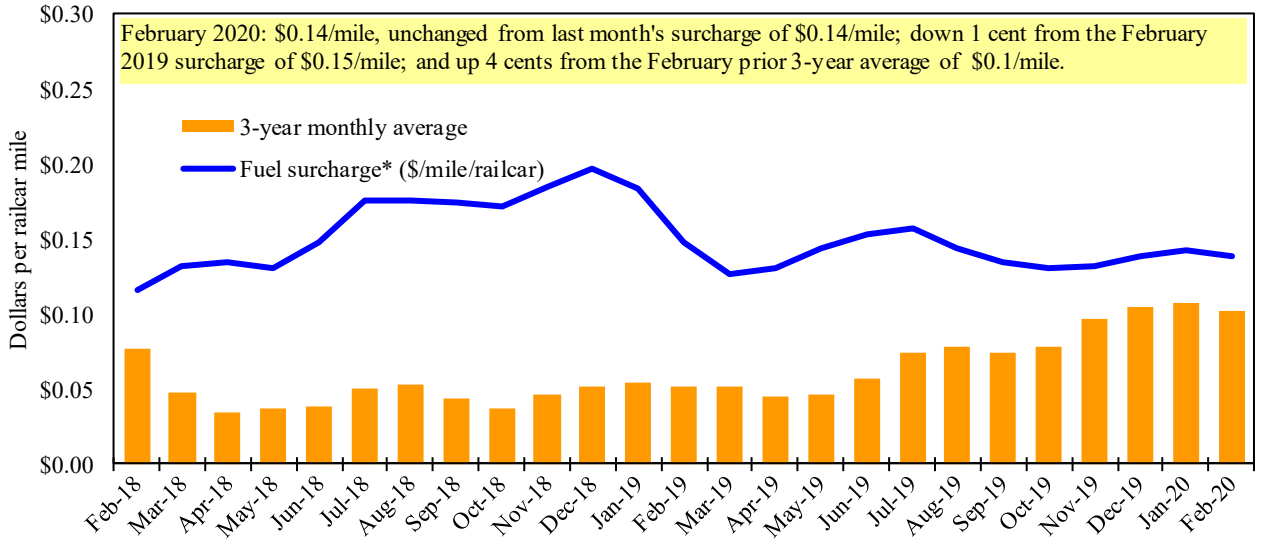
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

[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.

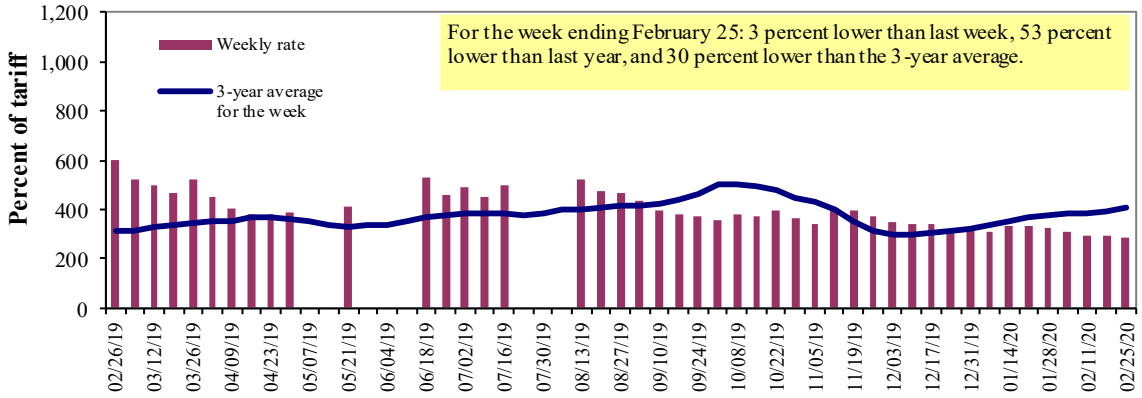
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

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]



[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]	2/25/2020	-	-	284	186	200	200	180
	2/18/2020	-	-	292	190	208	208	180
$/ton	2/25/2020	-	-	13.18	7.42	9.38	8.08	5.65
	2/18/2020	-	-	13.55	7.58	9.76	8.40	5.65
Current week % change from the same week:								
	Last year	-	-	-53	-59	-	-	-57
	3-year avg.[2]	-	-	-30	-40	-42	-43	-33
Rate[1]	February	-	-	299	198	207	207	188
	April	362	326	306	205	217	217	192

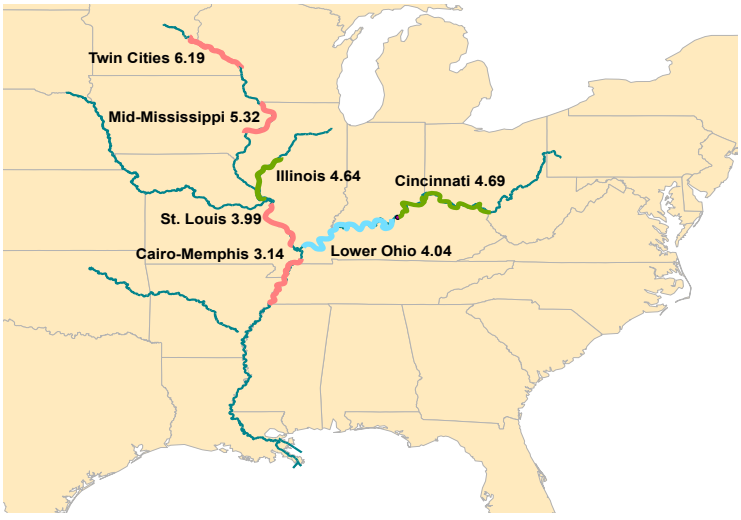
[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; "-" not available due to closure.

