United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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WEEKLY HIGHLIGHTS

Grain Inspections Continue To Fall but Corn Increases

For the week ending December 5, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.14 million metric tons (mmt). Total grain inspections were down 12 percent from the previous week, down 6 percent from last year, and down 28 percent from the 3-year average. From the previous week, inspections of wheat and soybeans decreased 6 percent and 19 percent, respectively, but corn inspections increased 9 percent. Pacific Northwest (PNW) grain inspections were unchanged from the past week, but inspections of grain in the Mississippi Gulf decreased 24 percent mainly as a result of a 32-percent drop in soybean inspections.

Downbound and Unloaded Grain Barges Increase

For the week ending December 7,876 grain barges were unloaded in the New Orleans area, the highest since December 2018. This number represented a 30-percent increase from the previous week, as well as an 11-percent increase from both the same week last year and from the 3-year average for that week (796 grain barges unloaded). For the week ending December 7, 713 downbound grain barges transited the locks on the Mississippi and its tributaries, the largest number since September 8, 2018.

Surface Transportation Board Proposes To Modify Waybill Sampling Procedure

On November 29, 2019, the Surface Transportation Board (STB) announced a notice of proposed rulemaking (NPRM) to modify the sampling procedure for its annual Carload Waybill Sample (CWS). The CWS is used in a variety of ways that are relevant to agricultural shippers—namely, to support STB's rate and service cases, as well as agricultural transportation research from many sources. The CWS is a stratified sample, where different categories of shipments are sampled at different rates to ensure coverage is representative of the true population. In the NPRM, STB proposes to modify the current sampling rates to improve coverage further. Comments are due by January 28, 2020.

Snapshots by Sector

Export Sales

For the week ending November 28, **unshipped balances** of wheat, corn, and soybeans totaled 22.3 mmt. This represents a 22-percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached .546 mmt, down 32 percent from the past week. Net **soybean export sales** were .684 mmt, down 59 percent from the previous week. Net weekly **wheat export sales** reached .228 mmt, down 63 percent from the from the previous week.

Rail

U.S. Class I railroads originated 20,420 **grain carloads** during the week ending November 30. This was an 8-percent decrease from the previous week, 9 percent less than last year, and 16 percent lower than the 3-year average.

Average December shuttle **secondary railcar** bids/offers (per car) were $638 below tariff for the week ending December 5. This was $258 less than last week and $522 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending December 7, **barge grain movements** totaled 1,103,696 tons. This was an 8-percent increase from the previous week and 41 percent more than the same period last year.

Ocean

For the week ending December 5, 31 **oceangoing grain vessels** were loaded in the Gulf, unchanged from the same period last year. Within the next 10 days (starting December 6), 43 vessels were expected to be loaded—33 percent fewer than the same period last year.

As of December 5, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $46.75. The rate from PNW to Japan was $25.25 per mt.

Fuel

For the week ending December 9, the U.S. average **diesel fuel price** decreased 2.1 cents from the previous week to $3.049 per gallon, 11.2 cents below the same week last year.

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Feature Article/Calendar

Grain Transportation Update

In 2019, extreme weather challenged shippers and farmers alike, causing late harvests, navigation problems, and infrastructure issues that ultimately affected grain shipment volumes. Recently, however, conditions have improved. Although as of November 30, year-to-date (YTD) grain carloadings down from a year earlier, rail service for grain shippers has been generally good over the past several months. Despite the navigation difficulties on the Mississippi River for most of 2019, grain barge movements on the river system have improved lately. Ocean freight rates for shipping bulk grain have remained relatively stable from the beginning of the year. Likewise, diesel fuel prices have fluctuated only minimally throughout the year. According to the USDA's *World Agricultural Supply and Demand Report* (WASDE) in December, total grain production and exports are projected slightly down for 2019/20.

Grain and Other Commodities Down for Rail in 2019

Rail freight volumes, across nearly every commodity, were lower so far this year than in 2018. According to the Association of American Railroads (AAR), total YTD traffic (which includes carloads and intermodal units) originated by U.S. Class I railroads is down 5 percent from last year. Grain is down almost 6 percent YTD. In a recent press release, AAR explained, "Rail traffic continues to struggle because U.S. manufacturing is soft, trade disputes and the uncertainty they entail are ongoing, and economic growth abroad isn't what it could be." Although grain carloads have increased substantially from yearly lows in mid-September, they are still below average (**GTR fig. 3**).

Rail rates, as reflected in the secondary auction market for shuttle service, have been low for months. Average bids/offers for delivery of railcars in August were around -$200 per car, down $338 per from a year earlier. Bids/offers increased into September (-$117 per car on average) and October ($27 per car on average) but remained below 2018. Trades for delivery of railcars in December have averaged around -$500 per car for the last 2 weeks, down substantially from the prior 3-year average (**GTR fig. 4**).[1]

According to railroad performance metrics from the Surface Transportation Board, rail service for grain shippers has been generally good over the past several months. Average weekly train speeds for grain increased 7 percent from July to November. Grain train speeds were faster in September, October, and November than in the same months in 2018 and 2017. Average weekly origin dwell times for grain have also decreased, resulting in more timely service for shippers. Origin dwell times averaged about 23 hours in July, before falling to 17 hours in August, where they have remained since.

Waterways Grain Traffic Has Yet to Meet Average Volume

The 4 most recent weeks have shown the year's strongest performance for grain transiting the locks, including (for the first time in 2019) topping the 3-year average for the same weeks. November 10 to December 7 (weeks 46 through 49) was the 4-week span in 2019 with the largest traffic volume. Over 13 percent of the YTD volume shipped through the locks during this time. Nonetheless, YTD shipments of 27.47 million tons trail the 2018 YTD numbers, and matching the total 2018 volume by the end of 2019 would require improbably high volumes for the rest of the year. With large portions of the Mississippi closed for the winter, shippers may need to store grain until the river reopens in 2020. The only other year this decade with a lower YTD total in the 49th week of the year was 2013.

Navigation difficulties stymied most of the 2019 barge market. Recently, though, barges have more easily reached the ports in the New Orleans area. Navigation has improved because flooding has receded, dredging has removed shoals, and major locks have reopened. In early October, the Arkansas (MKARNS) river system opened to allow traffic to its head of navigation in Catoosa, OK, though barge-tow-size restrictions remain in place.

The low volume of grain shipments is partly due to late harvests. The same poor weather that disrupted navigation in the spring and summer also delayed planting. Then, rain in the fall months prevented farmers from harvesting grain. Delayed harvest has been a particularly difficult issue for corn. Although in a typical December, the corn harvest would be near completion, it is still ongoing this December. The National Agricultural Statistics Service indicates only 52 percent of the 2019 harvest had been completed by the beginning of November, in contrast with the average of the previous 5 years—75 percent. Shortfalls in corn shipments explain nearly the entire decrease in grain shipments from 2018, as YTD corn volumes trail 2018 by 9.98 million tons. Given volumes of soybeans and "other grains" (a category

[1] One reason rates in the secondary auction market can be below zero is that railroads charge fees for not using the rail car service purchased in the primary auction market. Selling at a discount can be cheaper than incurring fees.

for grains such as rye, sorghum, and oats) are ahead of their 2018 numbers, the corn deficit actually exceeds the total YTD shortfall for *all grain shipments* of 8.35 million tons.

In the upper Midwest, a shortage of propane compounds weather-related difficulties. To dry harvested grain, farmers prefer to use propane, and this year, this key farm input has been harder to obtain. According to the Department of Energy's Energy Information Agency , although overall U.S. supplies are plentiful, the upper Midwest's late harvests and wetter grain (due to the weather) have created higher-than-typical demand for this time of year. Suppliers are struggling to meet that demand because pipelines transporting propane to the region have limited capacity and are also used to transport other fuels and chemicals.

Dry-Bulk Freight Rates Below the Yearly Peak

After declining for 5 consecutive weeks, ocean freight rates for shipping bulk grain inched up slightly during the week ending December 5 but are still below the yearly peak reached on September 5. As of December 5, the cost of shipping bulk grain from the U.S. Gulf to Japan was $46.75 per metric ton (mt), a 1-percent increase from the previous week, but an 11-percent decrease from the peak in September and a 1-percent decrease from January. The cost of shipping from the Pacific Northwest was $25.25 per mt, a 2-percent decrease from the previous week, 16-percent decrease from the peak in September, and 1-percent increase from January. As of December 5, the ocean freight rate for shipping from the U.S. Gulf to Europe was $19.50 per mt. This amounted to a 5-percent increase from the previous week, an 8-percent decrease from its peak in September, and was unchanged from January. It is uncertain how long the ocean freight rates will remain at these levels given the upcoming International Maritime Organization's regulations on ballast water and low-sulfur emissions (IMO 2020) scheduled to take effect in January 2020 (see June 20, 2019 and July 25, 2019 *GTR*).

