United States Department of Agriculture

Grain Transportation Report

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

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Contents

The next release is December 12, 2019

WEEKLY HIGHLIGHTS

SM Line Brings Weekly Container Service to the Port of Portland

On November 19, the Port of Portland, OR, announced that the South Korea-based container carrier SM Line will bring weekly container shipping service to Portland. SM Line launched in 2017 and continues to expand its presence on the Asia-North America trade route to meet growing demand. The Port of Portland's Terminal 6 will be added to SM Line's existing rotation to the Pacific Northwest, which includes stops in Vancouver, BC, and Seattle, WA. This additional shipping opportunity will serve various containerized agricultural exports in the region, including grains, potatoes, peas, lentils, and hay. For additional information, see www.portofportland.com.

Total Grain Inspections Recede

For the week ending November 28, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.31 million metric tons (mmt). Total grain inspections were down 26 percent from the previous week, down 14 percent from last year and down 27 percent from the 3-year average. Inspections of each of the three major grains decreased notably from the previous week. Wheat inspections dropped 43 percent from week to week, while corn and soybeans dropped 30 and 21 percent, respectively, from the past week. Inspections of grain were down 11 percent from the previous week in the Mississippi Gulf, and were down 48 percent in the Pacific Northwest (PNW).

Volume of Grain Moved by Barge Remains High but May Soon Slow

For the week ending November 30, 1.02 million tons of grain passed through the locks of the Mississippi River and major tributaries. This quantity surpassed last week's total as the highest for weekly volume in 2019 and was 52 percent higher than the same week last year. Shipments originating from the upper Mississippi River sent before the river closed may still be in transit, but the upper Mississippi is now closed to new shipments for the winter. This week (beginning December 1) is likely to be the last week that shipping will be available in the mid-Mississippi, a stretch of the river passing through Davenport, IA, before that section of the river is also closed for the winter (see figure 9 in this report for a map of these locations). Locks 24 and 25, on the Mississippi just north of St. Louis, will close from December 15 through March 31, 2020. As usual, the Illinois, Ohio, and Arkansas (MKARNS) Rivers will remain open throughout the winter, as will portions of the Mississippi in St. Louis and further south.

Snapshots by Sector

Export Sales

For the week ending November 21, **unshipped balances** of wheat, corn, and soybeans totaled 23.1 mmt. This represents a 19-percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached .807 mmt, up 2 percent from the past week. Net **soybean export sales** were 1.66 mmt, up 26 percent from the previous week. Net weekly **wheat export sales** reached .613 mmt, up 40 percent from the previous week.

Rail

U.S. Class I railroads originated 22,210 **grain carloads** during the week ending November 23. This was a 1-percent decrease from the previous week, 11 percent more than last year, and 9 percent more than the 3-year average.

Average December shuttle **secondary railcar** bids/offers (per car) were $379 below tariff for the week ending November 28. This was $279 less than last week and $234 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending November 30, **barge grain movements** totaled 1,020,740 tons. This was a 7-percent increase from the previous week and 52 percent more than the same period last year.

For the week ending November 30, 694 grain barges **moved down river**—72 more barges than the previous week. There were 672 grain barges **unloaded in New Orleans**, 21 percent less than the previous week.

Ocean

For the week ending November 28, 36 **oceangoing grain vessels** were loaded in the Gulf—10 percent less than the same period last year. Within the next 10 days (starting November 29), 45 vessels were expected to be loaded—21 percent fewer than the same period last year.

Fuel

For the week ending December 2, the U.S. average **diesel fuel price** increased 0.4 cents from the previous week to $3.07 per gallon, 13.7 cents below the same week last year.

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Feature Article/Calendar

Results for Corn and Soybean Transportation Costs Were Mixed (Some Higher, Some Lower) During Third Quarter

During the third quarter of 2019, transportation costs for shipping corn and soybeans to Japan from Minneapolis, MN, through the U.S. Gulf (hereafter, "Gulf route") decreased from the second quarter and last year, mainly because of lower barge and trucking rates. However, as a result of higher rail and ocean freight rates, transportation costs to Japan from Minneapolis, MN, through the Pacific Northwest (hereafter, "PNW route") increased from the second quarter and last year.

From the second to the third quarter (quarter to quarter), total landed costs (farm value plus transportation costs) for shipping corn decreased via both the Gulf and PNW routes. From the third quarter 2018 to third quarter 2019 (year to year), landed costs for both routes increased for corn but dropped for soybeans in each region because of lower farm values.

U.S. Gulf Costs: Quarter-to-quarter transportation costs for the Gulf route decreased 23 percent for corn and 21 percent for soybeans. During the third quarter, barge transportation was used to move grain from Minnesota to New Orleans as the upper section of the Mississippi River reopened, after being closed during the second quarter. To account for the closures, transportation cost comparisons were modified to include a rail-to-barge segment (see November 14, 2019 *Grain Transportation Report (GTR)*). In this modification, grains were transported by rail from Minneapolis, MN, to St. Louis, MO, and then transferred onto barges for shipment to New Orleans, LA. With the reopening of the river in the third quarter, restoration of barge traffic (eliminating the rail substitutes) lowered the transportation costs. Year-to-year transportation costs for the Gulf route decreased 1 percent for corn and for soybeans because of lower trucking and barge rates. Ocean freight rates for the Gulf route increased 17 percent quarter to quarter and 11 percent year to year owing to strong bulk trade and high Brazil iron ore exports (see October 31, 2019 *GTR)*. Trucking rates decreased 16 percent quarter to quarter partly because of lower diesel prices (table 1).

Table 1: Cost of Shipping Corn and Soybeans from Minneapolis to Japan through the U.S. Gulf

	Corn					Soybeans				
	$/metric ton			Percent change		$/metric ton			Percent Change	
	3rdQtr 18	2ndQtr 19	3rdQtr 19	Yr. to Yr.	Qtr to Qtr	3rdQtr 18	2ndQtr 19	3rdQtr 19	Yr. to Yr.	Qtr to Qtr
Truck	10.54	10.98	9.18	-12.90	-16.39	10.54	10.98	9.18	-12.90	-16.39
Rail[1]		50.76			n/a		47.93			n/a
Barge[2]	36.31	13.07	31.39	-13.55	140.17	36.31	13.07	31.39	-13.55	140.17
Ocean	45.13	42.78	50.05	10.90	16.99	45.13	42.78	50.05	10.90	16.99
Total Transportation Cost	91.98	117.59	90.62	-1.48	-22.94	91.98	114.76	90.62	-1.48	-21.04
Farm Value[3]	126.37	139.23	146.45	15.89	5.19	315.38	298.97	303.87	-3.65	1.64
Total Landed Cost	218.35	256.82	237.07	8.57	-7.69	407.36	413.73	394.49	-3.16	-4.65
Transportation % Landed Cost	42.13	45.79	38.22			22.58	27.74	22.97		

Table 2: Cost of Shipping Corn and Soybeans from Minneapolis to Japan through the U.S. PNW

	Corn					Soybeans				
	$/metric ton			Percent change		$/metric ton			Percent Change	
	3rdQtr 18	2ndQtr 19	3rdQtr 19	Yr. to Yr.	Qtr to Qtr	3rdQtr 18	2ndQtr 19	3rdQtr 19	Yr. to Yr.	Qtr to Qtr
Truck	10.54	10.98	9.18	-12.90	-16.39	10.54	10.98	9.18	-12.90	-16.39
Rail[1]	49.65	51.44	51.44	3.61	0.00	56.61	57.60	57.60	1.75	0.00
Ocean	24.97	23.56	27.90	11.73	18.42	24.97	23.56	27.90	11.73	18.42
Total Transportation Cost	85.16	85.98	88.52	3.95	2.95	92.12	92.14	94.68	2.78	2.76
Farm Value[3]	126.37	139.23	146.45	15.89	5.19	315.38	298.97	303.87	-3.65	1.64
Total Landed Cost	211.53	225.21	234.97	11.08	4.33	407.50	391.11	398.55	-2.20	1.90
Transportation % Landed Cost	40.26	38.18	37.67			22.61	23.56	23.76		

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

[2] Barge rates for the third quarter are from MN to the Gulf.

[3] USDA, National Agricultural Statisics Serviceis the source for corn and soybean prices.