Source: USDA, Agricultural Marketing Service.

Figure 9
Benchmark tariff rates

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

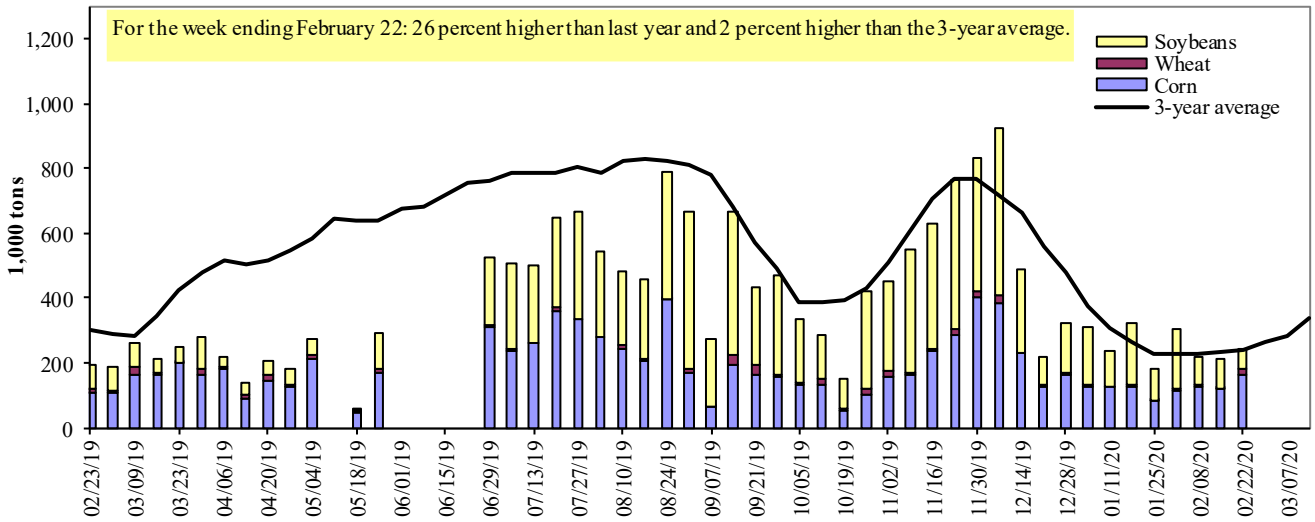
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 02/22/2020	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	0	0	0	0	0
Alton, IL (L26)	152	16	63	0	231
Granite City, IL (L27)	165	16	64	0	245
Illinois River (La Grange)	144	14	61	0	219
Ohio River (Olmsted)	54	0	44	0	98
Arkansas River (L1)	0	34	20	0	54
Weekly total - 2020	219	50	128	0	397
Weekly total - 2019	177	53	160	0	390
2020 YTD[1]	1,854	219	1,963	6	4,041
2019 YTD[1]	1,539	309	1,650	9	3,506
2020 as % of 2019 YTD	120	71	119	65	115
Last 4 weeks as % of 2019[2]	172	86	102	0	127
Total 2019	12,780	1,631	14,683	154	29,247

[1] Weekly total, YTD (year-to-date), and calendar year total include MS/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye. L (as in "L15") refers to a lock or lock and dam facility. Olmsted = Olmsted Locks and Dam. La Grange = La Grange Lock and Dam.

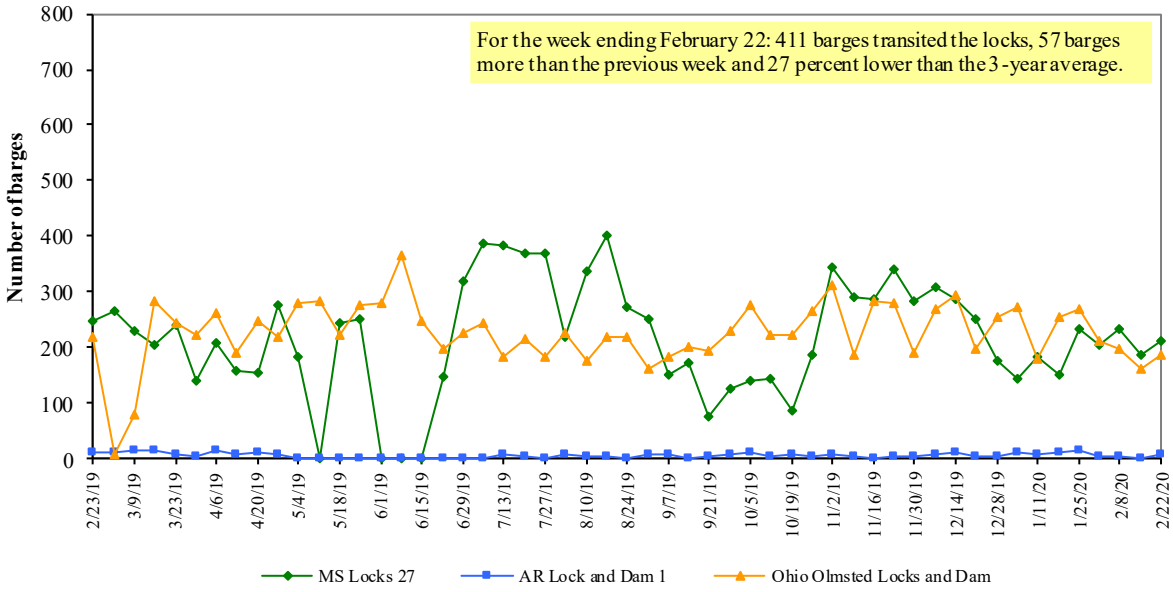
[2] As a percent of same period in 2019.

