USDA United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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October 31, 2019

Contents

The next release is November 6, 2019

WEEKLY HIGHLIGHTS

Weekly Grain Inspections Unchanged; Soybeans Rise

For the week ending October 24, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.58 million metric tons (mmt). Inspections were unchanged from the previous week and from last year, but were 19 percent below the 3-year average. Inspections of wheat and corn decreased 10 percent and 34 percent, respectively, from the previous week, but soybean inspections increased 18 percent. Total grain inspections in the Pacific Northwest (PNW) increased 12 percent from the past week, and Mississippi Gulf inspections decreased 5 percent. During the last 4 weeks, grain inspections were 12 percent below last year and 27 percent below the 3-year average.

Panama Canal Ends Its 2019 Fiscal Year With Record Tonnage

On October 9, 2019, the Panama Canal Authority (ACP) announced it ended its fiscal year (FY) 2019, which runs from October 1, 2018 to September 30, 2019, with more tonnage being moved through the canal than in the previous year—469 million Panama Canal/Universal Measurement System (PC/UMS) tons compared to 442 million tons registered a year earlier. This a 6.2 percent increase over a year earlier and 4 percent more than the canal's projection for FY 2019. The container segment supplied the largest amount of cargo with 164.87 million tons, followed by: bulk carriers at 76.5 million tons, vehicle carrier or roll on roll off vessels at 53.1 million tons, chemical tankers at 44.3 million tons, liquefied natural gas vessels at 43 million tons, liquefied petroleum gas vessels at 37.8 million tons, crude product tankers at 22.6 million tons, and passenger vessels at 9.9 million tons. Despite the tariff war with China, more soybeans transited the canal from the Atlantic Rim to the Pacific Rim during ACP's recently concluded fiscal year, with 7.04 million metric tons (mmt) in 2019 compared to 5.39 mmt in 2018.

Grain Vessel Loading Activity Ticking Up

Oceangoing grain vessel loading activity in the U.S. Gulf and PNW is trending upward. From the week ending October 3 to the week ending 24, an average of 34 vessels per week were loaded in the U.S. Gulf, compared to 32 vessels per week during the prior 8 weeks. An average of 49 vessels are expected during the next 10 days compared to 41 vessels during the prior 8 weeks. An average of 16 vessels per week were loading or waiting to load in the PNW from the week ending October 3 to the week ending 24, compared to 14 vessels during the prior 8 weeks.

Snapshots by Sector

Export Sales

For the week ending October 17, **unshipped balances** of wheat, corn, and soybeans totaled 24 mmt. This represents a 26-percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached .491 mmt, up 33 percent from the past week. Net **soybean export sales** were .475 mmt, down 70 percent from the previous week. Net weekly **wheat export sales** reached .262 mmt, down 34 percent from the from the previous week.

Rail

U.S. Class I railroads originated 20,620 **grain carloads** during the week ending October 19. This is a 1-percent decrease from the previous week, 8 percent less than last year, and 15 percent lower than the 3-year average.

Average November shuttle **secondary railcar** bids/offers (per car) were $47 below tariff for the week ending October 24. This is $141 less than last week and $72 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending October 26, **barge grain movements** totaled 664,002 tons. This is a 114-percent increase from the previous week and 66 percent more than the same period last year.

For the week ending October 26, 414 grain barges **moved down river**. This is 218 more barges than the previous week. There were 605 grain barges **unloaded in New Orleans**, 25 percent less than the previous week.

Ocean

For the week ending October 24, 36 **oceangoing grain vessels** were loaded in the Gulf—9 percent more than the same period last year. Fifty-one vessels are expected to be loaded within the next 10 days (starting October 25). This is 2 percent fewer than the same period last year.

As of October 24, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $50.50. This is 2 percent less than the previous week. The rate from PNW to Japan was $28.00 per mt, 2 percent less than the previous week.

Fuel

For the week ending October 28, the U.S. average **diesel fuel price** increased 1.4 cents from the previous week to $3.064 per gallon. This price is 29.1 cents lower than the same week last year.

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Feature Article/Calendar

Strong Bulk Movements Drove Up Ocean Freight Rates During Third Quarter, 2019

During the third quarter of 2019, ocean freight rates for moving bulk commodities, including grain, increased compared to the previous quarter, a year earlier, and the 4-year average. The increase was partly due to strong trading of bulk commodities, especially firmness in India's coal imports and surging iron ore exports from Brazil during the quarter.

Ocean freight rates for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan averaged $50.05 during the quarter—17 percent above the previous quarter, 11 percent above a year earlier, and 34 percent above the 4-year average (see table and figure below). The cost for shipping bulk grain from Pacific Northwest (PNW) to Japan averaged $27.90 per mt—18 percent, 12 percent, and 38 percent above the previous quarter, a year earlier, and the 4-year average, respectively. Ocean freight for shipping bulk grain from the U.S. Gulf to Europe averaged $20.21 during the quarter. Although this is 3 percent below last year, it is 22 percent and 21 percent above the previous quarter, and 4-year average, respectively.