Source: USDA, Agricultural Marketing Service.

Quarter to quarter landed costs for shipping via the Gulf route decreased 8 percent for corn and 5 percent for soybeans, ranging from $237 per metric ton (mt) to $394/mt (table 1). Year-to-year landed costs for the Gulf route increased 9 percent for corn but decreased 3 percent for soybeans. The transportation costs for shipping corn via the Gulf route accounted for 38 percent of the total landed cost during the third quarter, unchanged from the previous quarter but below last year. The share of the total landed cost for soybeans comprising transportation costs was 23 percent, below the previous quarter but unchanged from last year (table 1).

Pacific Northwest Costs: Quarter to quarter, transportation costs for shipping grain via the PNW route increased 3 percent for corn and soybeans mainly because of higher ocean freight rates. Year to year, transportation costs for shipping grain via the PNW route increased 4 percent for corn and 3 percent for soybeans, owing to higher rail rates and ocean freight rates (table 2). Via the PNW route, rail rates for shipping grain increased 4 percent for corn and 2 percent for soybeans compared to last year. Similar to the Gulf route, ocean freight rates for the PNW route increased 18 percent quarter to quarter and 12 percent year to year, because of strong bulk trade.

Total landed costs for shipping grain via the PNW route increased 4 percent quarter to quarter for corn and 2 percent for soybeans, mainly owing to higher ocean freight rates. Year-to-year landed costs increased 11 percent for corn because of increased transportation costs and higher farm values. Year-to-year landed costs for soybeans were down more than 2 percent because of lower trucking rates and farm values. Third-quarter total landed costs for shipping corn and soybeans via the PNW route ranged from $235/mt to $399/mt (table 2). During the third quarter, the transportation costs for corn shipped via the PNW route represented 37 percent of the total landed costs—a share that was below the previous quarter and the third quarter last year. The third quarter transportation costs for soybeans via the PNW route represented 24 percent of the total landed costs, equal to the previous quarter but above the third quarter last year.

Outlook: According to USDA's November *World Agricultural Supply and Demand Estimates* (WASDE), 2019/20 corn exports are projected to decrease 7 percent from the October estimate and to fall 10 percent from last year. Lower than expected exports of corn are due mainly to higher U.S. prices and increased competition abroad. *WASDE*'s November soybean export projection for 2019/20 is unchanged from the October estimate, but is 2 percent above last year. According to USDA, soybean production for 2019/20 is estimated to decrease 20 percent from the previous year because of wet fields during the harvest and below-average yields. Johnny.Hill@.usda.gov

Grain Transportation Indicators

Table 1

Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit train	Shuttle		Gulf	Pacific
12/04/19	206	n/a	209	195	n/a	n/a
11/27/19	206	n/a	221	206	207	176

[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	11/29/2019	11/22/2019
Corn	IL–Gulf	n/a	-0.54
Corn	NE–Gulf	n/a	-0.73
Soybean	IA–Gulf	n/a	-1.27
HRW	KS–Gulf	n/a	-2.57
HRS	ND–Portland	n/a	-2.73

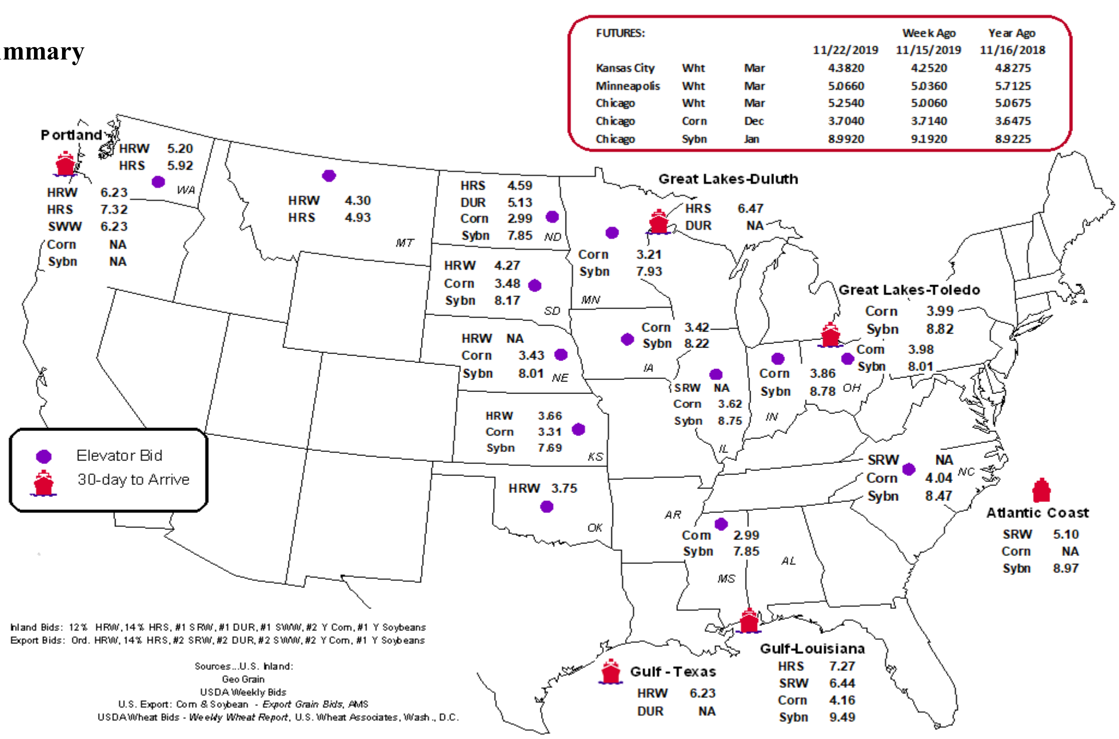
Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

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]
11/27/2019[p]	567	405	5,472	0	6,444	11/23/2019	3,214
11/20/2019[r]	564	875	5,916	96	7,451	11/16/2019	2,899
2019 YTD[r]	39,200	49,165	235,749	15,485	339,599	2019 YTD	116,571
2018 YTD[r]	21,595	43,714	290,514	20,010	375,833	2018 YTD	118,631
2019 YTD as % of 2018 YTD	182	112	81	77	90	% change YTD	98
Last 4 weeks as % of 2018[2]	151	90	121	16	111	Last 4wks. % 2018	90
Last 4 weeks as % of 4-year avg.[2]	61	38	97	10	77	Last 4wks. % 4 yr.	110
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 are incomplete as they are voluntarily provided.

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

[3] Cross-border weekly data are 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.

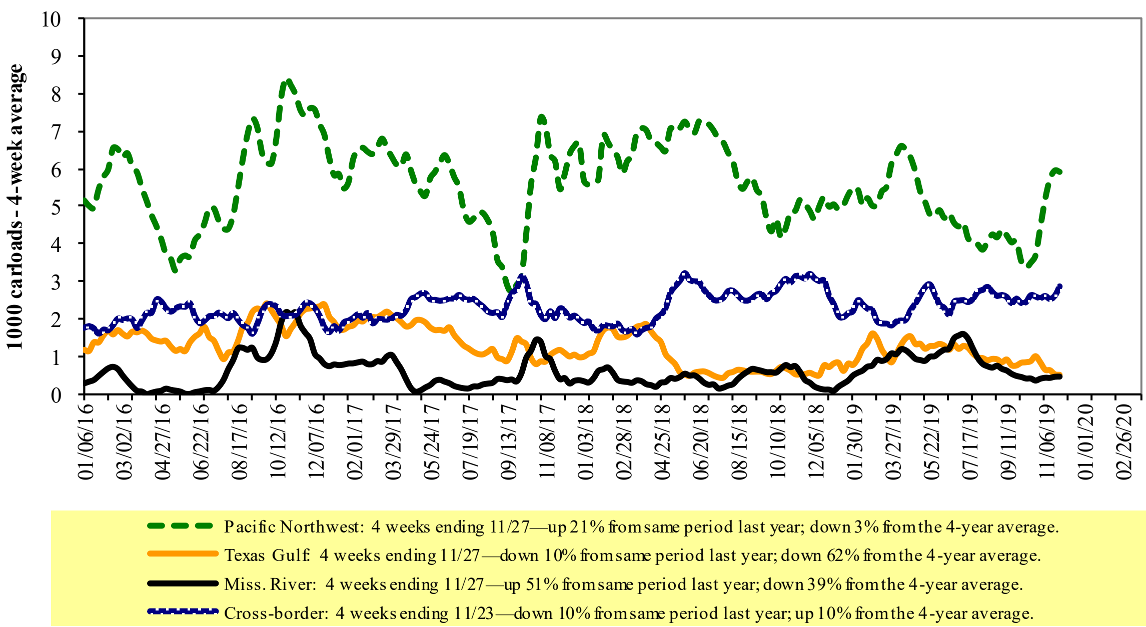
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