Note: Total may not add exactly because of rounding. Starting from 11/24/2018, weekly movement through Ohio 52 is replaced by Olmsted.

Source: U.S. Army Corps of Engineers.

Figure 11

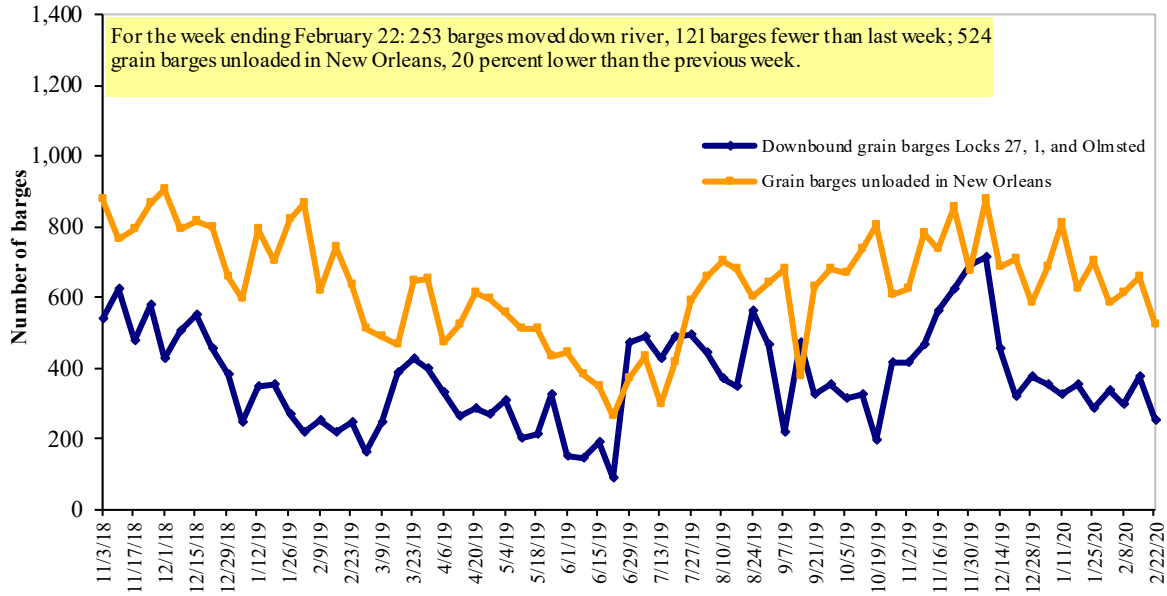
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



Source: U.S. Army Corps of Engineers.

Figure 12

Grain barges for export in New Orleans region



Note: Olmsted = Olmsted Locks and Dam.

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

Truck Transportation

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

Table 11

Retail on-highway diesel prices, week ending 2/24/2020 (U.S. $/gallon)