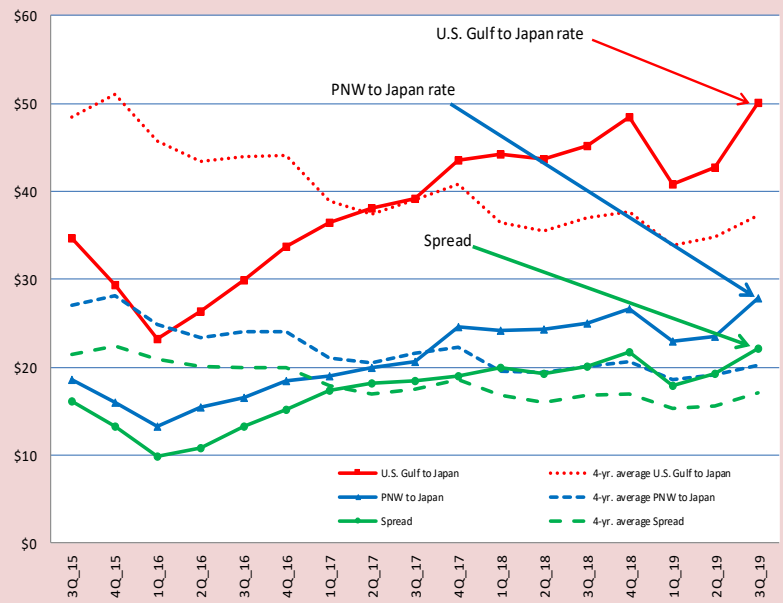
Ocean freight rates for grain routes during third quarter 2019

Route	Jul.	Aug.	Sep.	3rd quarter 2018	Change from 2nd qtr. '19	Change from 3rd qtr. '18	Change from 4-yr. avg.
	--$/mt--			--$/mt--	Percent		
U.S. Gulf to Japan	47.75	50.35	52.06	50.05	17	11	34
PNW to Japan	26.19	28.00	29.50	27.90	18	12	38
Spread	21.56	22.35	22.56	22.16	15	10	30
U.S. Gulf to Europe	19.63	20.25	20.75	20.21	22	-3	21

Note: qtr. = quarter; avg = average; mt = metric ton; yr = year; PNW = Pacific Northwest.
Source: O'Neil Commodity Consulting.

Bulk ocean freight rates, especially in the Panamax markets, started to increase in July because of strong Indian coal imports. According to Drewry Maritime Research, Inc. (Drewry), India imported 20 percent more coal during the first 5 months of 2019, compared to a year earlier. India's coal imports were fueled by infrastructure development, which generated additional demand for steel, increasing imports of coking coal. Cement production in India's fiscal year 2018-19 (April 1, 2018 to March 31, 2019) increased 13 percent over the previous year to 337 million tons. Because that

Grain vessel rates and spread (per mt), U.S. to Japan, 2015-19.



Note: mt = metric ton; Q = quarter; yr. = year; PNW = Pacific Northwest
Source: O'Neil Commodity Consulting

quantity of cement required 67 million tons of coal to produce, India supplemented its lagging domestic production with imported coal. Although the country's domestic coal production increased 5 percent, its imports increased 29 percent (Drewry).

In August, bulk ocean freight rates continued to increase as iron ore exports from Brazil began to return to normal, following the disruption in coal mines caused by collapsed dams earlier in the year. (See April 25, 2019 ***Grain Transportation Report***.) Brazil exported 34.3 million tons of iron ore in July, an 80-percent increase over the 19.06 million tons it exported in April. In September, ocean freight rates continued to surge as India's appetite for imported coal remained strong because of sluggish domestic production. In addition, the approaching winter triggered coal-restocking activities in Europe and Far East.

Current Market Situation and Outlook

As of October 24, the rate for shipping a metric ton of grain from the U.S. Gulf to Japan was $50.50, 7 percent higher than the beginning of the year and 3 percent above the same period last year. The rate from the PNW to Japan was $28.00 per mt, 12 percent and 2 percent more than the beginning of the year and same period a year ago, respectively.

Given the current market indicators, it appears bulk ocean freight rates will remain close to or above the current level, at least in the short term. For example, easing tensions between United States and China over trade issues and increased liquidity in the Chinese economy could boost trading of bulk commodities, such as iron ore and grains. According to Drewry, iron ore inventories at Chinese ports were 11.8 million tons at the end of September—14 percent lower than the beginning of the year. China may need to restock iron inventories to support strong steel production. In order to boost economic growth, the central bank of China injected about $12 billion into the economy by lowering the required reserved ratio by 0.5 percent. Lower corn production in China caused by reduced area and yield could also support robust grain imports. Low domestic coal production in India along with India's persistently elevated demand for coal will require India to import more coal.

According to some industry analysts, vessel supply growth will decrease because of recent and impending International Maritime Organization (IMO) regulations: Ballast Water Management System (BWMS) Enforcement, which became effective on September 8, and Low Sulfur Emission Mandate, effective January 1, 2020. These two regulations aim to reduce pollution discharged by oceangoing vessels—toxins that can be harmful to the marine environment and humans. For compliance, both regulations will require taking steps that may not be cost-effective for aging vessels. The BWMS covers approved ballast water treatment systems and ballast water exchange within open ocean areas. The Low Sulfur Emission Mandate requires the use of low sulfur bunker fuel for compliance. However, the price differentials between low sulfur and high sulfur fuels may be too high to make the option less cost-effective to operate older vessels. Others may be taken out temporarily for retrofitting with scrubbers, which usually take between 1 to 3 months to install, temporarily reducing vessel supply capacity. Drewry estimated that about 300 vessels are scheduled for retrofitting until December 2019. Therefore, some vessels may be taken out of operation either temporarily or permanently, thereby squeezing vessel supply capacity.

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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
10/30/19	206	n/a	223	204	226	199
10/23/19	205	n/a	229	219	230	202

[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.
USDA, Agricultural Marketing Service.