Year-to-Date 2019 Diesel Fuel Prices

The 2019 YTD average U.S. On-Highway Diesel Fuel Price is $3.056 per gallon. Prices have ranged from just under $3 per gallon in January to the peak of $3.17 in May. With only 3 weeks remaining, the price variations have narrowed in the fourth quarter, ranging between $2.97 and $3.08 per gallon. EIA's most recent *Short-Term Energy Outlook* expects crude oil prices will be lower on average in 2020 than in 2019 because of forecast rising global oil inventories, particularly in the first half of next year.

Outlook for 2019/20

According to the December *WASDE*, production of corn, soybeans, and wheat for 2019/20 is projected to reach 19.1 billion bushels, down 8 percent from the past year. Total exports of the three major grains are expected to reach 4.6 billion bushels in 2019/20, down 3.1 percent from 2018/19 (see table). Production of corn is projected to fall 5 percent from 2018/19, to 13.7 billion bushels. Soybean production is projected to decrease 20 percent from 2018/19, to 3.6 billion bushels. Wheat production is expected to increase 2 percent from 2018/19, to 1.9 billion bushels. Currently, export sales commitments of corn are 45 percent below the same time last year because of slow demand and low prices. On the other hand, total soybean export commitments are 8 percent above last year, and YTD wheat commitments for the new 2019/20 marketing year are up 6 percent from 2019/20 (**GTR, Tables 13-15**). Demand for U.S. wheat has remained strong, owing to large U.S. stocks and tight supplies among major competitors.

Table 1. Major Grains: Production and Use, December 2019 WASDE, million bushels

	Corn	Soybeans	Wheat	Total	Y/Y
United States *2019/20* ***(Projected)***					
Production	13,661	3,550	1,920	19,131	**-7.7%**
Exports	**1,850**	**1,775**	**975**	**4,600**	**-3.1%**
Domestic Use	12,065	2,233	1,156	15,454	**-1.8%**
Ending Stocks	**1,910**	**475**	**974**		
Total Use	13,915	4,008	2,131		
Stocks/Use	**13.7%**	**11.9%**	**45.7%**		
United States *2018/19* ***(Estimated)***					
Production	14,420	4,428	1,885	20,733	**-0.1%**
Exports	**2,065**	**1,748**	**936**	**4,749**	**-13.3%**
Domestic Use	12,409	2,219	1,103	15,731	**0.8%**
Ending Stocks	**2,114**	**913**	**1,080**		
Total Use	14,474	3,967	2,039		
Stocks/Use	**14.6%**	**23.0%**	**53.0%**		
2017/18					
Production	14,609	4,412	1,741	20,762	
Exports	**2,438**	**2,134**	**906**	**5,478**	
Domestic Use	12,361	2,163	1,075	15,599	
Ending Stocks	**2,140**	**438**	**1,099**		
Total Use	14,798	4,297	1,981		
Stocks/Use	**14.5%**	**10.2%**	**55.5%**		

In 2019/20, U.S. corn exports are projected to decrease 10 percent from 2018/19, mainly because of low U.S. prices. Soybean and wheat exports are expected to increase 2 percent and 4 percent, respectively (see table). U.S. transportation demand for grain in the months ahead is expected to improve despite the slow harvest.

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Grain Transportation Indicators

Table 1

Grain transport cost indicators [1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit train	Shuttle		Gulf	Pacific
12/11/19	205	n/a	198	191	209	179
12/04/19	206	n/a	209	195	n/a	n/a

[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	12/6/2019	11/29/2019
Corn	IL–Gulf	-0.53	n/a
Corn	NE–Gulf	-0.74	n/a
Soybean	IA–Gulf	-1.23	n/a
HRW	KS–Gulf	-2.30	n/a
HRS	ND–Portland	-2.67	n/a

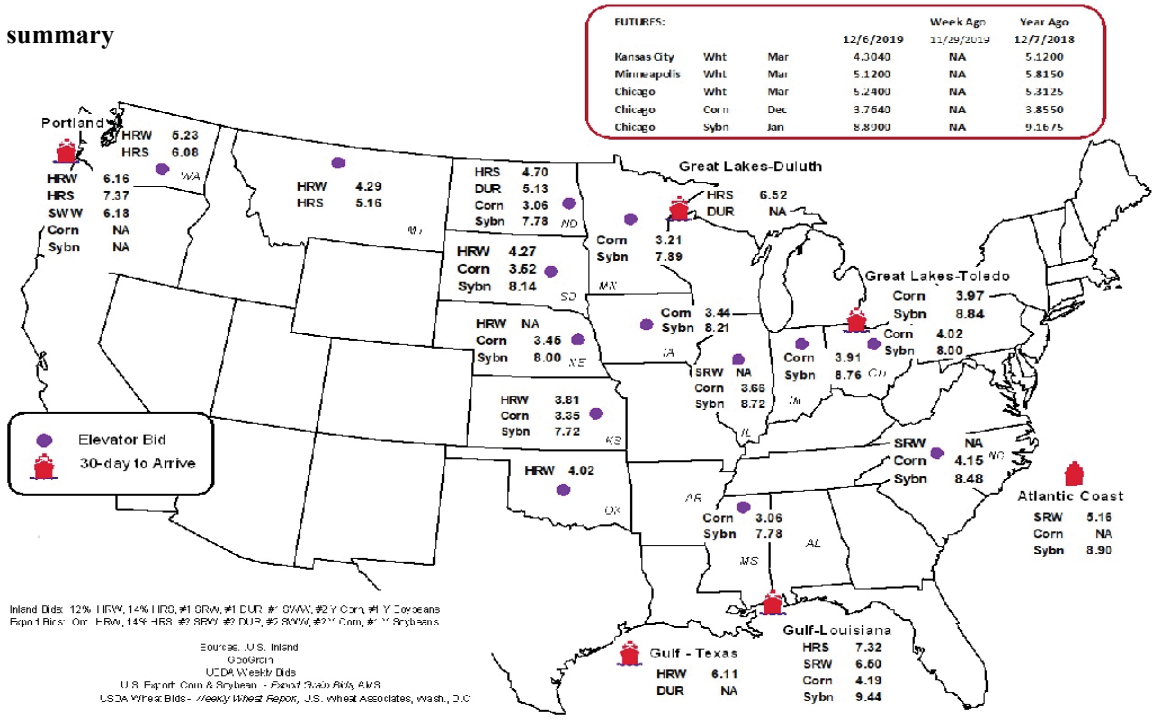
Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

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]
12/04/2019[p]	249	428	3,312	183	4,172	11/30/2019	2,431
11/27/2019[r]	567	405	5,472	0	6,444	11/23/2019	3,214
2019 YTD[r]	39,449	49,593	239,061	15,668	343,771	2019 YTD	119,002
2018 YTD[r]	21,815	44,083	294,739	20,330	380,967	2018 YTD	121,562
2019 YTD as % of 2018 YTD	181	112	81	77	90	% change YTD	98
Last 4 weeks as % of 2018[2]	203	113	113	28	109	Last 4wks. % 2018	91
Last 4 weeks as % of 4-year avg.[2]	75	43	86	17	73	Last 4wks. % 4 yr.	119
Total 2018	22,118	46,532	310,449	21,432	400,531	Total 2018	129,116
Total 2017	28,796	75,543	287,267	21,312	412,918	Total 2017	119,661

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

[2] Compared with same 4-weeks in 2018 and prior 4-year average.

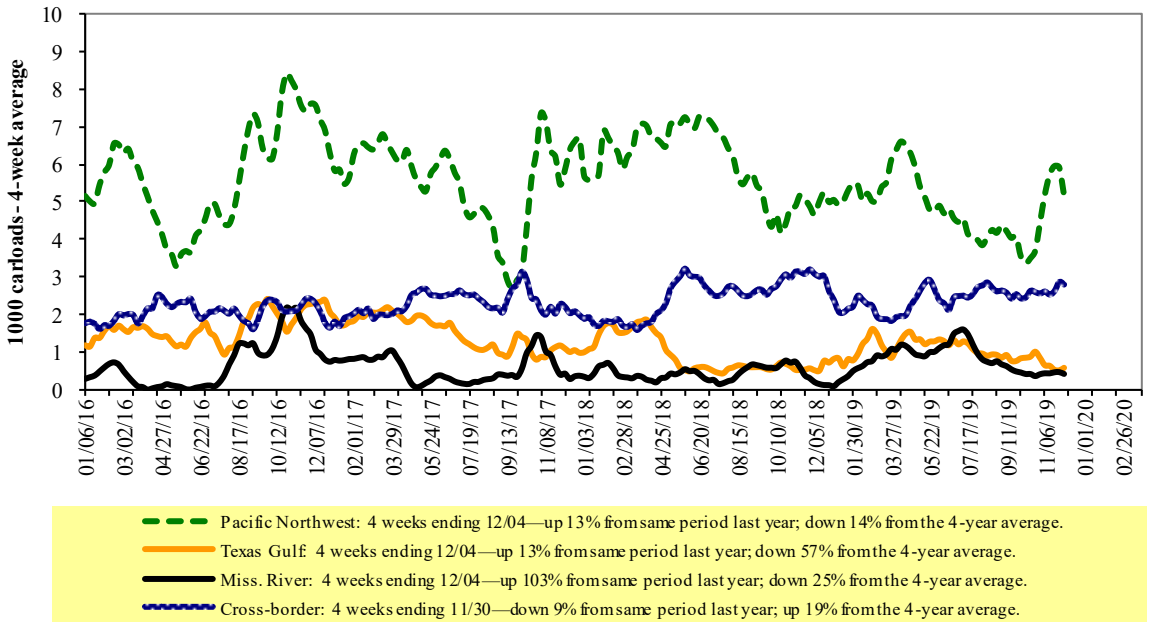
[3] Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads. to reflect switching between Kansas City Southern de Mexico (KCSM) and Grupo Mexico.