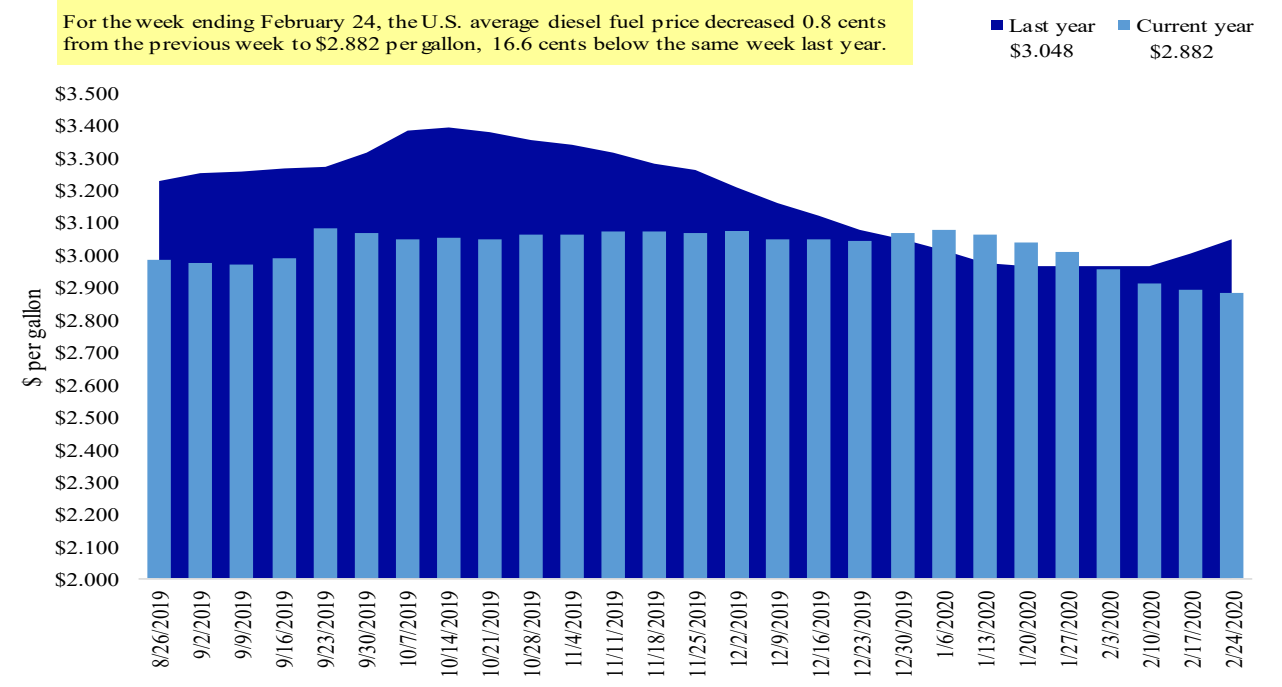
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	2.931	-0.009	-0.163
	New England	3.061	-0.009	-0.110
	Central Atlantic	3.117	-0.006	-0.169
	Lower Atlantic	2.779	-0.014	-0.170
II	Midwest	2.756	-0.001	-0.213
III	Gulf Coast	2.654	-0.004	-0.195
IV	Rocky Mountain	2.849	-0.009	-0.064
V	West Coast	3.459	-0.009	-0.034
	West Coast less California	3.072	-0.009	-0.069
	California	3.778	0.004	0.006
Total	United States	2.882	-0.008	-0.166

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

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

Figure 13

Weekly diesel fuel prices, U.S. average



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

Grain Exports

Table 12

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

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
2/13/2020	1,852	364	1,489	1,192	148	5,045	12,357	5,041	22,444
This week year ago	2,566	942	1,469	1,402	119	6,497	13,560	13,459	33,516
Cumulative exports-marketing year[2]									
2019/20 YTD	6,483	1,854	4,899	3,294	680	17,210	12,651	28,406	58,267
2018/19 YTD	4,725	1,851	4,659	3,394	358	14,987	24,756	23,304	63,047
YTD 2019/20 as % of 2018/19	137	100	105	97	190	115	51	122	92
Last 4 wks. as % of same period 2018/19*	72	43	106	85	152	80	87	41	67
Total 2018/19	8,591	3,204	6,776	5,164	479	24,214	48,924	46,189	119,327
Total 2017/18	9,150	2,343	5,689	4,854	384	22,419	57,209	56,214	135,842

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

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

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

Source: USDA, Foreign Agricultural Service.

Table 13

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

For the week ending 2/13/2020	Total commitments[2] 2019/20 current MY	2018/19 last MY*	% change current MY from last MY	Exports[3] 3-yr. avg. 2016-18
		- 1,000 mt -		
Mexico	10,301	12,577	(18)	14,659
Japan	4,810	7,715	(38)	11,955
Korea	470	2,824	(83)	4,977
Colombia	2,407	2,835	(15)	4,692
Peru	65	1,864	(97)	2,808
Top 5 importers	**18,053**	**27,815**	**(35)**	**39,091**
Total U.S. corn export sales	**25,009**	**38,316**	**(35)**	**54,024**
% of projected exports	57%	73%		
Change from prior week[2]	**1,249**	**6,029**		
Top 5 importers' share of U.S. corn export sales	72%	73%		72%
USDA forecast February 2020	**43,893**	**52,545**	**(16)**	
Corn use for ethanol USDA forecast, February 2020	**137,795**	**136,551**	**1**	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; marketing year (MY) = Sep 1- Aug 31.

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

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

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

Source: USDA, Foreign Agricultural Service.

Table 14

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

For the week ending 2/13/2020	Total commitments[2] 2019/20 current MY	Total commitments[2] 2018/19 last MY*	% change current MY from last MY	Exports[3] 3-yr. avg. 2016-18
		- 1,000 mt -		- 1,000 mt -
China	12,150	7,406	64	25,733
Mexico	3,316	4,440	(25)	4,271
Indonesia	1,159	1,479	(22)	2,386
Japan	1,598	1,755	(9)	2,243
Egypt	1,959	1,829	7	1,983
Top 5 importers	**20,181**	**16,908**	**19**	**36,616**
Total U.S. soybean export sales	**33,447**	**36,763**	**(9)**	**53,746**
% of projected exports	67%	77%		
change from prior week[2]	**494**	**6,394**		
Top 5 importers' share of U.S. soybean export sales	60%	46%		**68%**
USDA forecast, February 2020	**49,728**	**47,629**	**104**	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; marketing year (MY) = Sep 1- Aug 31.

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

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

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

Source: USDA, Foreign Agricultural Service.