Table 2

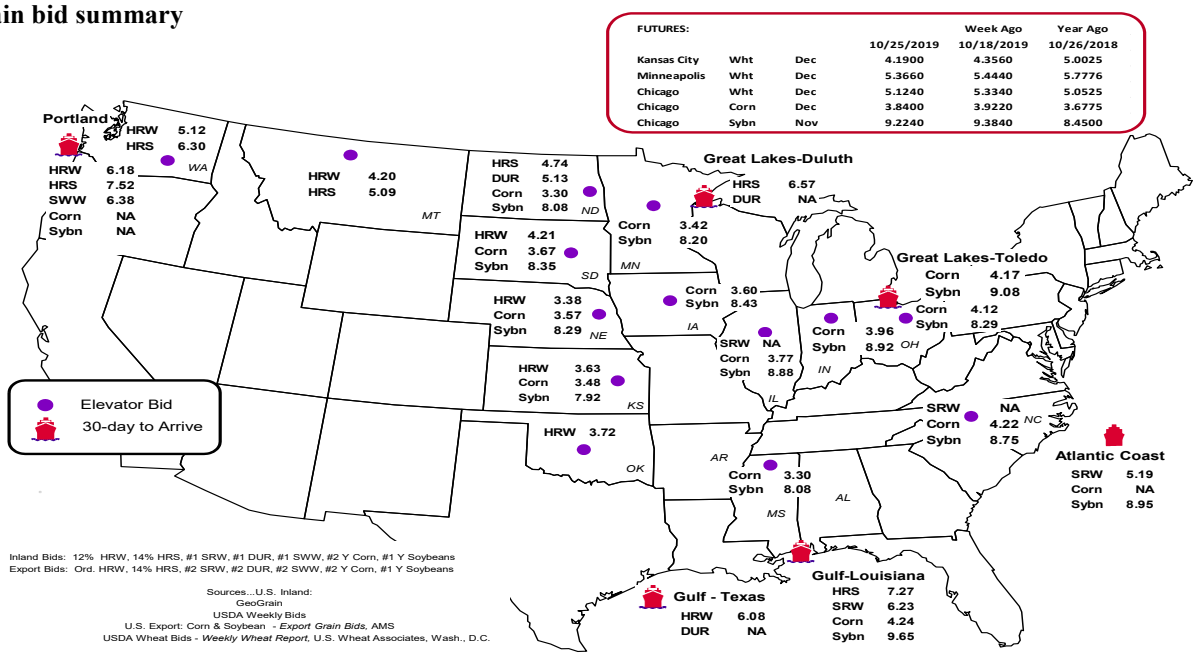
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	10/25/2019	10/18/2019
Corn	IL–Gulf	-0.47	-0.46
Corn	NE–Gulf	-0.67	-0.65
Soybean	IA–Gulf	-1.22	-1.16
HRW	KS–Gulf	-2.45	-2.24
HRS	ND–Portland	-2.78	-2.76

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

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

Figure 1
Grain bid summary



Rail Transportation

Table 3

Rail deliveries to port (carloads)[1]

For the week ending	Mississippi Gulf	Texas Gulf	Pacific Northwest	Atlantic & East Gulf	Total	Week ending	Cross-border Mexico[3]
10/23/2019[p]	449	1,242	5,017	377	7,085	10/19/2019	2,546
10/16/2019[r]	344	608	4,118	274	5,344	10/12/2019	2,925
2019 YTD[r]	36,741	46,647	206,484	14,597	304,469	2019 YTD	102,909
2018 YTD[r]	19,823	41,177	265,178	17,431	343,609	2018 YTD	102,798
2019 YTD as % of 2018 YTD	185	113	78	84	89	% change YTD	100
Last 4 weeks as % of 2018[2]	47	146	83	48	83	Last 4wks. % 2018	85
Last 4 weeks as % of 4-year avg.[2]	22	105	54	32	52	Last 4wks. % 4 yr.	105
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.

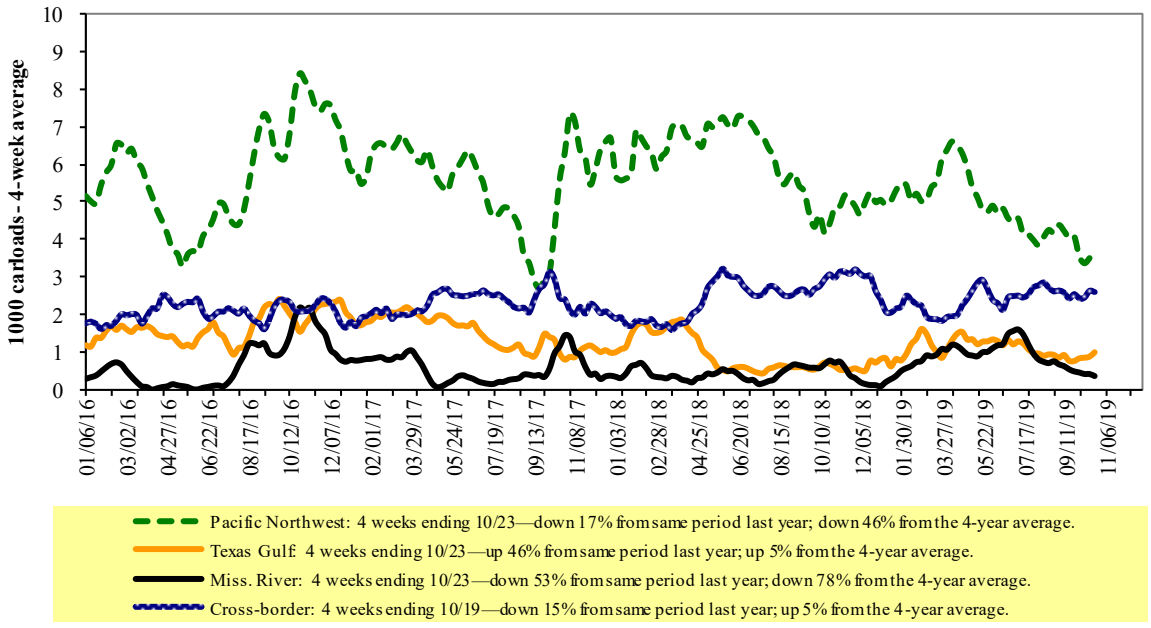
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