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	
11/30/2019	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,449	2,521	10,727	972	4,751	20,420	2,943	5,122
This week last year	1,927	2,891	10,616	936	6,069	22,439	3,899	5,607
2019 YTD	85,667	127,794	524,959	54,471	241,988	1,034,879	195,119	217,193
2018 YTD	92,869	122,398	586,871	44,768	249,140	1,096,046	195,253	226,359
2019 YTD as % of 2018 YTD	92	104	89	122	97	94	100	96
Last 4 weeks as % of 2018*	83	98	102	128	94	99	85	105
Last 4 weeks as % of 3-yr. avg.**	83	86	98	131	88	94	88	101
Total 2018	98,978	133,238	635,458	48,638	267,713	1,184,025	211,654	244,697

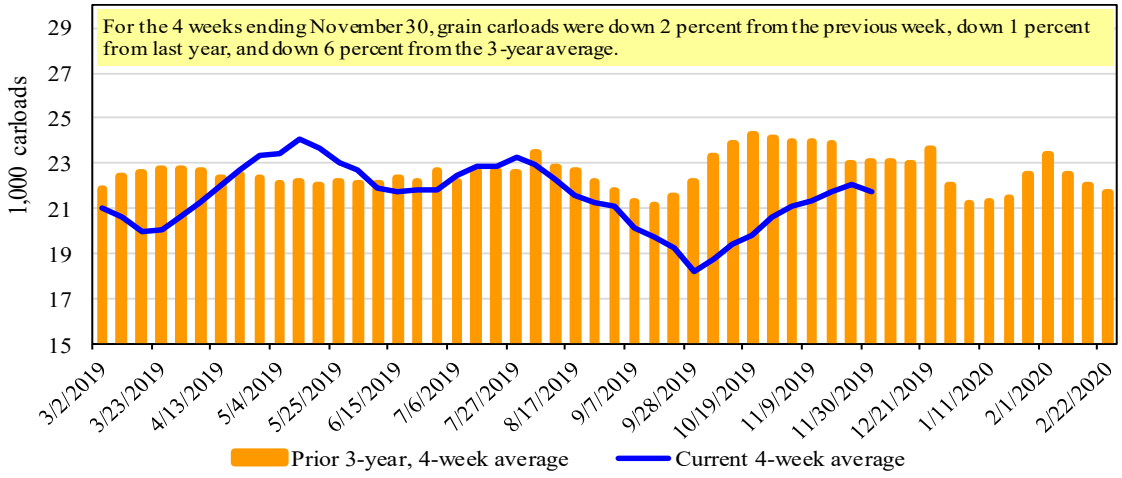
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

**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.

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain car loads



Source: Association of American Railroads.

Table 5

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

For the week ending:		Delivery period							
12/5/2019		Dec-19	Dec-18	Jan-20	Jan-19	Feb-20	Feb-19	Mar-20	Mar-19
BNSF[3]	COT grain units	0	0	0	0	no bid	no bid	no bid	no bid
	COT grain single-car	0	no offer	2	87	0	30	0	9
UP[4]	GCAS/Region 1	no offer	no bid	no offer	no bid	no offer	no bid	n/a	n/a
	GCAS/Region 2	no bid	no bid	no bid	no bid	no bid	10	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 = Certificate of Transportation; north grain and south grain bids were combined effective the week ending 6/24/06.

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

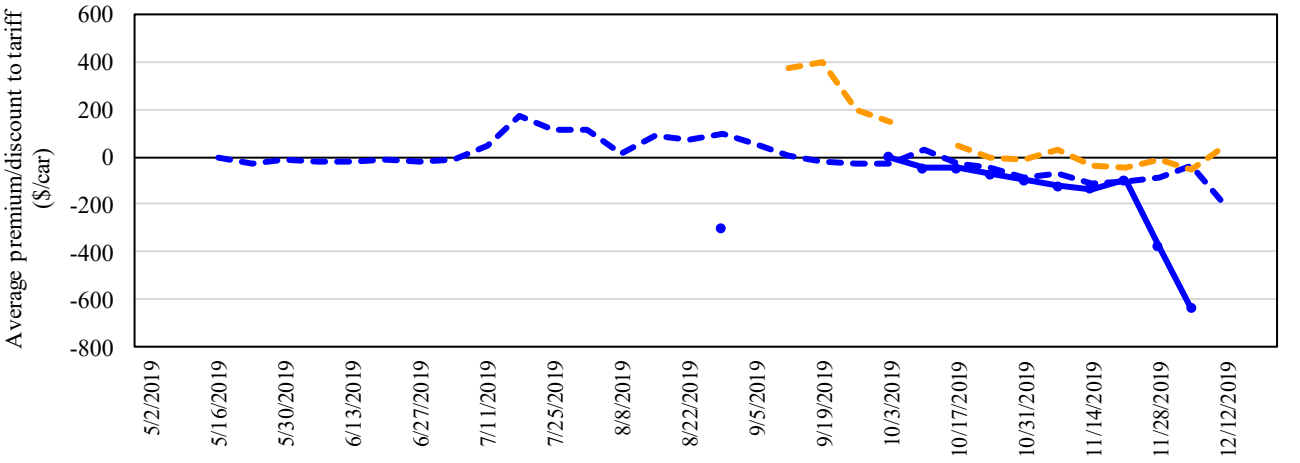
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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 December 2019, secondary market



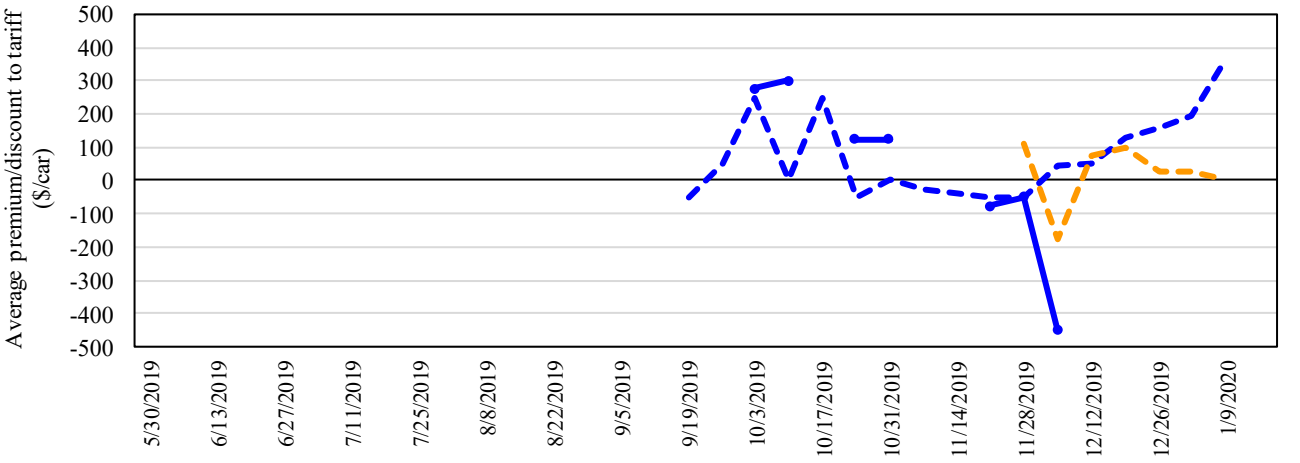
12/5/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$600	-$675

Shuttle
Non-shuttle
Shuttle prior 3-yr. avg. (same week)
Non-shuttle prior 3-yr. avg. (same week)

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $258 this week and are $638 below the peak.