Table 15

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

For the week ending 2/13/2020	Total commitments[2] 2019/20 current MY	Total commitments[2] 2018/19 last MY*	% change current MY from last MY	Exports[3] 3-yr. avg. 2016-18
		- 1,000 mt -		- 1,000 mt -
Philippines	2,836	2,718	4	3,047
Mexico	3,161	2,512	26	3,034
Japan	2,244	2,413	(7)	2,695
Nigeria	1,324	1,306	1	1,564
Indonesia	839	948	(12)	1,381
Korea	1,189	1,288	(8)	1,355
Taiwan	1,061	933	14	1,164
Egypt	101	638	(84)	821
Thailand	805	780	3	747
Iraq	262	414	(37)	574
Top 10 importers	**13,823**	**13,951**	(1)	**16,382**
Total U.S. wheat export sales	**22,255**	**21,484**	**4**	**24,388**
% of projected exports	82%	84%		
change from prior week[2]	**346**	**3,575**		
Top 10 importers' share of U.S. wheat export sales	62%	65%		67%
USDA forecast, February 2020	**27,248**	**25,504**	**7**	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; Marketing year (MY) = Jun 1- May 31.

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

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

Note: A red number in parentheses indicates a negative number.

Source: USDA, Foreign Agricultural Service.

Table 16

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

Port regions	For the week ending 02/20/20	Previous week*	Current week as % of previous	2020 YTD*	2019 YTD*	2020 YTD as % of 2019 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2019 total*
Pacific Northwest									
Wheat	331	302	110	2,323	1,987	117	112	128	13,961
Corn	101	202	50	370	1,597	23	43	31	7,047
Soybeans	145	214	68	1,755	2,023	87	70	71	11,969
Total	**577**	**718**	**80**	**4,448**	**5,608**	**79**	**80**	**77**	**32,977**
Mississippi Gulf									
Wheat	25	110	23	537	760	71	56	62	4,448
Corn	606	458	132	3,557	3,868	92	100	81	20,763
Soybeans	310	674	46	5,361	5,214	103	75	76	31,398
Total	**942**	**1,241**	**76**	**9,455**	**9,843**	**96**	**83**	**77**	**56,609**
Texas Gulf									
Wheat	17	51	34	532	807	66	37	38	6,009
Corn	24	0	n/a	98	63	156	222	158	640
Soybeans	0	6	0	6	0	n/a	n/a	n/a	2
Total	**42**	**57**	**73**	**637**	**870**	**73**	**48**	**48**	**6,650**
Interior									
Wheat	59	67	88	349	224	156	257	179	1,987
Corn	166	122	136	1,055	993	106	115	107	7,857
Soybeans	149	143	104	1,178	942	125	118	139	7,043
Total	**374**	**331**	**113**	**2,582**	**2,159**	**120**	**126**	**128**	**16,887**
Great Lakes									
Wheat	0	0	n/a	1	23	4	0	0	1,339
Corn	0	0	n/a	0	0	n/a	n/a	n/a	11
Soybeans	0	0	n/a	0	16	0	n/a	n/a	493
Total	**0**	**0**	**n/a**	**1**	**39**	**2**	**0**	**0**	**1,844**
Atlantic									
Wheat	0	0	n/a	0	0	n/a	n/a	0	37
Corn	0	0	n/a	0	21	0	0	0	99
Soybeans	21	20	103	195	221	88	80	54	1,353
Total	**21**	**20**	**103**	**195**	**242**	**80**	**76**	**50**	**1,489**
U.S. total from ports*									
Wheat	433	530	82	3,742	3,801	98	88	95	27,781
Corn	897	781	115	5,080	6,542	78	91	73	36,417
Soybeans	626	1,058	59	8,495	8,417	101	79	81	52,258
Total	**1,956**	**2,369**	**83**	**17,317**	**18,761**	**92**	**85**	**81**	**116,457**

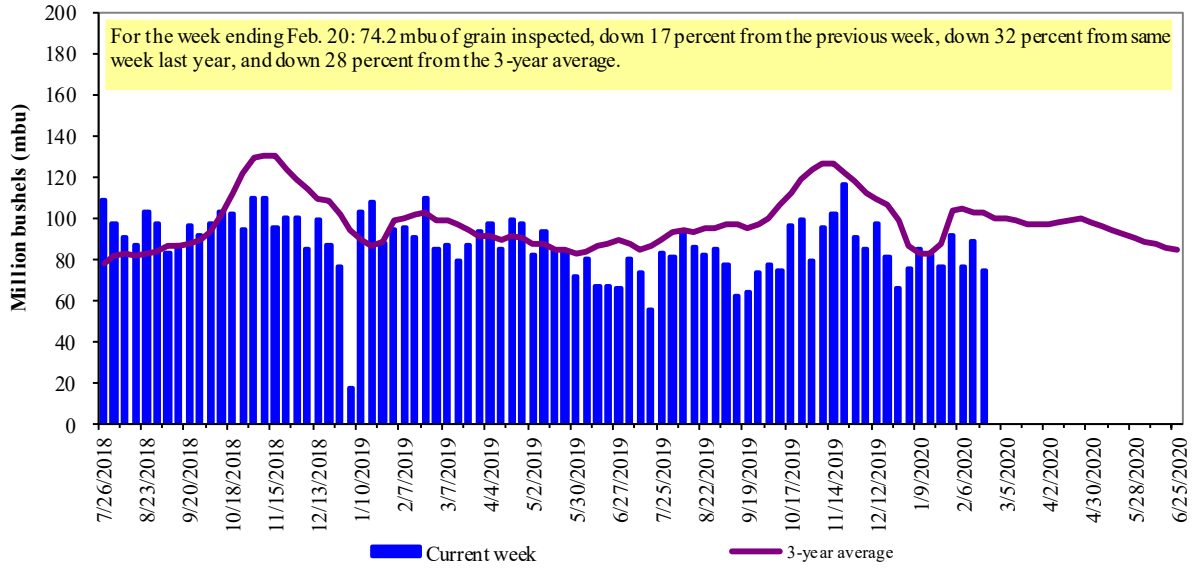
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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 53 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2018.