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	
10/19/2019	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,910	2,026	10,440	1,163	5,081	20,620	5,050	4,429
This week last year	2,200	2,468	11,756	998	4,892	22,314	4,317	5,042
2019 YTD	75,848	113,225	455,463	47,657	212,937	905,130	170,402	186,303
2018 YTD	80,643	107,503	517,830	39,468	219,248	964,692	166,907	196,107
2019 YTD as % of 2018 YTD	94	105	88	121	97	94	102	95
Last 4 weeks as % of 2018*	78	82	85	138	98	89	93	95
Last 4 weeks as % of 3-yr. avg.**	75	70	83	119	81	81	88	89
Total 2018	98,978	133,084	635,458	48,638	267,713	1,183,871	211,769	244,697

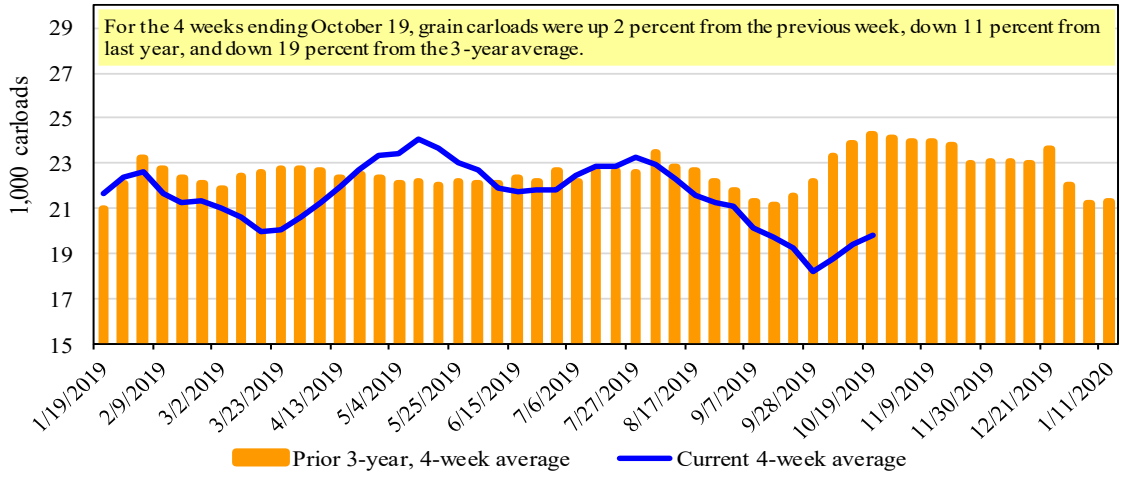
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

**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							
10/24/2019		Nov-19	Nov-18	Dec-19	Dec-18	Jan-20	Jan-19	Feb-20	Feb-19
BNSF[3]	COT grain units	0	0	no bid	no offer	0	0	0	no offer
	COT grain single-car	0	0	0	no offer	1	0	0	no offer
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no offer	no offer	0	n/a	0
	GCAS/Region 2	no bid	no bid	no bid	no offer	no offer	0	n/a	0

[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.

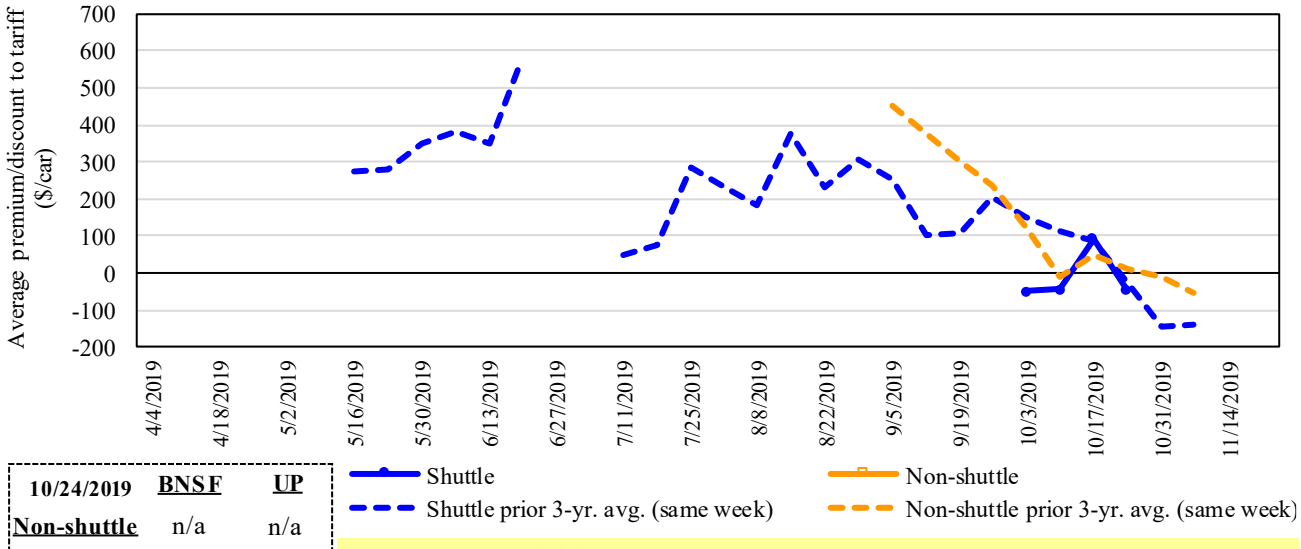
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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 November 2019, secondary market