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

Figure 5
Bids/offers for railcars to be delivered in January 2020, secondary market



12/5/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$450	n/a

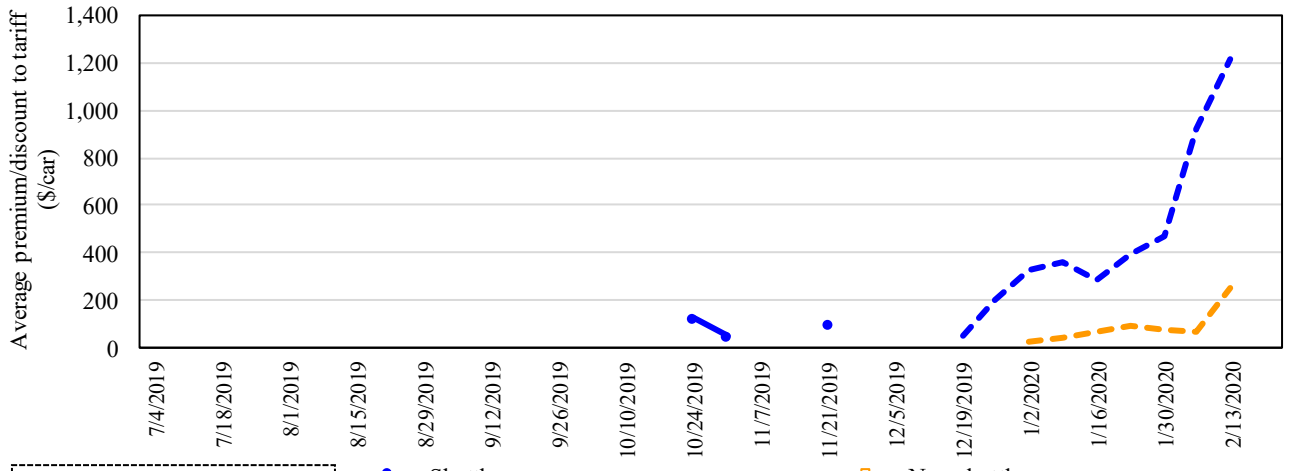
Shuttle
Non-shuttle
Shuttle prior 3-yr. avg. (same week)
Non-shuttle prior 3-yr. avg. (same week)

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $400 this week and are $750 below the peak.

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

Figure 6

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



12/5/2019	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.
Source: USDA, Agricultural Marketing Service.

Table 6

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

	For the week ending: 12/5/2019	Delivery period					
		Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-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 2018	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 2018	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**(600)**	**(450)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(225)	n/a	n/a	n/a	n/a	n/a
	Change from same week 2018	(575)	(650)	n/a	n/a	n/a	n/a
	UP-Pool	**(675)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(292)	n/a	n/a	n/a	n/a	n/a
	Change from same week 2018	(469)	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.

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 and—together with **fuel surcharges** and any **auction and secondary rail** values—constitute 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. High auction and secondary rail values, during times of high rail demand or short supply, can exceed the cost of the tariff rate plus fuel surcharge.

Table 7

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

December 2019	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	-1
	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
	Northwest KS	Galveston-Houston, TX	$4,801	$195	$49.61	$1.35	-1
	Amarillo, TX	Los Angeles, CA	$5,121	$271	$53.55	$1.46	-1
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,900	$201	$40.73	$1.03	-4
	Toledo, OH	Raleigh, NC	$6,816	$0	$67.69	$1.72	4
	Des Moines, IA	Davenport, IA	$2,415	$43	$24.41	$0.62	6
	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	-2
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$194	$37.98	$1.03	-13
	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	-3
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
	Northwest KS	Portland, OR	$6,012	$320	$62.88	$1.71	0
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	-1
	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	3
	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	1
	Toledo, OH	Huntsville, AL	$4,805	$0	$47.72	$1.30	4
	Grand Island, NE	Portland, OR	$5,860	$327	$61.44	$1.67	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: December 2019							
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	$609	$83.19	$2.26	4
	TX	Salinas Victoria, NL	$4,329	$84	$45.09	$1.23	-1
Corn	IA	Guadalajara, JA	$8,902	$523	$96.30	$2.44	5
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	3
	NE	Queretaro, QA	$8,278	$284	$87.49	$2.22	0
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,643	$277	$80.92	$2.05	0
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	3
Soybeans	MO	Bojay (Tula), HG	$8,547	$489	$92.32	$2.51	4
	NE	Guadalajara, JA	$9,172	$511	$98.94	$2.69	5
	IA	El Castillo, JA	$9,490	$0	$96.97	$2.64	4
	KS	Torreon, CU	$7,964	$355	$84.99	$2.31	4
Sorghum	NE	Celaya, GJ	$7,772	$464	$84.15	$2.14	4
	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	$330	$76.50	$1.94	3

[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.

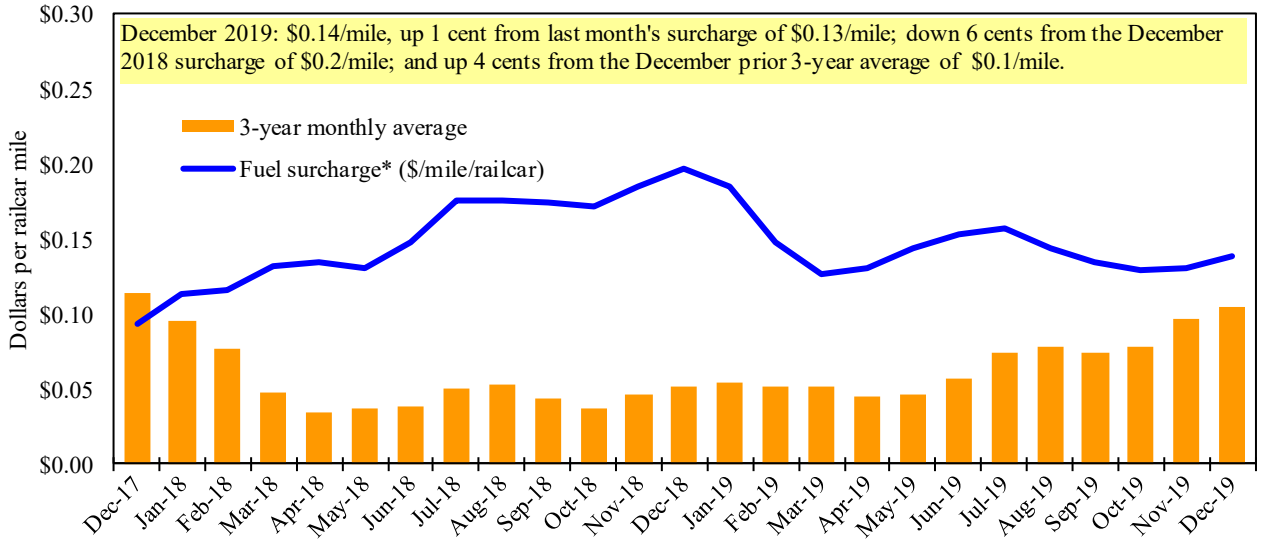
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

[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.

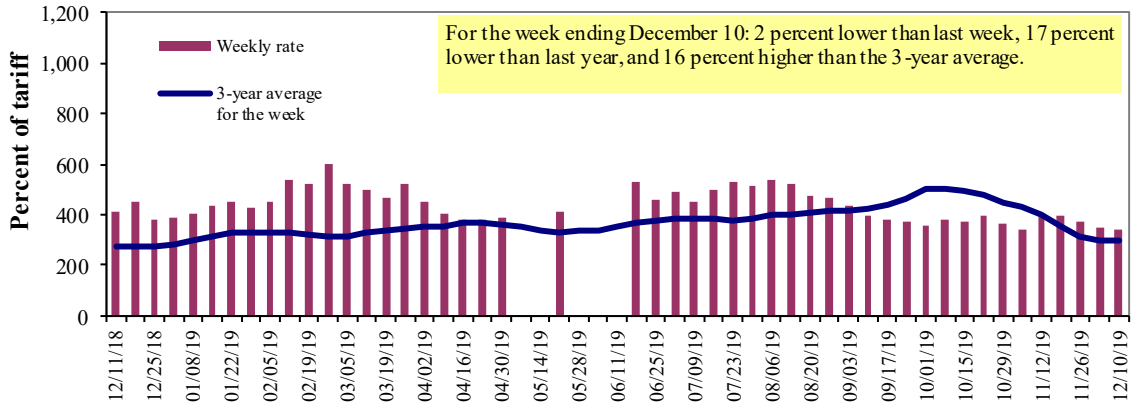
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