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: 11/23/2019	East		West			U.S. total	Canada	
	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,646	2,365	12,605	1,312	4,282	22,210	4,238	5,191
This week last year	1,577	2,620	11,006	798	4,041	20,042	4,922	4,098
2019 YTD	84,218	125,273	514,232	53,499	237,237	1,014,459	192,176	212,071
2018 YTD	90,942	119,507	576,255	43,832	243,071	1,073,607	191,354	220,752
2019 YTD as % of 2018 YTD	93	105	89	122	98	94	100	96
Last 4 weeks as % of 2018*	80	104	104	156	100	103	90	108
Last 4 weeks as % of 3-yr. avg.**	79	84	101	152	88	96	93	104
Total 2018	98,978	133,223	635,458	48,638	267,713	1,184,010	211,654	244,697

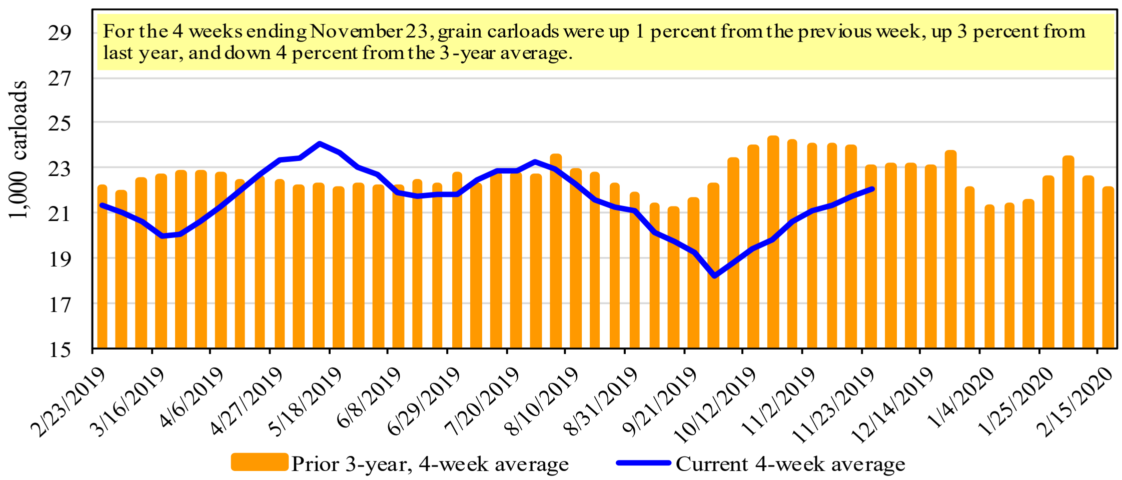
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

**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: 11/28/2019		Delivery period							
		Dec-19	Dec-18	Jan-20	Jan-19	Feb-20	Feb-19	Mar-20	Mar-19
BNSF[3]	COT grain units	no bid	no offer	0	no bid	1	no bid	0	no bid
	COT grain single-car	0	no offer	0	104	0	31	0	16
UP[4]	GCAS/Region 1	10	no bid	no offer	no bid	no offer	no offer	n/a	n/a
	GCAS/Region 2	no bid	no bid	no bid	10	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 = 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.

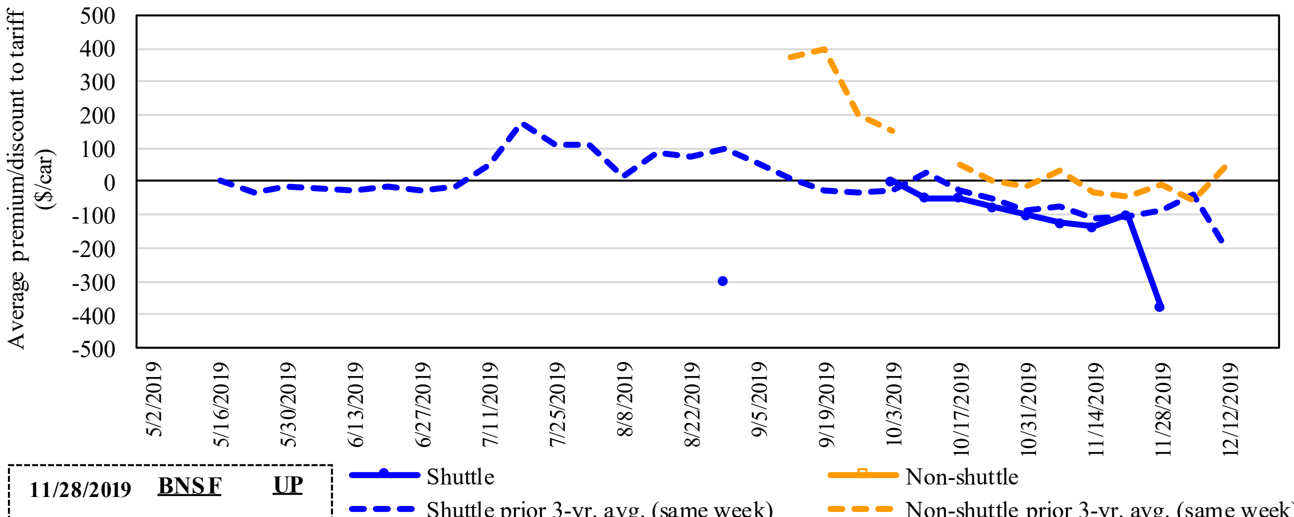
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

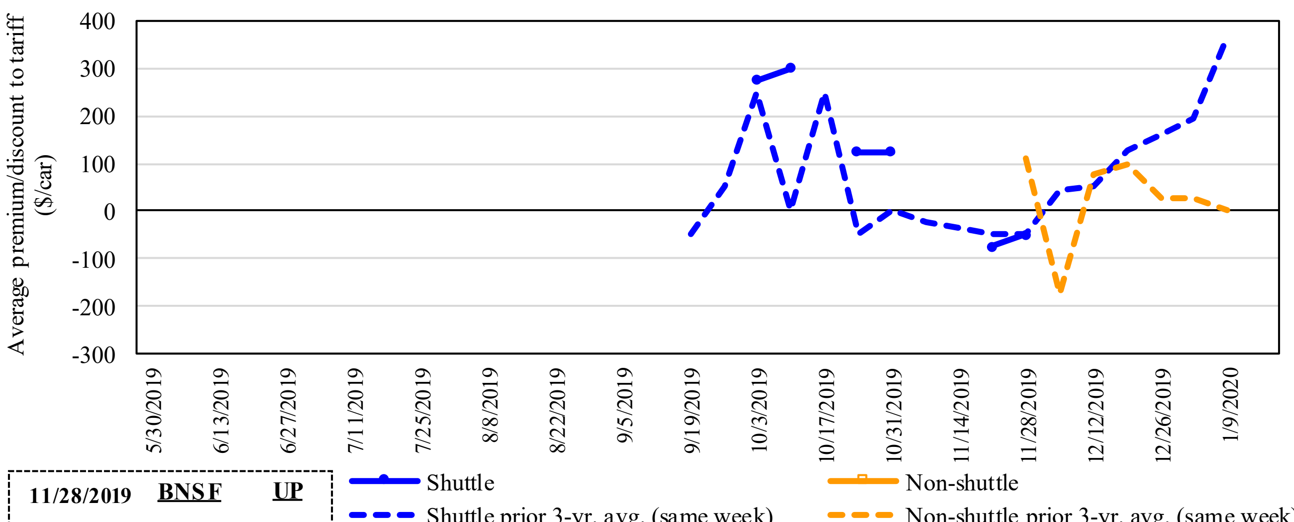


11/28/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$375	-$383

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $279 this week and are $379 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