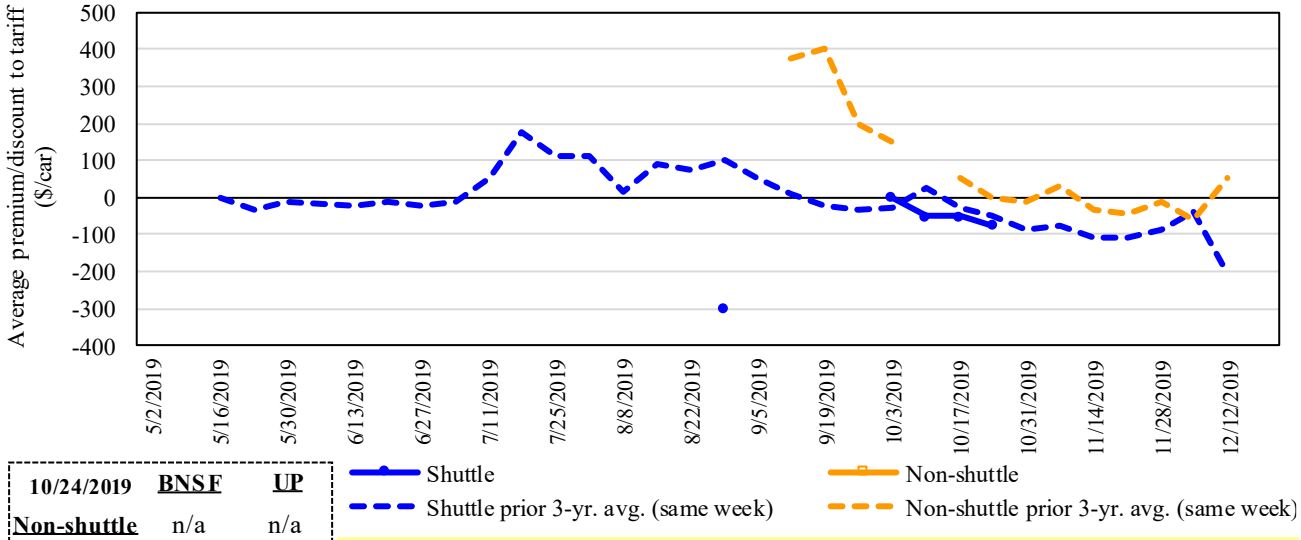


10/24/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$44	-$50

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $141 this week and are $141 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 December 2019, secondary market



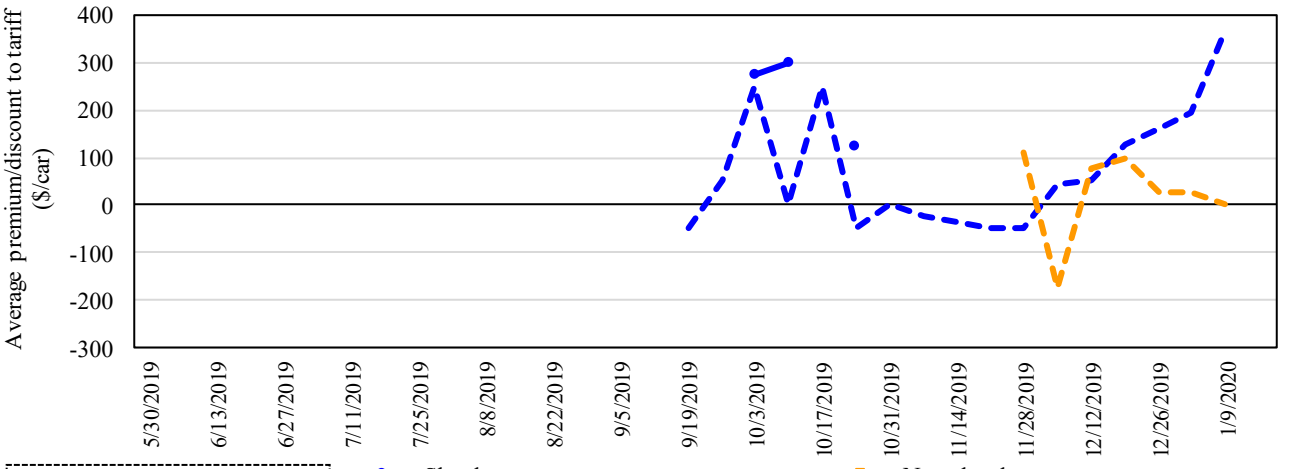
10/24/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$50	-$100

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $25 this week and are $75 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 January 2020, secondary market



10/24/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	$125	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 $175 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.