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

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

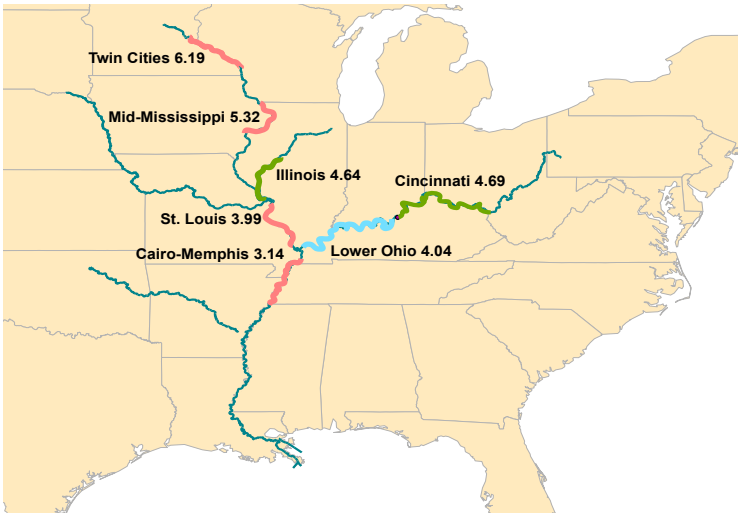
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	12/10/2019	-	-	343	244	251	251	224
	12/3/2019	-	356	351	250	256	256	230
$/ton	12/10/2019	-	-	15.92	9.74	11.77	10.14	7.03
	12/3/2019	-	18.94	16.29	9.98	12.01	10.34	7.22
Current week % change from the same week:								
	Last year	-	-	-17	-28	-16	-16	-20
	3-year avg. [2]	-	-	16	10	-9	-7	15
Rate[1]	January	-	-	370	243	251	251	224
	March	-	-	364	243	254	254	226

[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

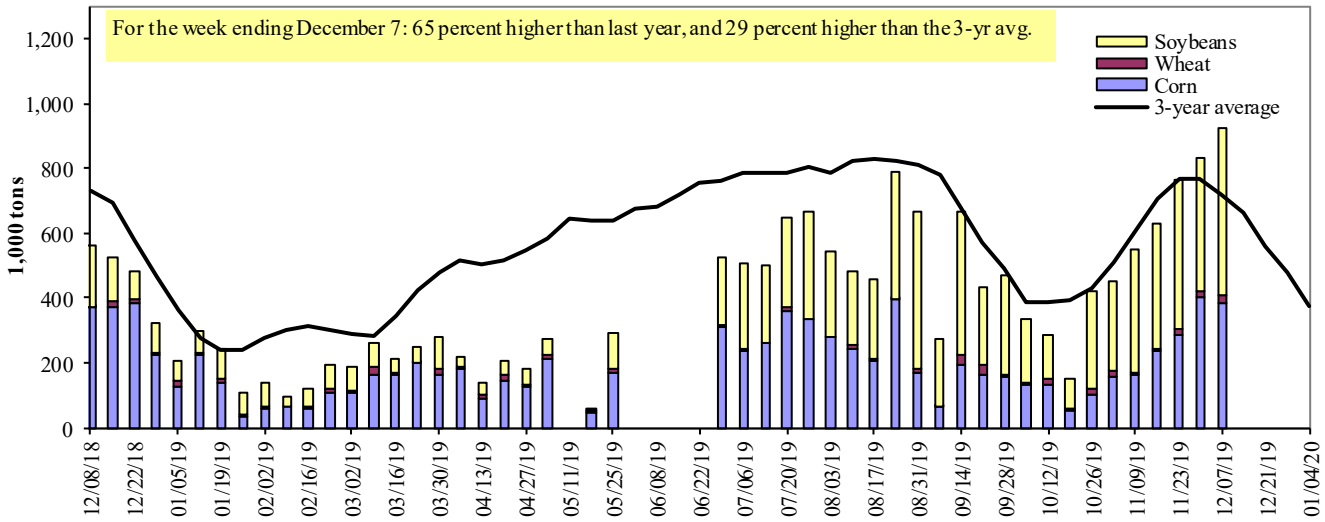
Select applicable index from market quotes included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 12/07/2019	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	65	0	156	0	220
Winfield, MO (L25)	247	6	402	0	656
Alton, IL (L26)	389	23	526	0	938
Granite City, IL (L27)	387	23	517	0	927
Illinois River (LAGRANGE)	102	5	86	0	193
Ohio River (OLMSTED)	33	0	75	0	107
Arkansas River (L1)	0	14	55	0	69
Weekly total - 2019	420	38	646	0	1,104
Weekly total - 2018	422	24	333	2	781
2019 YTD[1]	12,093	1,562	13,669	143	27,466
2018 YTD[1]	22,070	1,581	12,045	116	35,813
2019 as % of 2018 YTD	55	99	113	123	77
Last 4 weeks as % of 2018[2]	89	134	180	35	128
Total 2018	23,349	1,674	12,819	133	37,975

[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.

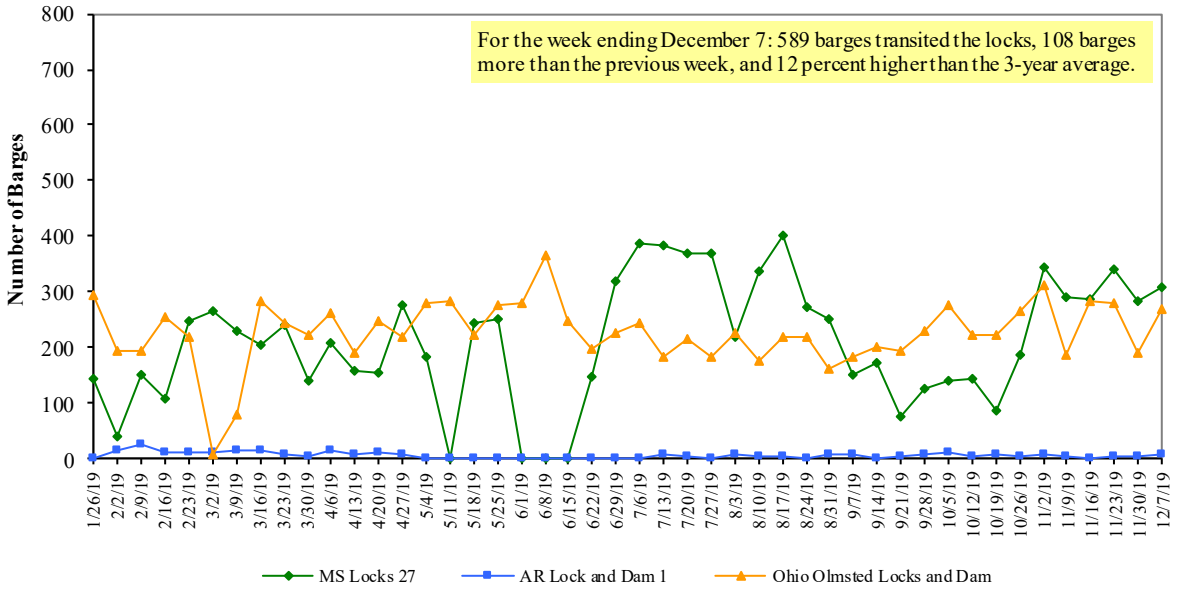
[2] As a percent of same period in 2018.

Note: 1. Total may not add exactly, due to rounding.
2. Starting from 11/24/2018, weekly movement through Ohio 52 is replaced by Olmsted.

Source: U.S. Army Corps of Engineers.

Figure 11

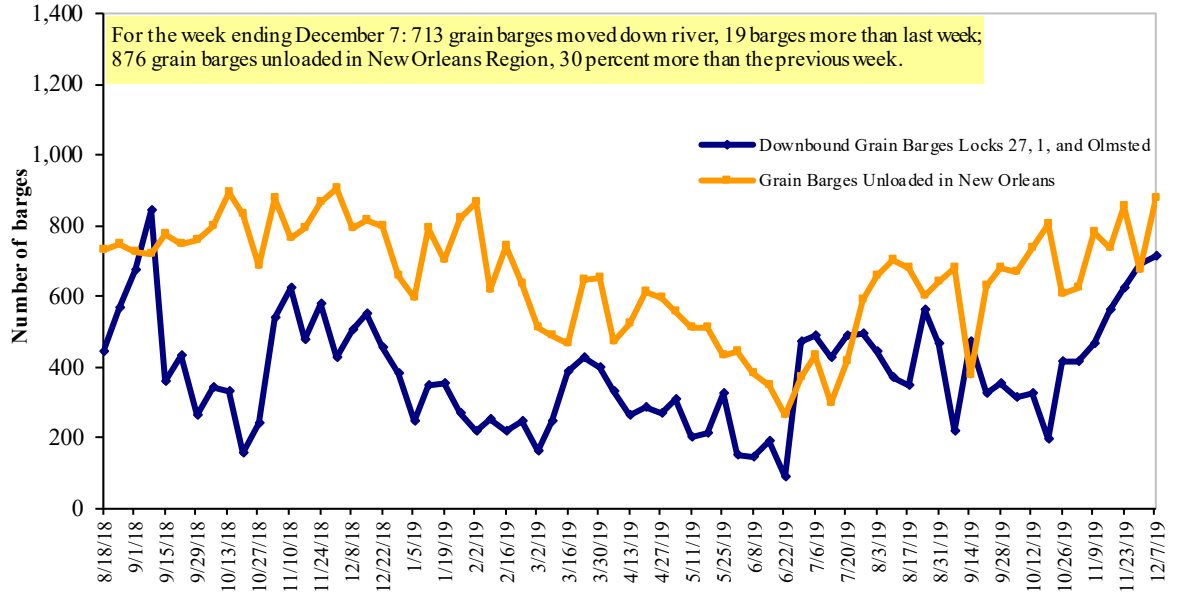
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



Source: U.S. Army Corps of Engineers.