Figure 14

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

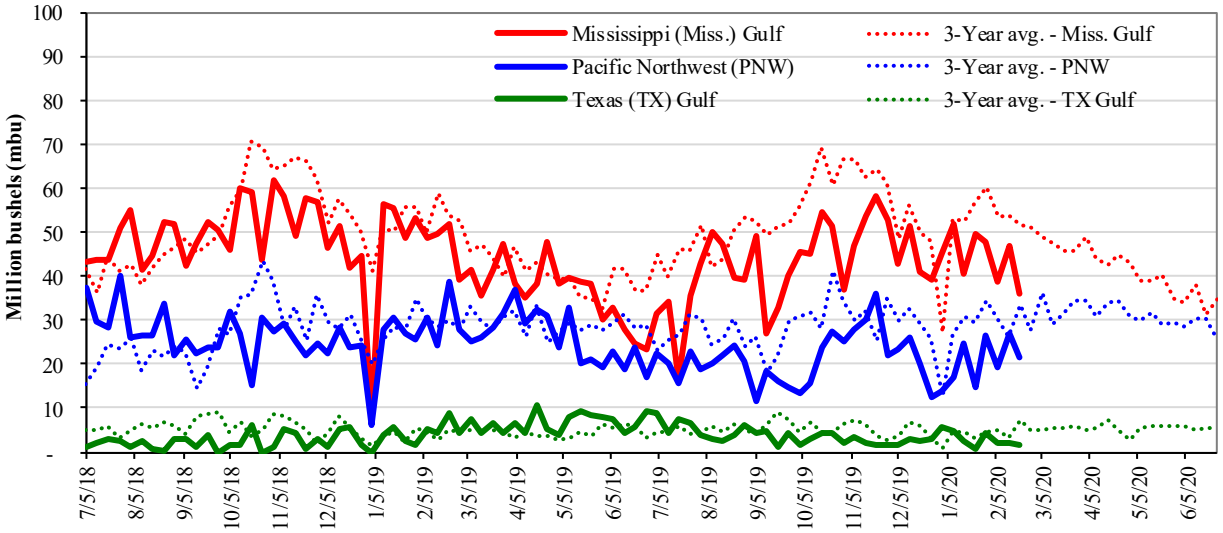


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 02/20/20 inspections (mbu):	
MS Gulf:	36.2
PNW:	21.5
TX Gulf:	1.6

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 23	down 24	down 23	down 20
Last Year (same wk):	down 30	down 82	down 38	down 44
3-yr avg. (4-wk. mov. Avg):	down 34	down 68	down 37	down 31

Source: USDA, Federal Grain Inspection Service.

Table 17

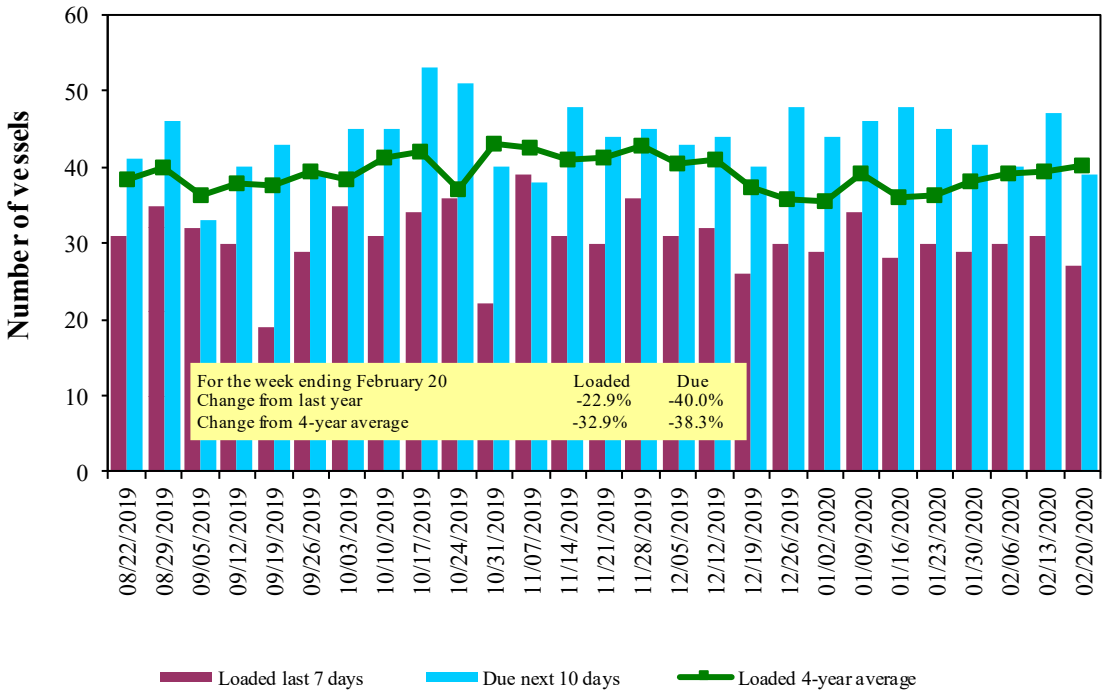
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
2/20/2020	33	27	39	14
2/13/2020	34	31	47	15
2019 range	(26…61)	(18...44)	(33...69)	(8...33)
2019 average	40	31	49	17