Table 6

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

For the week ending: 10/24/2019		Delivery period					
		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-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**	**(44)**	**(50)**	**125**	**125**	**n/a**	**n/a**
	Change from last week	(282)	(50)	n/a	n/a	n/a	n/a
	Change from same week 2018	(44)	(100)	n/a	n/a	n/a	n/a
	UP-Pool	**(50)**	**(100)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	0	0	n/a	n/a	n/a	n/a
	Change from same week 2018	(100)	(100)	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]

October 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	$96	$40.51	$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	$169	$46.61	$1.27	-1
	Sioux Falls, SD	Galveston-Houston, TX	$6,976	$0	$69.28	$1.89	1
	Northwest KS	Galveston-Houston, TX	$4,801	$185	$49.52	$1.35	-1
	Amarillo, TX	Los Angeles, CA	$5,121	$258	$53.41	$1.45	-1
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,900	$191	$40.63	$1.03	-4
	Toledo, OH	Raleigh, NC	$6,816	$0	$67.69	$1.72	4
	Des Moines, IA	Davenport, IA	$2,415	$40	$24.38	$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	$119	$38.92	$0.99	-2
	Des Moines, IA	Los Angeles, CA	$5,680	$346	$59.84	$1.52	-2
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$179	$37.83	$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	$191	$48.03	$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	$304	$62.72	$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	$191	$39.83	$1.01	-1
	Lincoln, NE	Galveston-Houston, TX	$3,880	$0	$38.53	$0.98	0
	Des Moines, IA	Amarillo, TX	$4,220	$150	$43.39	$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	$220	$50.60	$1.38	1
	Toledo, OH	Huntsville, AL	$4,805	$0	$47.72	$1.30	4
	Grand Island, NE	Portland, OR	$5,860	$311	$61.28	$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: October 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	$132	$70.58	$1.92	0
	KS	Guadalajara, JA	$7,534	$606	$83.17	$2.26	5
	TX	Salinas Victoria, NL	$4,329	$80	$45.05	$1.22	0
Corn	IA	Guadalajara, JA	$8,902	$518	$96.25	$2.44	6
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	3
	NE	Queretaro, QA	$8,278	$271	$87.35	$2.22	1
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,643	$264	$80.79	$2.05	1
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	3
Soybeans	MO	Bojay (Tula), HG	$8,547	$484	$92.27	$2.51	5
	NE	Guadalajara, JA	$9,172	$505	$98.87	$2.69	5
	IA	El Castillo, JA	$9,490	$0	$96.97	$2.64	4
	KS	Torreon, CU	$7,964	$349	$84.94	$2.31	4
Sorghum	NE	Celaya, GJ	$7,772	$458	$84.09	$2.13	4
	KS	Queretaro, QA	$8,108	$165	$84.53	$2.15	1
	NE	Salinas Victoria, NL	$6,713	$133	$69.94	$1.77	1
	NE	Torreon, CU	$7,157	$324	$76.44	$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.

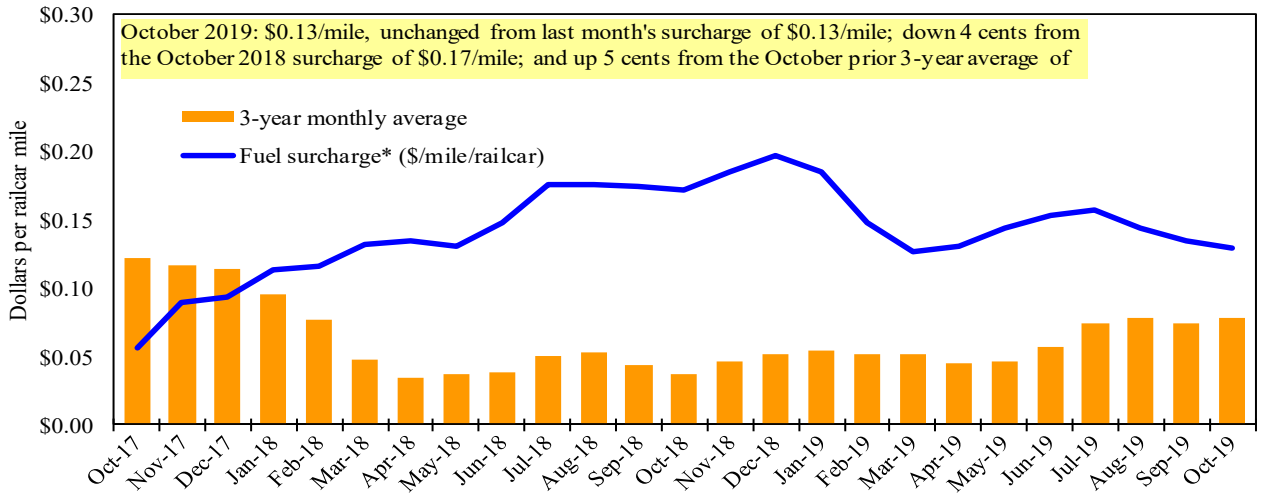
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