Figure 12

Grain barges for export in New Orleans region



Source: U.S. Army Corps of Engineers and USDA, Agricultural Market 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 12/9/2019 (U.S. $/gallon)

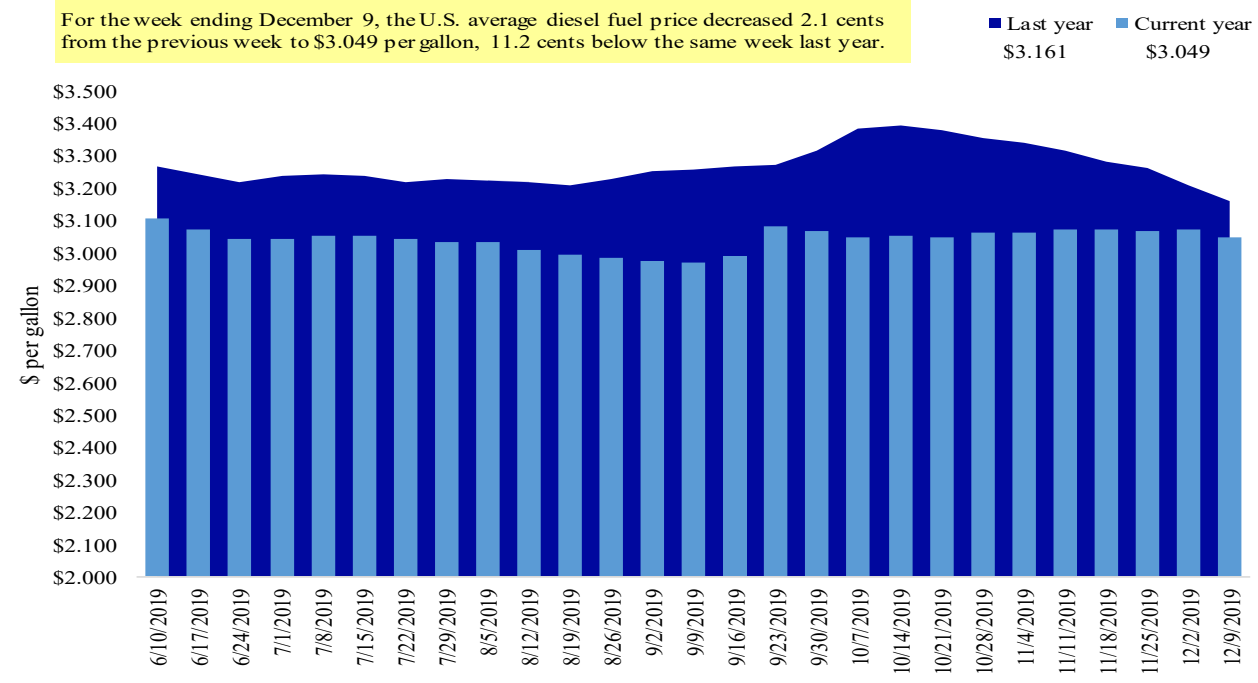
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.050	-0.009	-0.144
	New England	3.085	0.007	-0.210
	Central Atlantic	3.241	-0.005	-0.127
	Lower Atlantic	2.914	-0.014	-0.139
II	Midwest	2.966	-0.016	-0.100
III	Gulf Coast	2.759	-0.020	-0.175
IV	Rocky Mountain	3.207	-0.034	-0.032
V	West Coast	3.647	-0.057	-0.005
	West Coast less California	3.323	-0.059	-0.034
	California	3.904	-0.056	0.017
Total	U.S.	3.049	-0.021	-0.112

[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]									
11/28/2019	1,319	526	1,185	869	175	4,074	8,271	9,956	22,301
This week year ago	1,539	819	1,844	1,175	150	5,526	11,979	10,981	28,486
Cumulative exports-marketing year[2]									
2019/20 YTD	4,778	1,421	3,367	2,314	501	12,382	6,344	15,988	34,714
2018/19 YTD	2,991	1,187	3,135	2,509	256	10,077	14,768	12,986	37,832
YTD 2019/20 as % of 2018/19	160	120	107	92	196	123	43	123	92
Last 4 wks as % of same period 2018/19	79	64	65	71	153	72	68	99	81
2018/19 Total	8,591	3,204	6,776	5,164	479	24,214	48,924	46,189	119,327
2017/18 Total	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 11/28/2019	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 -		
Mexico	6,862	8,495	(19)	14,659
Japan	2,069	4,778	(57)	11,955
Korea	25	2,217	(99)	4,977
Colombia	1,108	1,659	(33)	4,692
Peru	15	1,227	(99)	2,808
Top 5 Importers	**10,079**	**18,376**	**(45)**	**39,091**
Total U.S. corn export sales	**14,616**	**26,748**	**(45)**	**54,024**
% of projected exports	31%	51%		
Change from prior week[2]	**546**	**1,177**		
Top 5 importers' share of U.S. corn export sales	69%	69%		72%
USDA forecast December 2019	**47,074**	**52,545**	**(10)**	
Corn use for ethanol USDA forecast, December 2019	**136,525**	**136,551**	**(0)**	

[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: (n) indicates negative number; mt = metric ton

Source: USDA, Foreign Agriculltural Service.

Table 14

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

For the week ending 11/28/2019	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 -			- 1,000 mt -
China	9,605	516	1763	25,733
Mexico	2,767	3,413	(19)	4,271
Indonesia	813	982	(17)	2,386
Japan	960	1,056	(9)	2,243
Egypt	1,174	939	25	1,983
Top 5 importers	**15,320**	**6,905**	**122**	**36,616**
Total U.S. soybean export sales	**25,944**	**23,967**	**8**	**53,746**
% of projected exports	54%	50%		
change from prior week[2]	**684**	**891**		
Top 5 importers' share of U.S. soybean export sales	59%	29%		**68%**
USDA forecast, December 2019	**48,365**	**47,629**	**102**	

[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 reivisions from previous eweek's outstanding sales and/or accumulated sales.

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

Note: (n) indicates negative number; mt = metric ton

Source: USDA, Foreign Agriculltural Service.

Table 15

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

For the week ending 11/28/2019	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 -			- 1,000 mt -
Philippines	2,052	2,266	(9)	3,047
Mexico	2,461	1,942	27	3,034
Japan	1,698	1,837	(8)	2,695
Nigeria	987	751	31	1,564
Indonesia	429	611	(30)	1,381
Korea	871	1,099	(21)	1,355
Taiwan	867	672	29	1,164
Egypt	101	220	(54)	821
Thailand	462	697	(34)	747
Iraq	262	364	(28)	574
Top 10 importers	**10,190**	**10,457**	(3)	**16,382**
Total U.S. wheat export sales	**16,455**	**15,603**	**5**	**24,388**
% of projected exports	62%	61%		
change from prior week[2]	**228**	**712**		
Top 10 importers' share of U.S. wheat export sales	62%	67%		67%
USDA forecast, December 2019	**26,567**	**25,504**	**4**	

[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.

(n) indicates negative number; mt = metric ton.