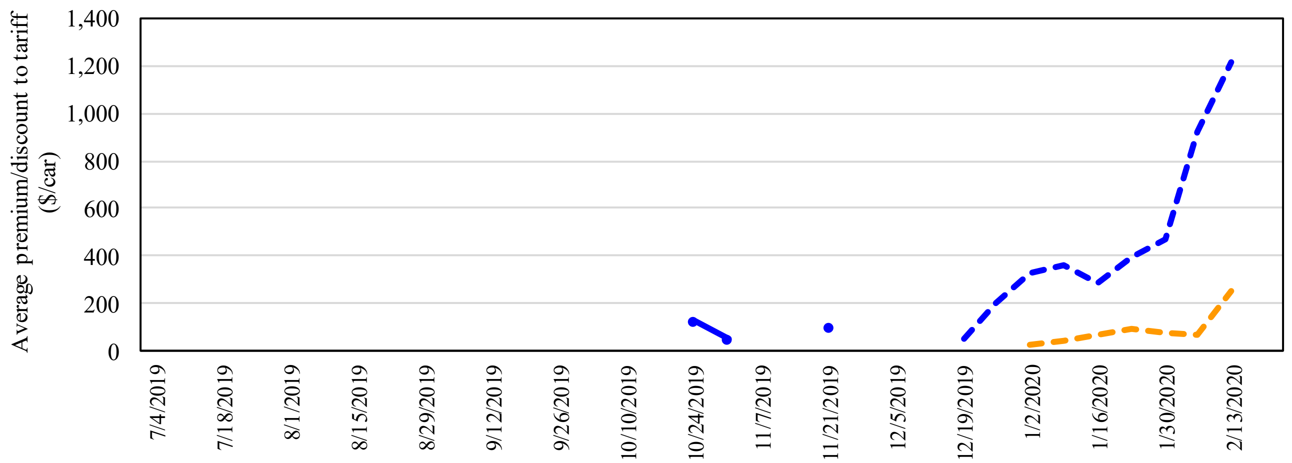
11/28/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	-$50

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $25 this week and are $350 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



11/28/2019	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: 11/28/2019		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**	**(375)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(375)	n/a	n/a	n/a	n/a	n/a
	Change from same week 2018	(373)	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**(383)**	**(50)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(183)	0	n/a	n/a	n/a	n/a
	Change from same week 2018	(96)	(50)	n/a	n/a	n/a	n/a

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

Note: Bids listed are market indicators only and are not guaranteed prices. n/a = not available; GF = guaranteed freight; Pool = guaranteed pool.

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				Fuel			Percent
	Origin		Tariff	surcharge	Tariff plus surcharge per:		change[4]
Commodity	**state**	**Destination region**	**rate/car[1]**	**per car[2]**	**metric ton[3]**	**bushel[3]**	**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.

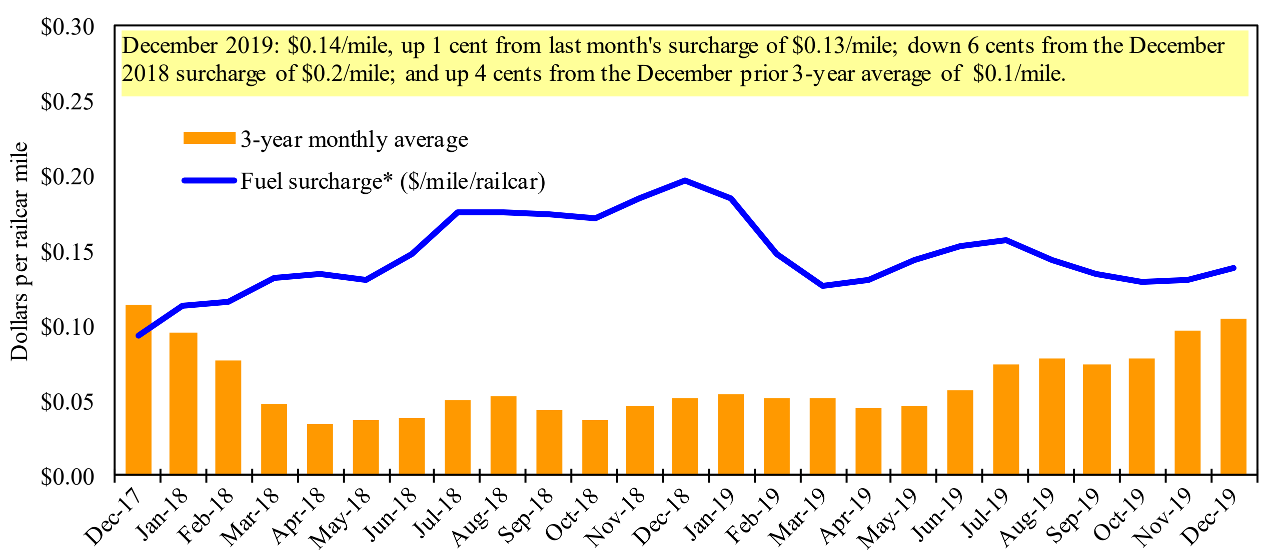
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

[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

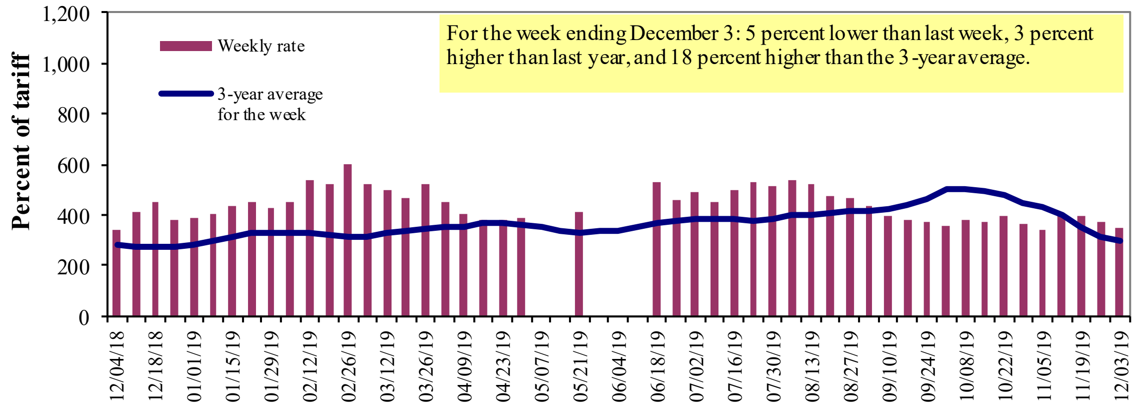
Railroad fuel surcharges, North American weighted average[1]



[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.

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

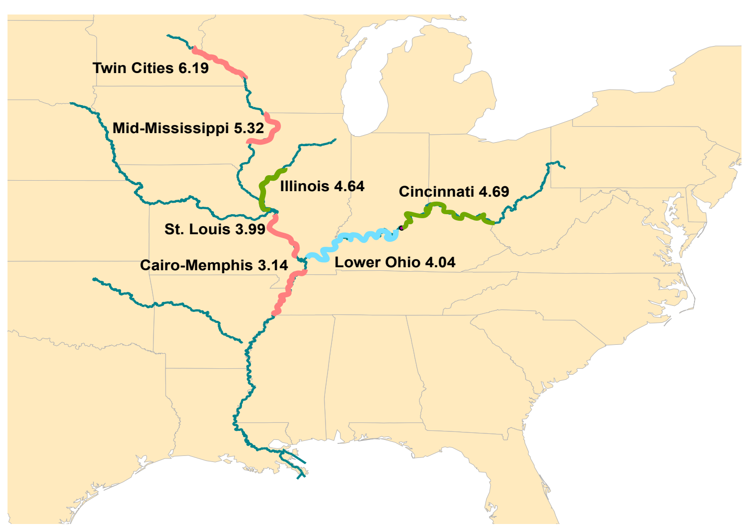
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	12/3/2019	-	356	351	250	256	256	230
	11/26/2019	-	374	371	255	266	266	240
$/ton	12/3/2019	-	18.94	16.29	9.98	12.01	10.34	7.22
	11/26/2019	-	19.90	17.21	10.17	12.48	10.75	7.54
Current week % change from the same week:								
	Last year	-	5	3	0	-7	-7	7
	3-year avg. [2]	-	12	18	13	-12	-10	19
Rate[1]	January	-	-	374	255	258	258	235
	March	-	-	365	254	256	256	235