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

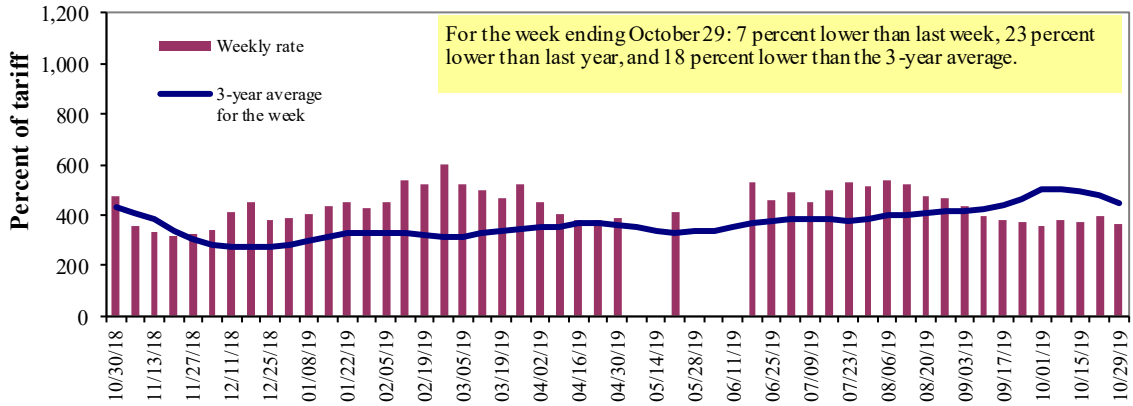
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

**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

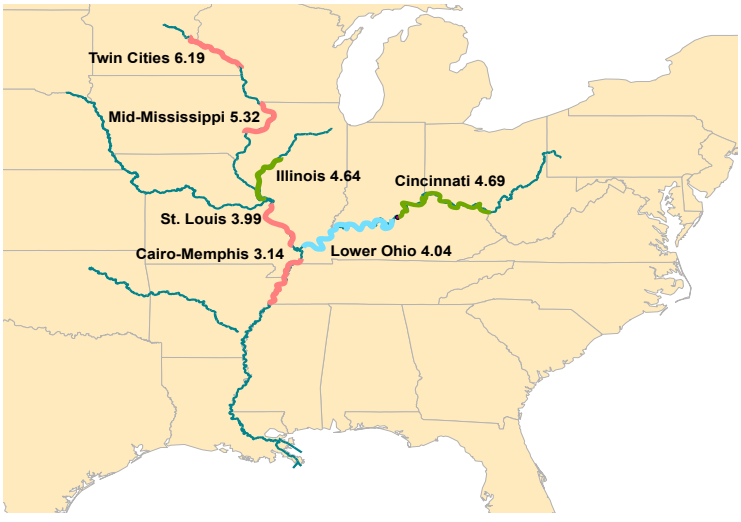
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	10/29/2019	385	386	367	261	281	281	234
	10/22/2019	375	392	394	280	326	326	239
$/ton	10/29/2019	23.83	20.54	17.03	10.41	13.18	11.35	7.35
	10/22/2019	23.21	20.85	18.28	11.17	15.29	13.17	7.50
Current week % change from the same week:								
	Last year	-20	-17	-23	-29	-20	-20	-26
	3-year avg. [2]	-21	-15	-18	-30	-34	-33	-30
Rate[1]	November	-	371	364	257	276	276	230
	January	-	-	372	257	279	279	230

[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

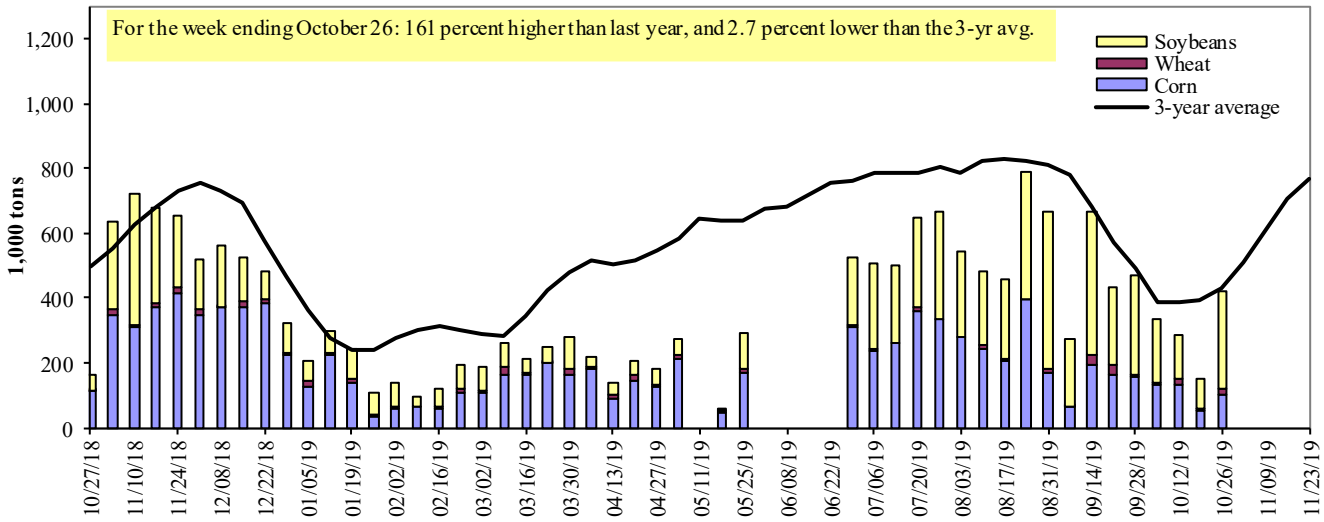
Select applicable index from market quotes included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 10/26/2019	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	52	5	98	0	154
Winfield, MO (L25)	116	13	222	0	350
Alton, IL (L26)	118	22	306	0	446
Granite City, IL (L27)	99	22	299	0	420
Illinois River (LAGRANGE)	5	14	71	0	90
Ohio River (OLMSTED)	105	0	64	0	169
Arkansas River (L1)	0	25	50	0	76
Weekly total - 2019	203	47	414	0	664
Weekly total - 2018	251	6	137	6	400
2019 YTD[1]	10,133	1,411	10,408	136	22,087
2018 YTD[1]	19,535	1,433	9,816	98	30,882
2019 as % of 2018 YTD	52	98	106	139	72
Last 4 weeks as % of 2018[2]	71	247	186	53	115
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.