Table 16

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

Port regions	For the week ending 12/05/19	Previous week*	Current week as % of previous	2019 YTD*	2018 YTD*	2019 YTD as % of 2018 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2018 total*
Pacific Northwest									
Wheat	177	168	106	13,024	12,297	106	82	97	13,315
Corn	0	0	n/a	6,986	19,109	37	6	9	20,024
Soybeans	419	427	98	11,346	7,636	149	829	123	7,719
Total	**597**	**595**	**100**	**31,356**	**39,042**	**80**	**120**	**91**	**41,058**
Mississippi Gulf									
Wheat	60	55	109	4,339	3,667	118	103	114	3,896
Corn	270	265	102	19,812	32,251	61	60	65	33,735
Soybeans	747	1,099	68	28,857	26,194	110	124	96	28,124
Total	**1,077**	**1,419**	**76**	**53,008**	**62,112**	**85**	**99**	**87**	**65,755**
Texas Gulf									
Wheat	0	44	0	5,807	2,855	203	69	48	3,198
Corn	29	0	n/a	608	730	83	100	46	730
Soybeans	0	0	n/a	2	69	2	n/a	0	69
Total	**29**	**44**	**66**	**6,417**	**3,654**	**176**	**73**	**39**	**3,997**
Interior									
Wheat	51	29	177	1,827	1,548	118	111	127	1,614
Corn	173	166	104	7,408	8,306	89	135	123	8,650
Soybeans	128	111	115	6,622	6,421	103	113	113	6,729
Total	**353**	**307**	**115**	**15,857**	**16,275**	**97**	**123**	**120**	**16,993**
Great Lakes									
Wheat	42	57	73	1,185	824	144	146	173	894
Corn	0	0	n/a	11	404	3	n/a	0	404
Soybeans	0	0	n/a	473	1,172	40	0	0	1,192
Total	**42**	**57**	**73**	**1,670**	**2,401**	**70**	**51**	**54**	**2,491**
Atlantic									
Wheat	0	0	n/a	37	69	54	n/a	0	69
Corn	0	0	n/a	99	133	74	0	0	138
Soybeans	46	21	222	1,294	1,937	67	63	45	2,047
Total	**46**	**21**	**222**	**1,430**	**2,139**	**67**	**61**	**45**	**2,253**
U.S. total from ports*									
Wheat	330	353	94	26,220	21,260	123	90	97	22,986
Corn	473	432	109	34,925	60,934	57	55	63	63,682
Soybeans	1,341	1,658	81	48,594	43,428	112	152	97	45,879
Total	**2,143**	**2,442**	**88**	**109,738**	**125,622**	**87**	**104**	**88**	**132,547**

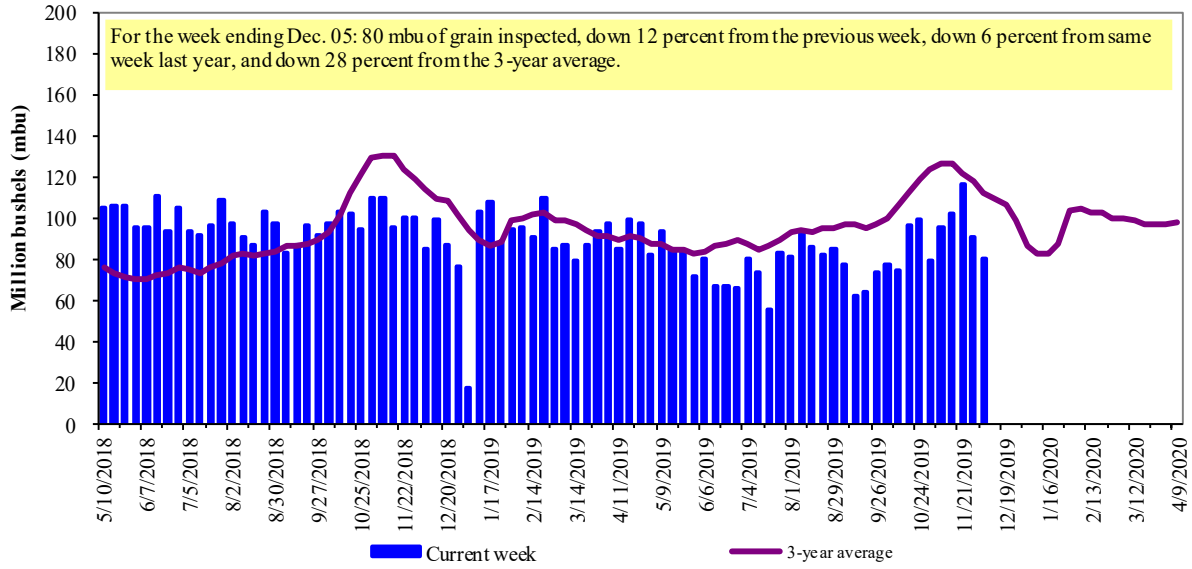
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

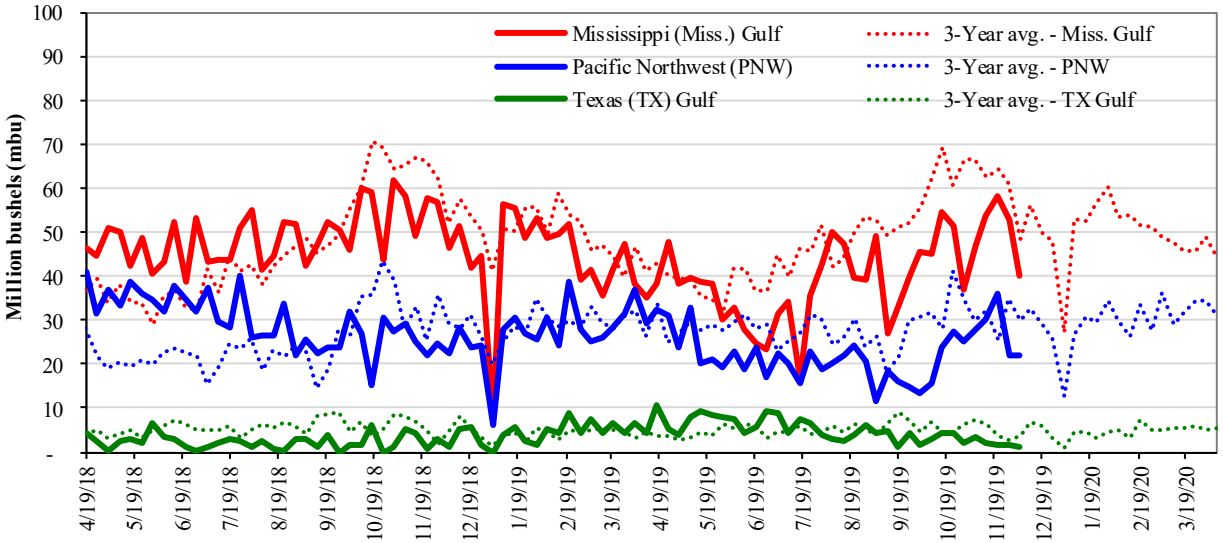


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 12/05/19 inspections (mbu):	
MS Gulf:	40.3
PNW:	21.9
TX Gulf:	1.1

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 24	down 29	down 24	unchanged
Last Year (same wk):	down 13	unchanged	down 13	down 3
3-yr avg. (4-wk. mov. Avg):	down 32	down 73	down 35	down 28

Source: USDA, Federal Grain Inspection Service.

Table 17

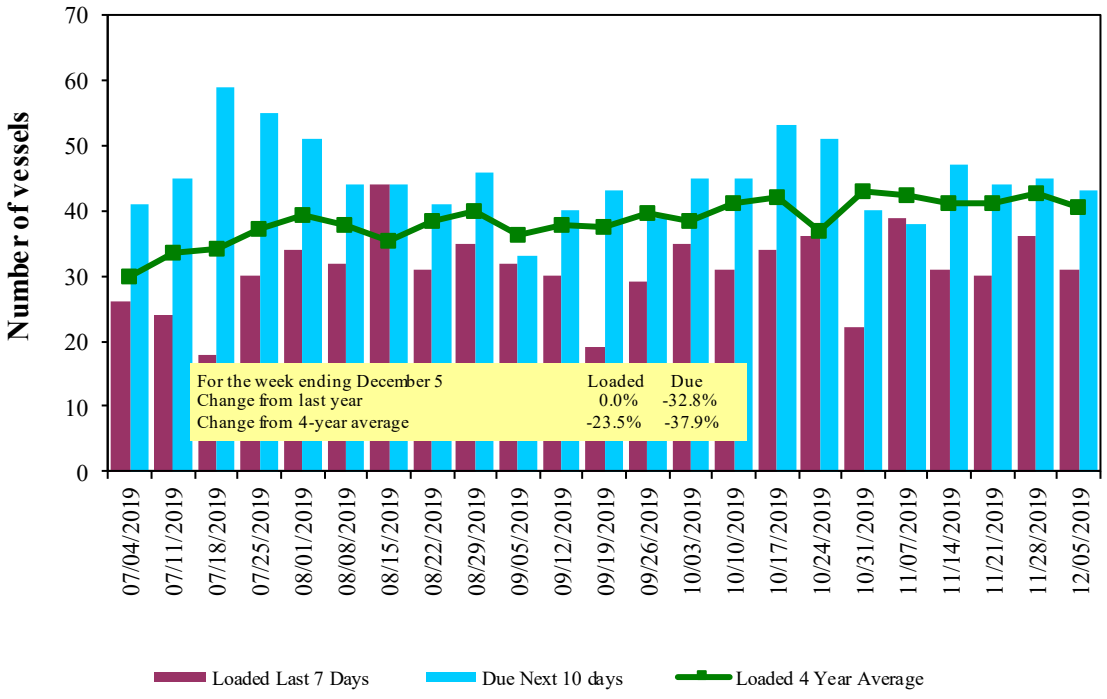
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
12/5/2019	28	31	43	17
11/28/2019	26	36	45	12
2018 range	(23...88)	(24...41)	(38...67)	(4...30)
2018 average	40	34	54	17

Source: USDA, Agricultural Marketing Service.