[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

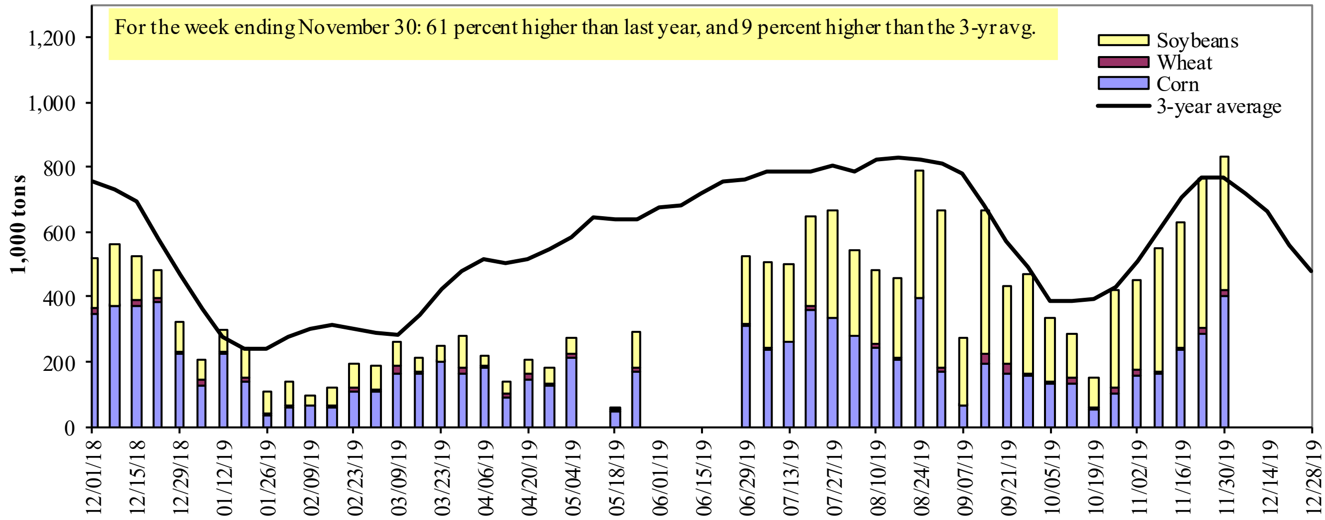
Select applicable index from market quotes included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 11/30/2019	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	183	13	205	0	401
Winfield, MO (L25)	295	17	367	0	679
Alton, IL (L26)	426	14	423	0	863
Granite City, IL (L27)	406	14	414	0	834
Illinois River (LAGRANGE)	96	3	49	0	148
Ohio River (OLMSTED)	12	4	117	0	133
Arkansas River (L1)	0	15	38	0	53
Weekly total - 2019	418	33	569	0	1,021
Weekly total - 2018	383	22	253	13	670
2019 YTD[1]	11,674	1,524	13,022	143	26,363
2018 YTD[1]	21,648	1,557	11,713	115	35,032
2019 as % of 2018 YTD	54	98	111	125	75
Last 4 weeks as % of 2018[2]	79	100	145	41	110
Total 2018	23,349	1,674	12,819	133	37,975

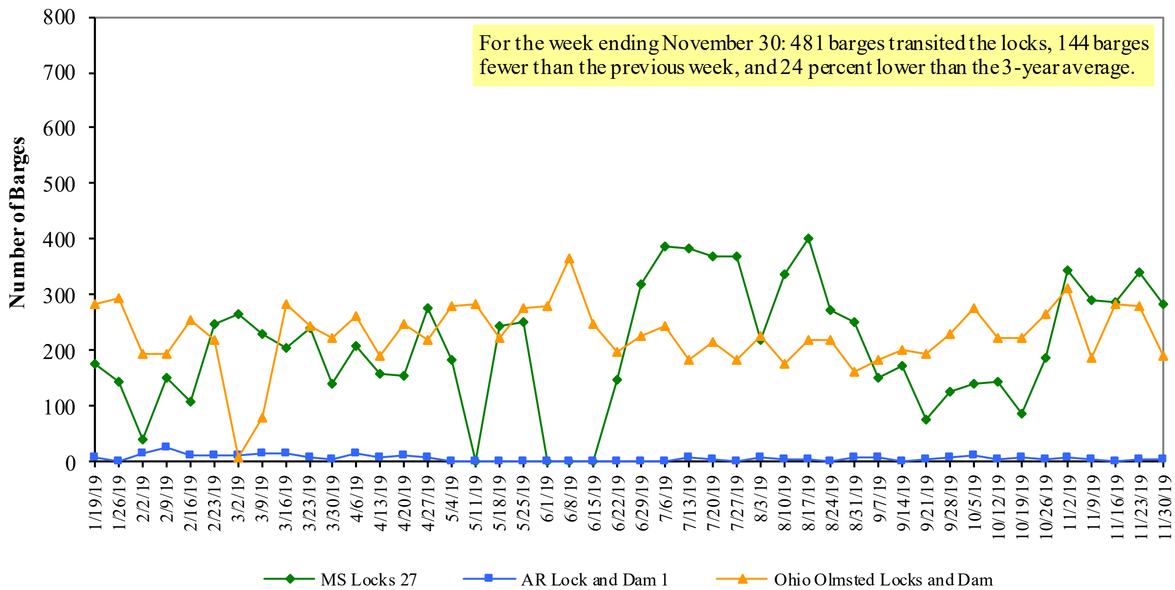
[1] Weekly total, YTD (year-to-date), and calendar year total include MS/27, OH/OLMSTED, and AR/1; Other refers to oats, barley, sorghum, and rye. L (as in "L15") refers to a lock or lock and dam facility.

[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.

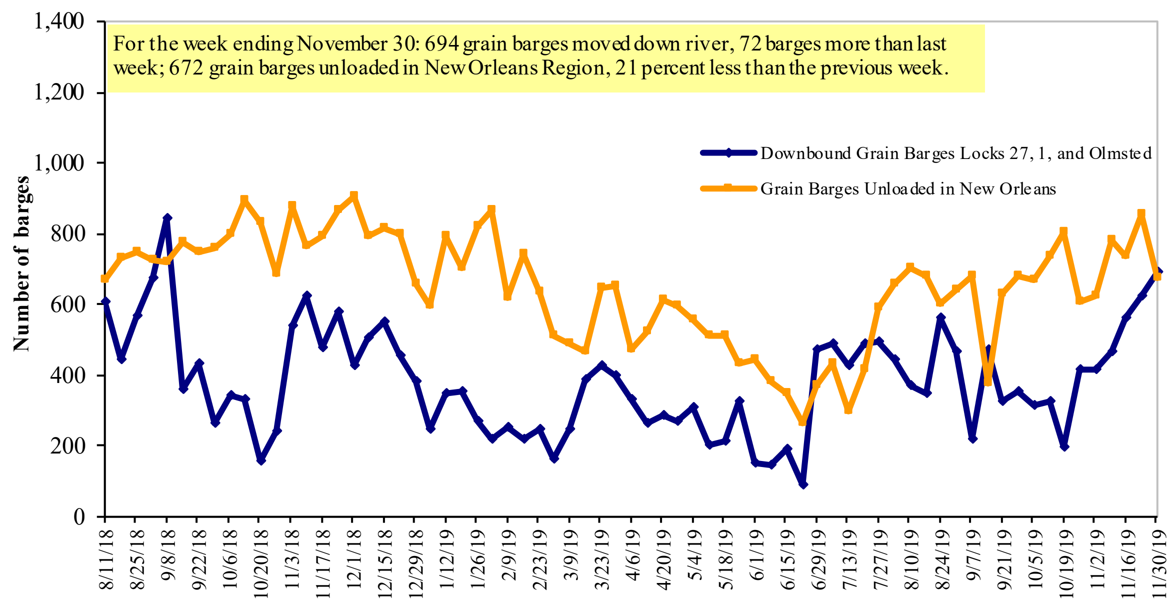
Source: U.S. Army Corps of Engineers.