Source: USDA, Agricultural Marketing Service.

Figure 16

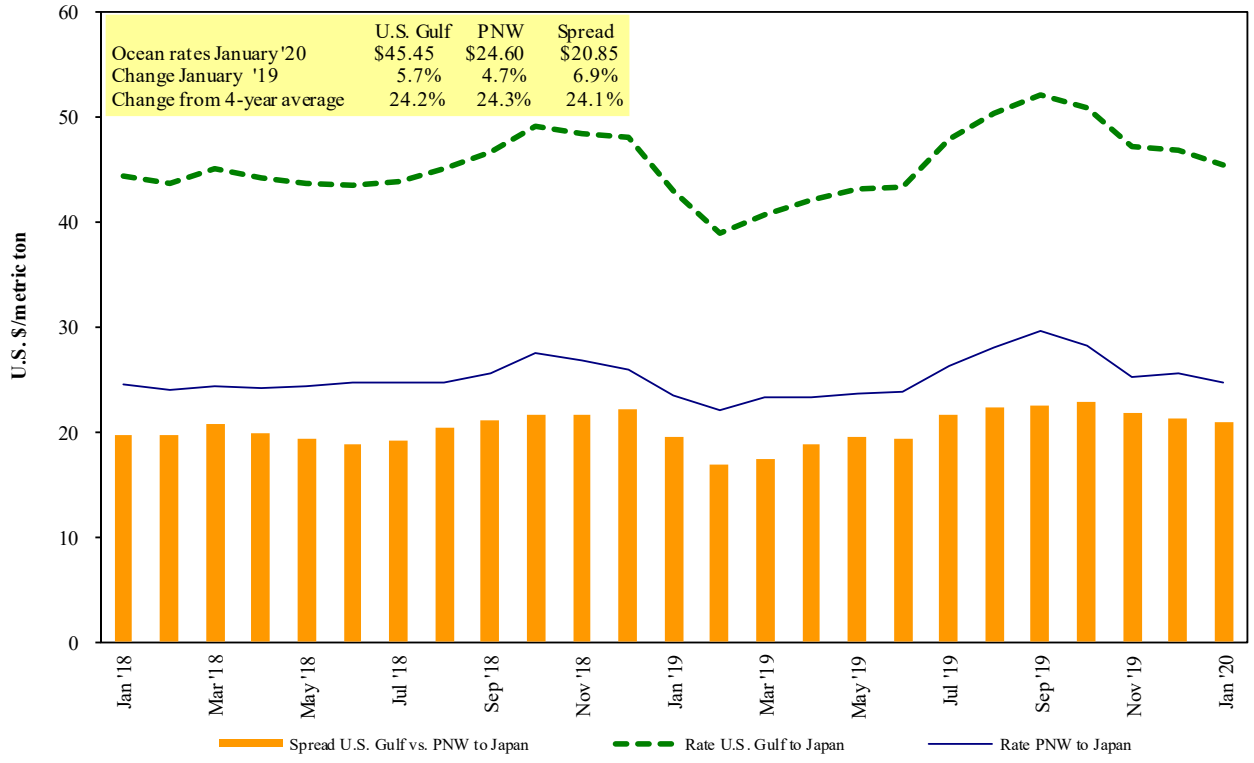
U.S. Gulf[1] vessel loading activity



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

Figure 17

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 18

Ocean freight rates for selected shipments, week ending 02/22/2020

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	Bangladesh	Wheat	Dec 10/20	48,990	79.92*
U.S. Gulf	China	Heavy grain	Jan 25/30	65,000	46.50
U.S. Gulf	China	Heavy grain	Dec 15/20	65,000	49.75
U.S. Gulf	China	Heavy grain	Nov 15/18	66,000	49.00
U.S. Gulf	Rotterdam	Heavy grain	Feb 5/11	55,000	19.50
PNW	China	Heavy grain	Jan 22/26	63,000	23.00
PNW	Bangladesh	Wheat	Dec 10/20	23,080	74.44*
Brazil	China	Heavy grain	May 1/31	60,000	33.25 op 33.00
Brazil	China	Heavy grain	Mar 1/10	65,000	32.00
Brazil	China	Heavy grain	Feb 12/21	65,000	34.50
Brazil	China	Heavy grain	Feb 18/27	60,000	34.00
Brazil	Japan	Corn	Dec 22/31	49,000	37.25 op 37.15