Figure 16

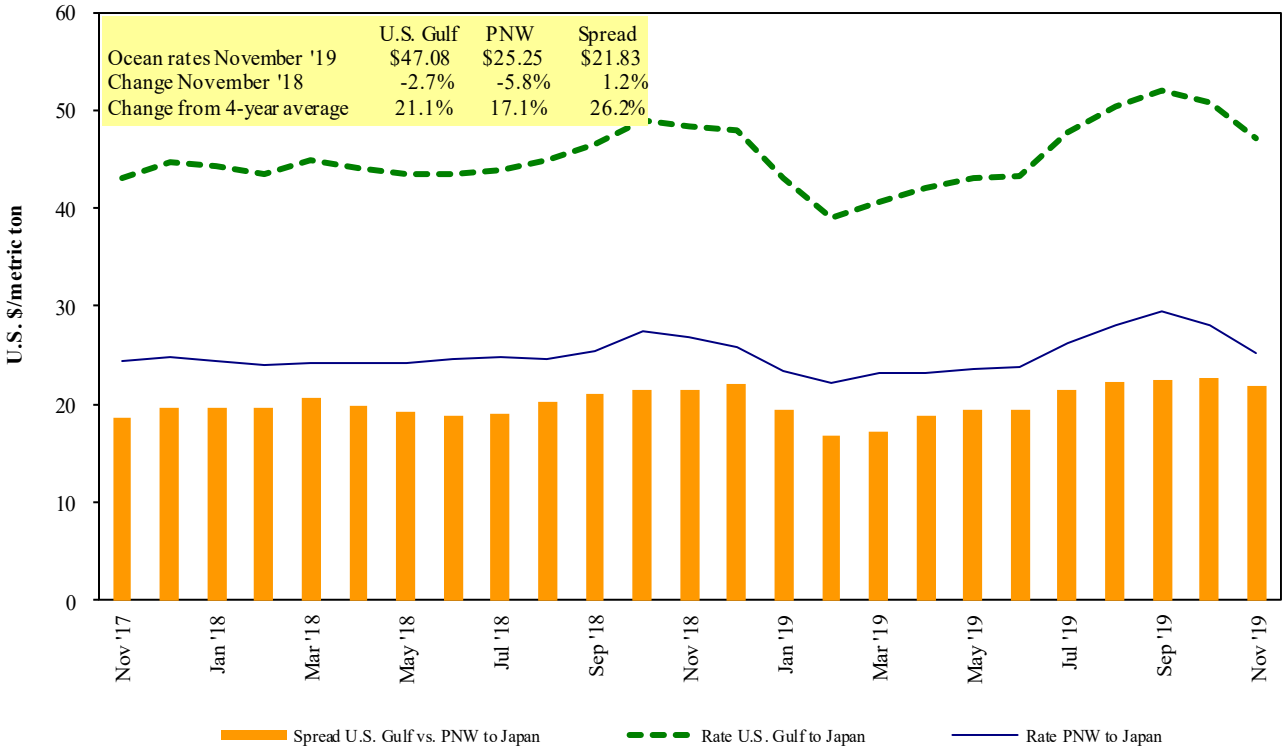
U.S. Gulf[1] vessel loading activity



[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 12/07/2019

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	Dec 15/20	65,000	49.75
U.S. Gulf	China	Heavy Grain	Nov 15/18	66,000	49.00
U.S. Gulf	Pt Sudan	Sorghum	Sep 20/30	24,960	58.15*
PNW	Bangladesh	Wheat	Dec 10/20	23,080	74.44*
PNW	Philippines	Soybean Meal	Oct 31/31	15,390	49.82*
PNW	Vietnam	Soybean Meal	Oct 21/31	3,200	49.82*
PNW	Yemen	Wheat	Sep 20/30	35,000	62.19*
Brazil	China	Heavy Grain	Oct 1/10	65,000	32.00
Brazil	Japan	Corn	Dec 22/31	49,000	37.25 op 37.15
Ukraine	Egypt Med	Heavy Grain	Oct 19/23	60,000	13.50

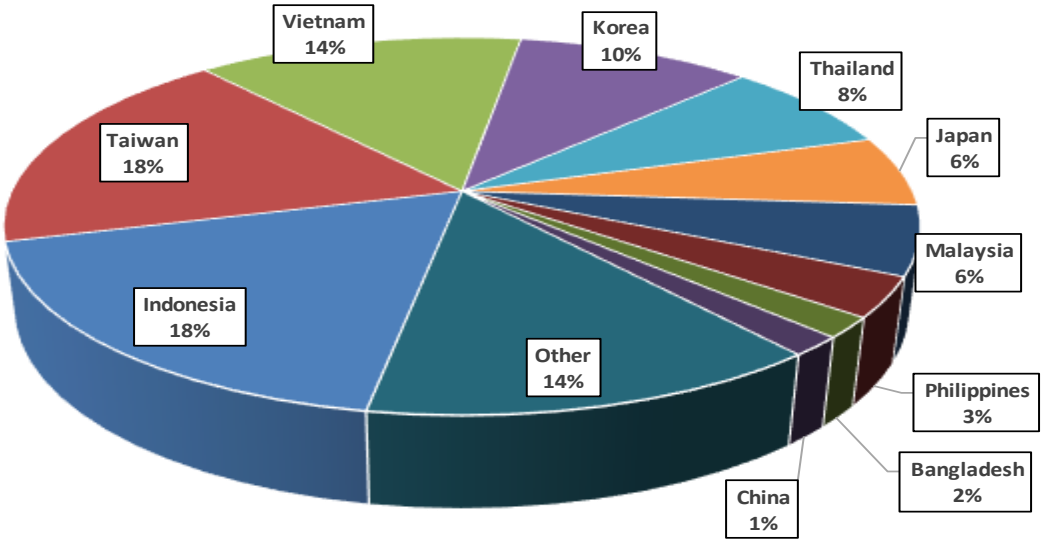
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

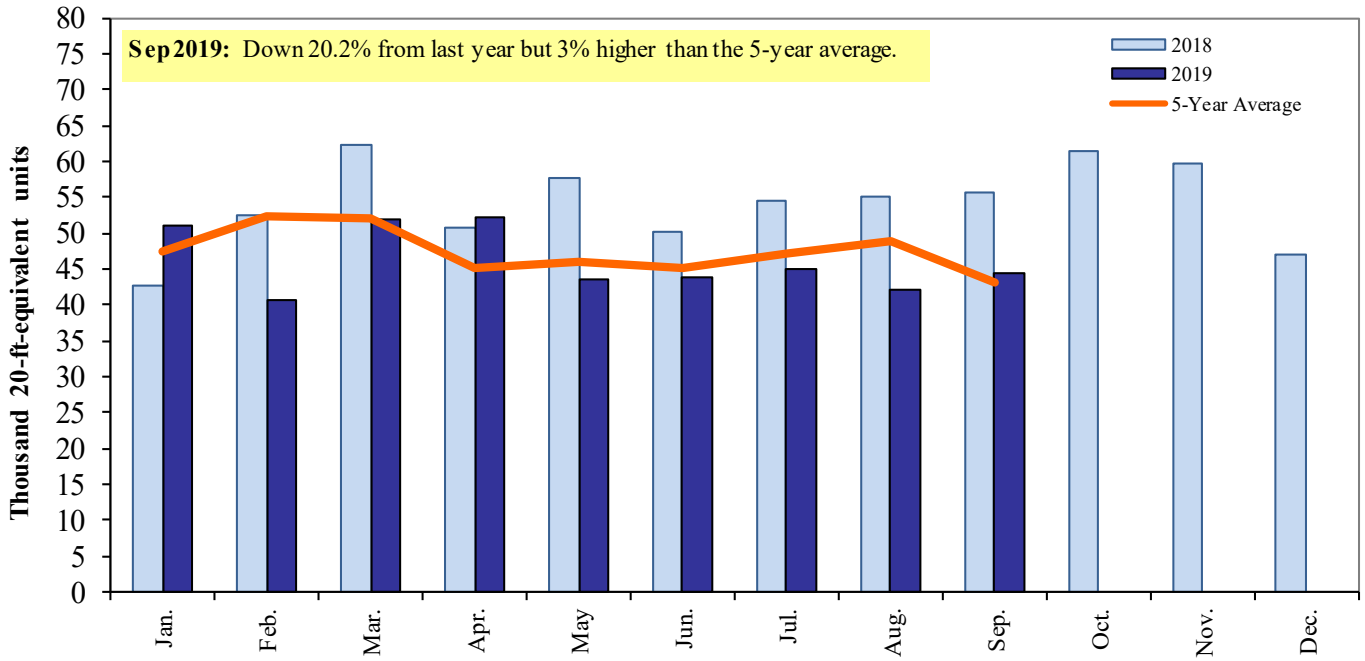
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Sep 2019



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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