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 12/2/2019 (U.S. $/gallon)

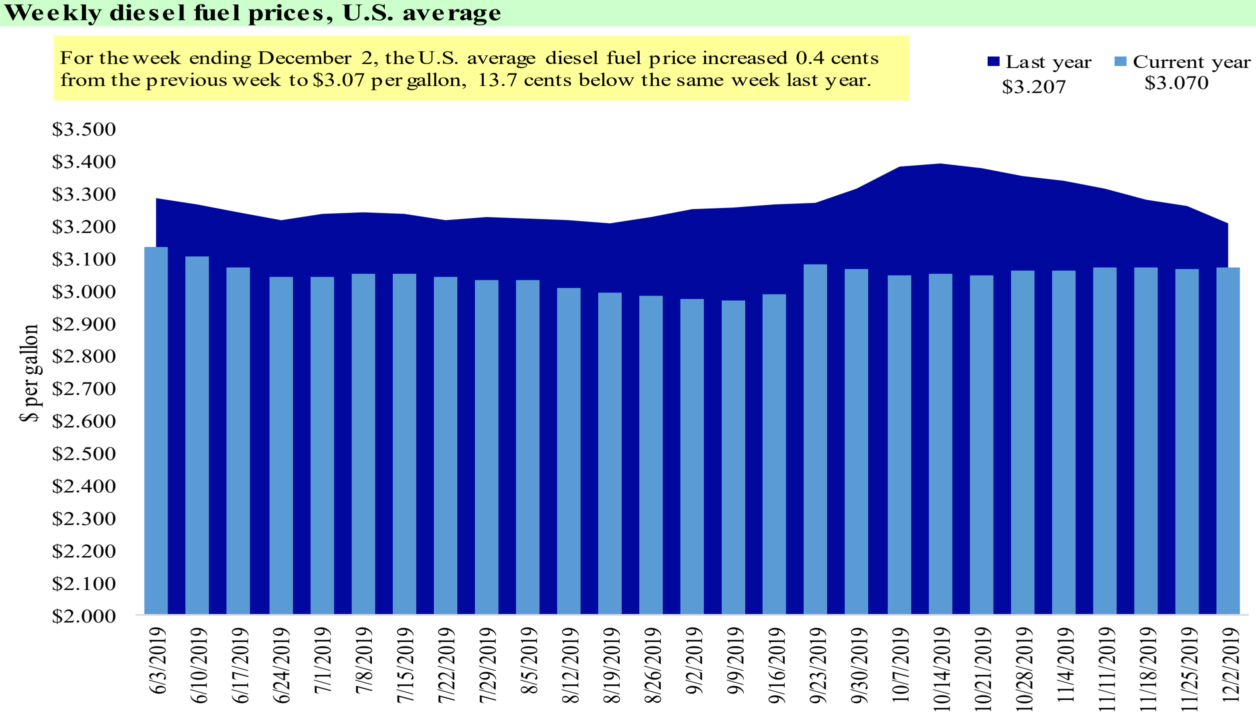
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.059	0.005	-0.170
	New England	3.078	0.015	-0.232
	Central Atlantic	3.246	-0.001	-0.148
	Lower Atlantic	2.928	0.007	-0.170
II	Midwest	2.982	0.013	-0.135
III	Gulf Coast	2.779	0.003	-0.210
IV	Rocky Mountain	3.241	-0.005	-0.050
V	West Coast	3.704	-0.016	0.010
	West Coast less California	3.382	-0.005	-0.024
	California	3.960	-0.023	0.038
Total	U.S.	3.070	0.004	-0.137

[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]									
11/21/2019	1,224	545	1,237	861	211	4,078	8,220	10,771	23,068
This week year ago	1,447	655	1,890	1,147	156	5,295	11,968	11,342	28,605
Cumulative exports-marketing year[2]									
2019/20 YTD	4,714	1,402	3,279	2,293	462	12,150	5,850	14,490	32,489
2018/19 YTD	2,846	1,144	2,925	2,439	244	9,597	13,602	11,734	34,933
YTD 2019/20 as % of 2018/19	166	123	112	94	189	127	43	123	93
Last 4 wks as % of same period 2018/19	80	83	64	74	170	76	67	100	82
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 11/21/2019	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 -			
Mexico	6,818	8,193	(17)	14,659
Japan	1,832	4,485	(59)	11,955
Korea	25	2,139	(99)	4,977
Colombia	1,038	1,524	(32)	4,692
Peru	15	1,186	(99)	2,808
Top 5 Importers	**9,728**	**17,527**	**(44)**	**39,091**
Total U.S. corn export sales	**14,069**	**25,570**	**(45)**	**54,024**
% of projected exports	30%	49%		
Change from prior week[2]	**807**	**1,267**		
Top 5 importers' share of U.S. corn export sales	69%	69%		72%
USDA forecast November 2019	**47,074**	**52,545**	**(10)**	
Corn use for ethanol USDA forecast, November 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 11/21/2019	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	9,307	517	1700	25,733
Mexico	2,726	3,446	(21)	4,271
Indonesia	734	833	(12)	2,386
Japan	934	1,044	(11)	2,243
Egypt	1,116	850	31	1,983
Top 5 importers	**14,817**	**6,689**	**122**	**36,616**
Total U.S. soybean export sales	**25,261**	**23,076**	**9**	**53,746**
% of projected exports	52%	48%		
change from prior week[2]	**1,664**	**515**		
Top 5 importers' share of U.S. soybean export sales	59%	29%		**68%**
USDA forecast, November 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 week'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 Agricultural Service.

Table 15

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

For the week ending 11/21/2019	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	2,025	2,252	(10)	3,047
Mexico	2,416	1,824	32	3,034
Japan	1,698	1,853	(8)	2,695
Nigeria	987	707	40	1,564
Indonesia	429	611	(30)	1,381
Korea	867	1,012	(14)	1,355
Taiwan	867	672	29	1,164
Egypt	101	100	1	821
Thailand	462	588	(21)	747
Iraq	262	364	(28)	574
Top 10 importers	**10,113**	**9,980**	1	**16,382**
Total U.S. wheat export sales	**16,227**	**14,891**	**9**	**24,388**
% of projected exports	63%	58%		
change from prior week[2]	**613**	**377**		
Top 10 importers' share of U.S. wheat export sales	62%	67%		67%
USDA forecast, November 2019	**25,886**	**25,504**	**1**	

[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.

Source: USDA, Foreign Agriculltural Service.

Table 16

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

Port regions	For the week ending 11/28/19	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	87	312	28	12,765	12,010	106	95	117	13,315
Corn	0	37	0	6,986	18,930	37	5	9	20,024
Soybeans	427	630	68	10,927	7,501	146	780	118	7,719
Total	**514**	**979**	**52**	**30,678**	**38,442**	**80**	**115**	**93**	**41,058**
Mississippi Gulf									
Wheat	47	17	274	4,271	3,603	119	112	122	3,896
Corn	265	330	80	19,541	31,711	62	65	76	33,735
Soybeans	1,076	1,214	89	28,087	25,573	110	113	84	28,124
Total	**1,388**	**1,561**	**89**	**51,900**	**60,887**	**85**	**96**	**83**	**65,755**
Texas Gulf									
Wheat	44	45	98	5,807	2,855	203	77	67	3,198
Corn	0	0	n/a	579	702	83	0	0	730
Soybeans	0	0	n/a	2	69	2	n/a	0	69
Total	**44**	**45**	**98**	**6,388**	**3,626**	**176**	**69**	**43**	**3,997**
Interior									
Wheat	26	38	67	1,772	1,487	119	146	147	1,614
Corn	156	238	65	7,224	8,193	88	127	120	8,650
Soybeans	106	152	70	6,487	6,317	103	114	114	6,729
Total	**288**	**428**	**67**	**15,483**	**15,998**	**97**	**123**	**120**	**16,993**
Great Lakes									
Wheat	57	45	125	1,143	762	150	266	250	894
Corn	0	0	n/a	11	404	3	n/a	0	404
Soybeans	0	0	n/a	473	1,152	41	0	0	1,192
Total	**57**	**45**	**125**	**1,628**	**2,318**	**70**	**53**	**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	19	58	33	1,246	1,885	66	37	28	2,047
Total	**19**	**58**	**33**	**1,382**	**2,087**	**66**	**36**	**27**	**2,253**
U.S. total from ports*									
Wheat	260	458	57	25,797	20,787	124	104	113	22,986
Corn	421	605	70	34,441	60,073	57	54	67	63,682
Soybeans	1,628	2,054	79	47,222	42,497	111	139	87	45,879
Total	**2,310**	**3,117**	**74**	**107,459**	**123,356**	**87**	**100**	**85**	**132,547**