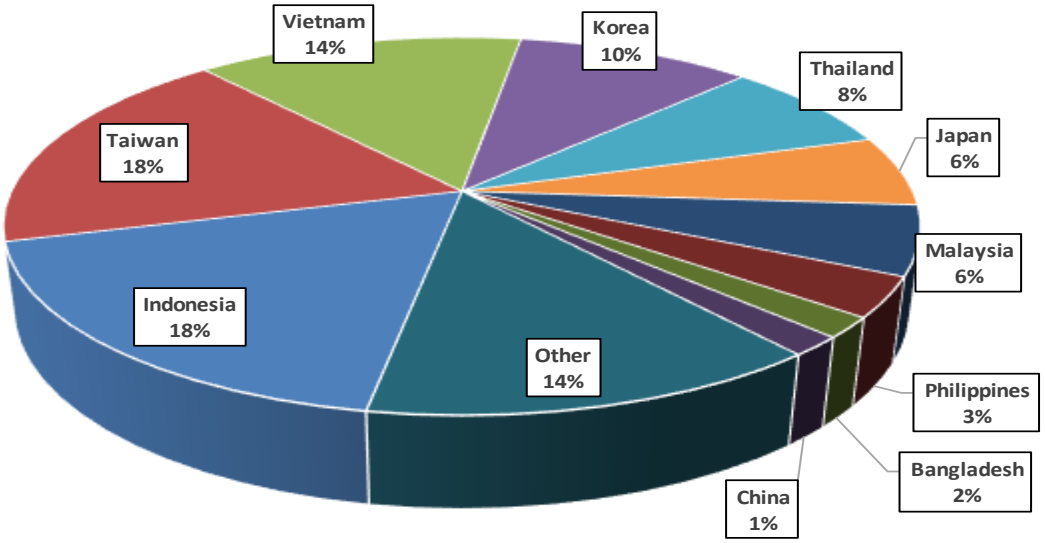
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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 2018, containers were used to transport 8 percent of total U.S. waterborne grain exports. Approximately 55 percent of U.S. waterborne grain exports in 2018 went to Asia, of which 13 percent were moved in containers. Approximately 94 percent of U.S. waterborne containerized grain exports were destined for Asia.

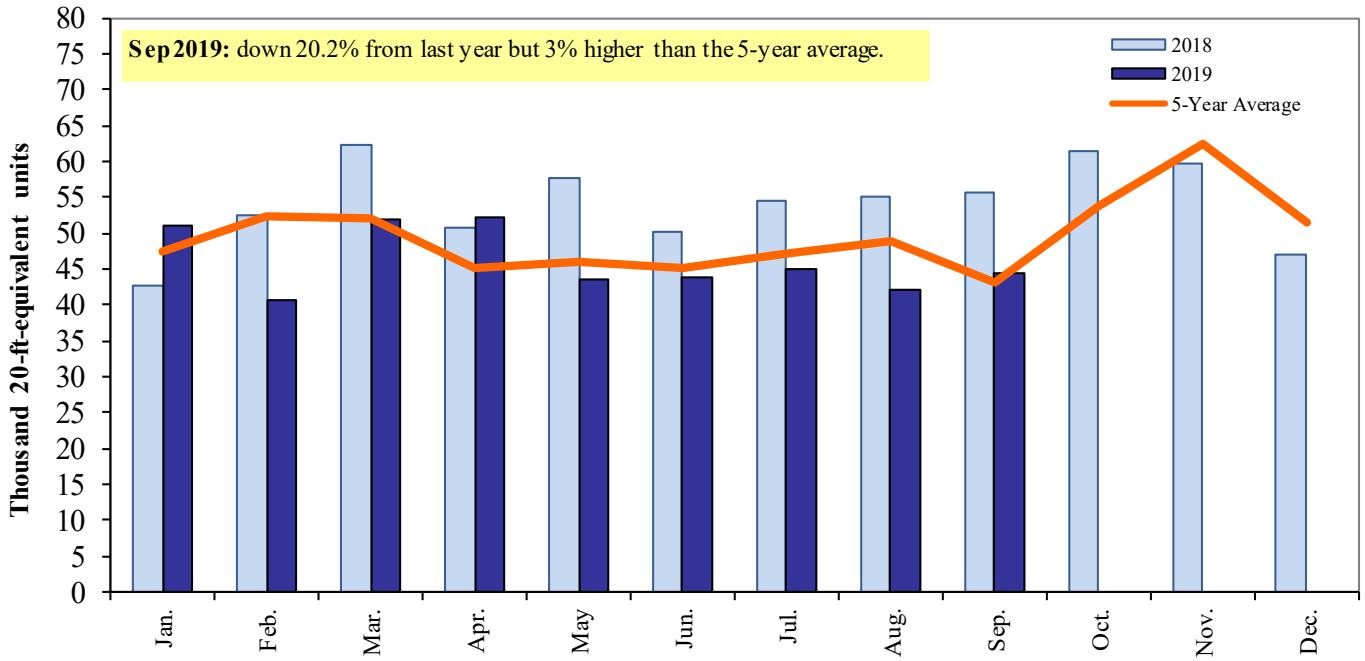
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Sep 2019



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, and 120810.

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, 120100, 120810, 230210, 230310, 230330, and 230990.

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

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