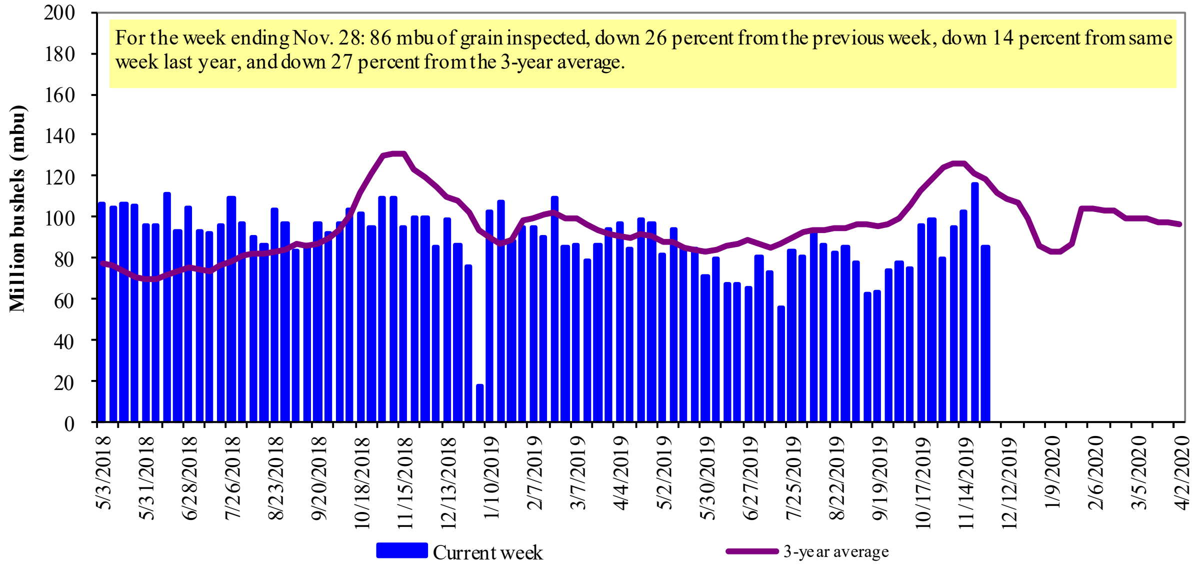
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

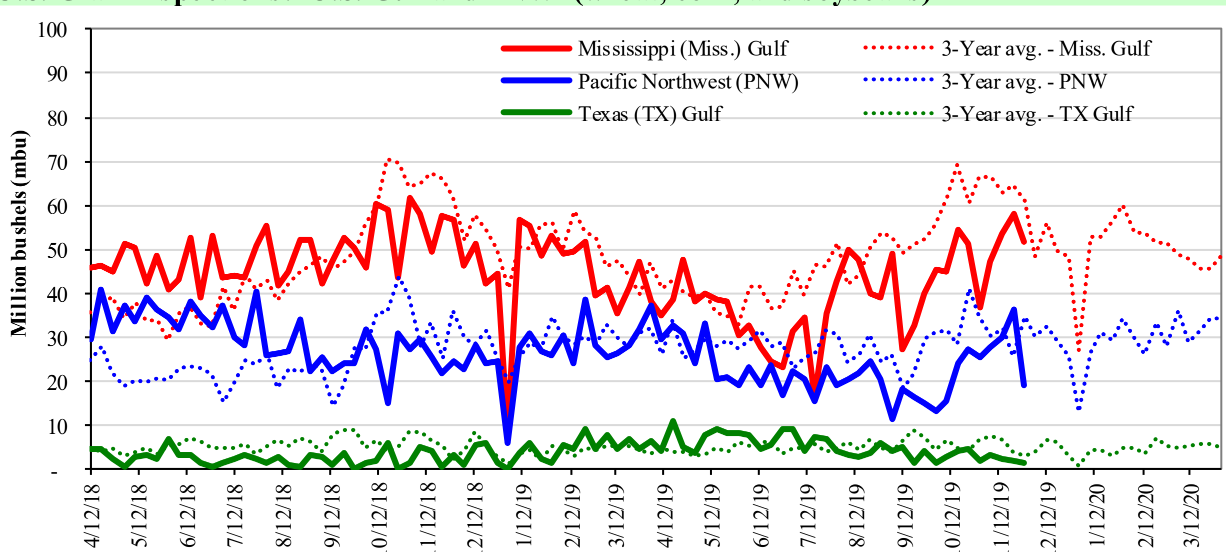


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 11/28/19 inspections (mbu):		Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
MS Gulf:	51.7	Last wk:	down 11	down 2	down 11	down 48
PNW:	18.9	Last Year (same wk):	down 9	down 47	down 11	down 23
TX Gulf:	1.6	3-yr avg. (4-wk. mov. Avg):	down 19	down 69	down 22	down 38

Source: USDA, Federal Grain Inspection Service.

Ocean Transportation

Table 17

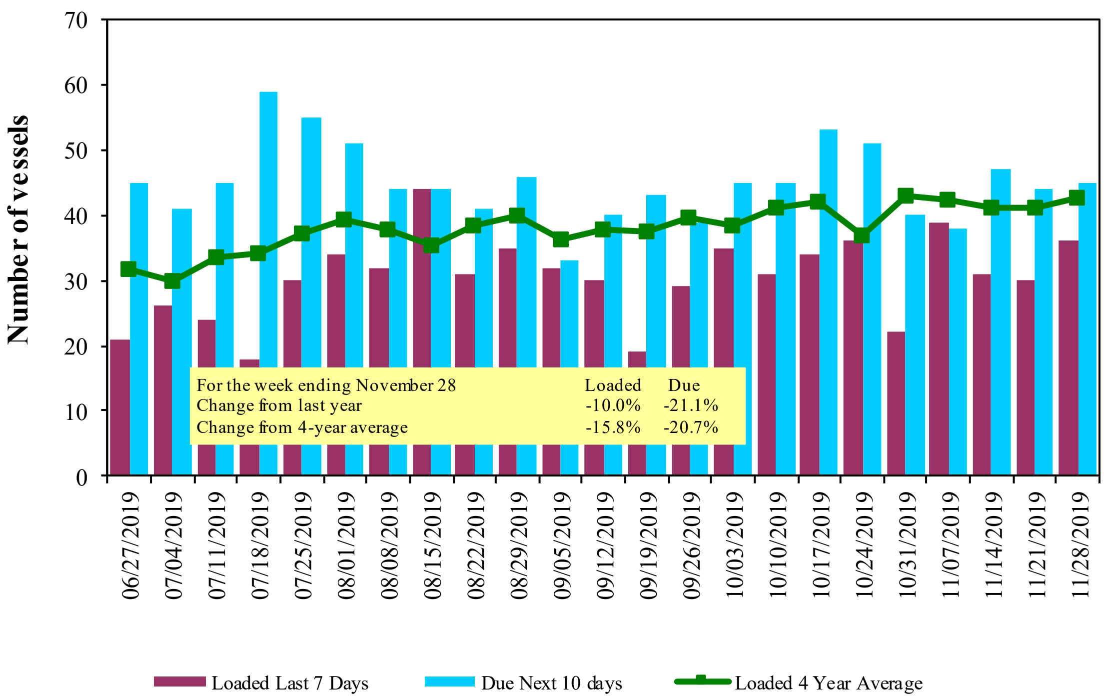
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
11/28/2019	26	36	45	12
11/21/2019	34	30	44	15
2018 range	(23...88)	(24...41)	(38...67)	(4...30)
2018 average	40	34	54	17

Source: USDA, Agricultural Marketing Service.

Figure 16

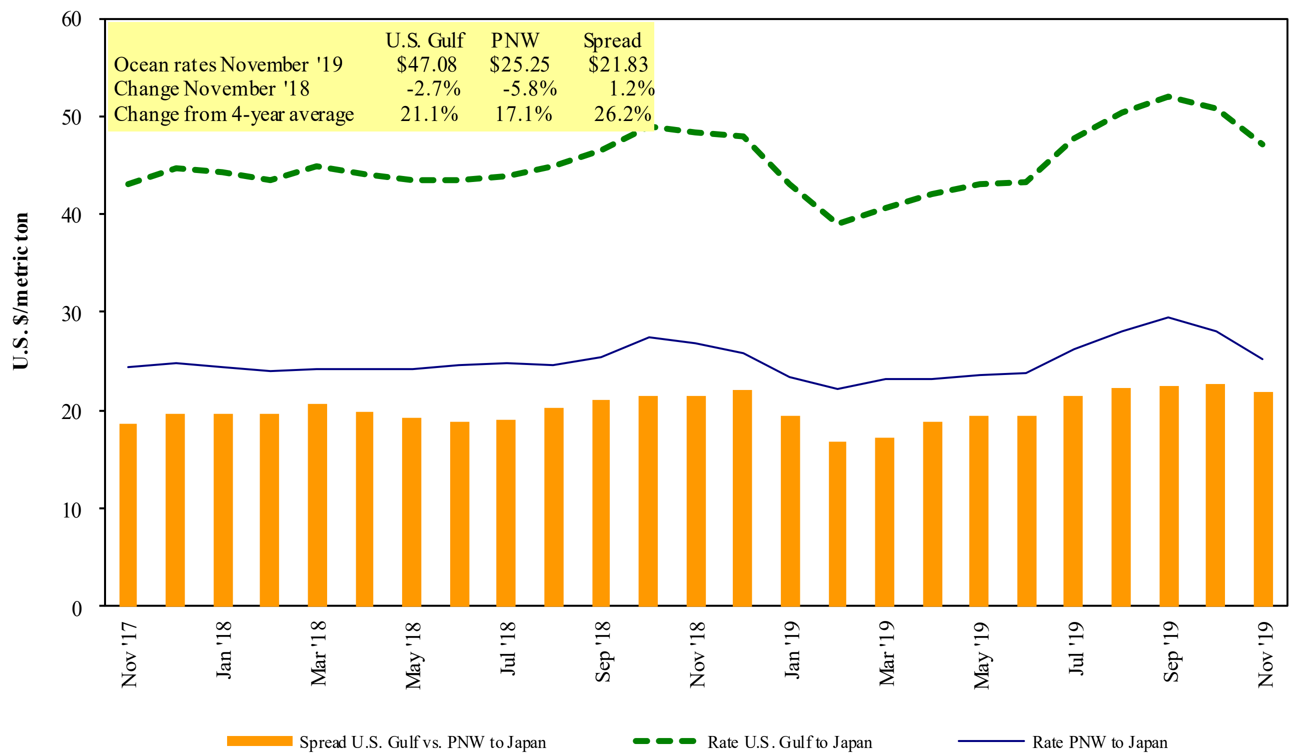
U.S. Gulf[1] vessel loading activity



[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 11/30/2019

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	Nov 15/18	66,000	49.00
U.S. Gulf	Pt Sudan	Sorghum	Sep 20/30	24,960	58.15*
U.S. Gulf	Somaliland	Sorghum	Sep 20/30	32,240	61.75*
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 5/15	35,380	59.59*
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.

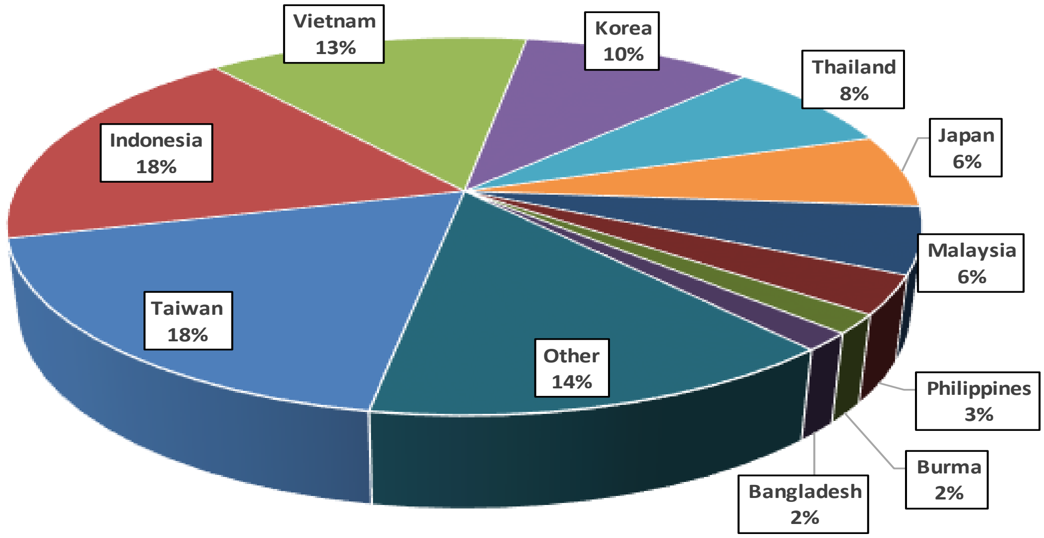
Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated; op = option.

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-Jul 2019

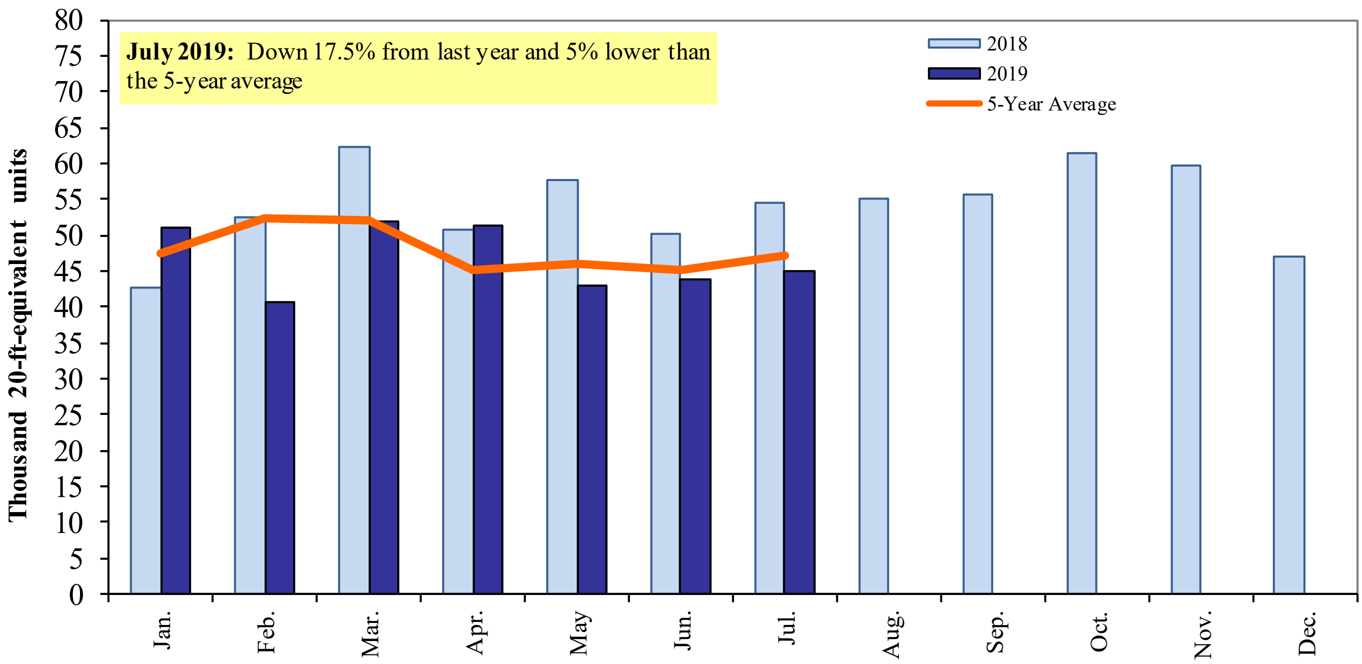


Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 1001, 100190, 1002, 1003 100300, 1004, 100400, 1005, 100590, 1007, 100700, 1102, 110100, 230310, 110220, 110290, 1201, 120100, 230210, 230990, 230330, and 120810.

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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