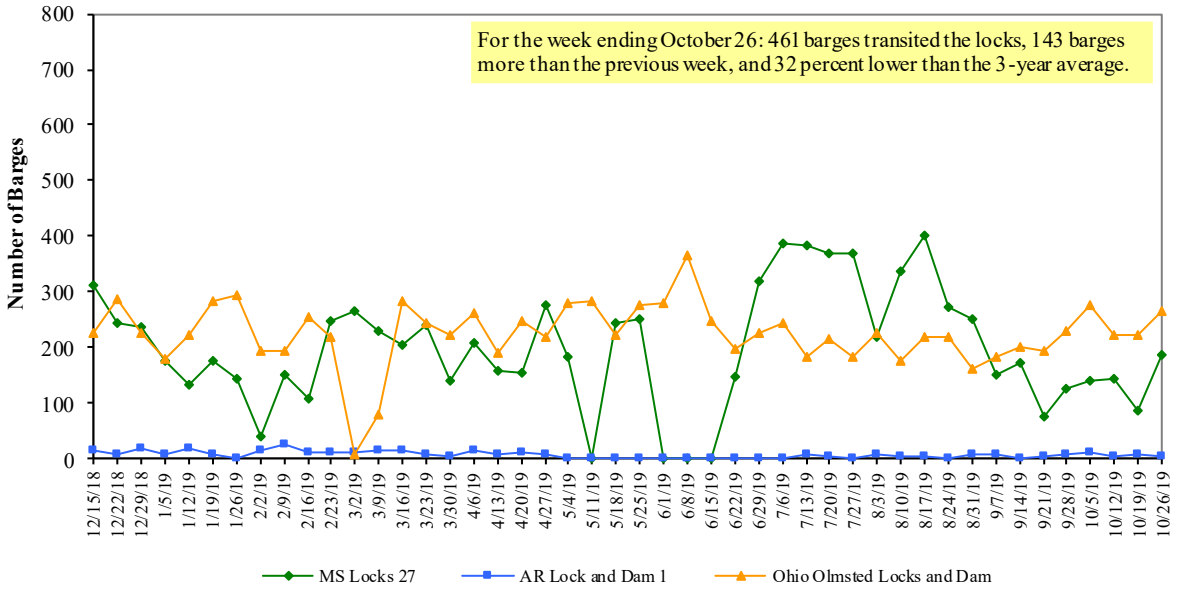
[2] As a percent of same period in 2018.

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

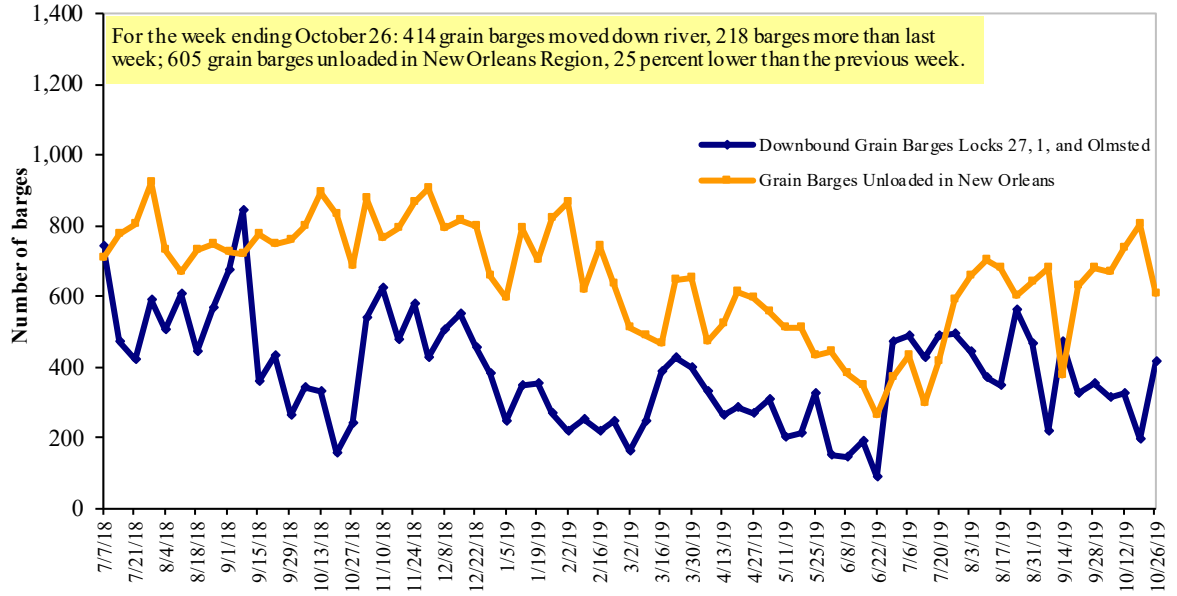
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 10/28/2019 (U.S. $/gallon)

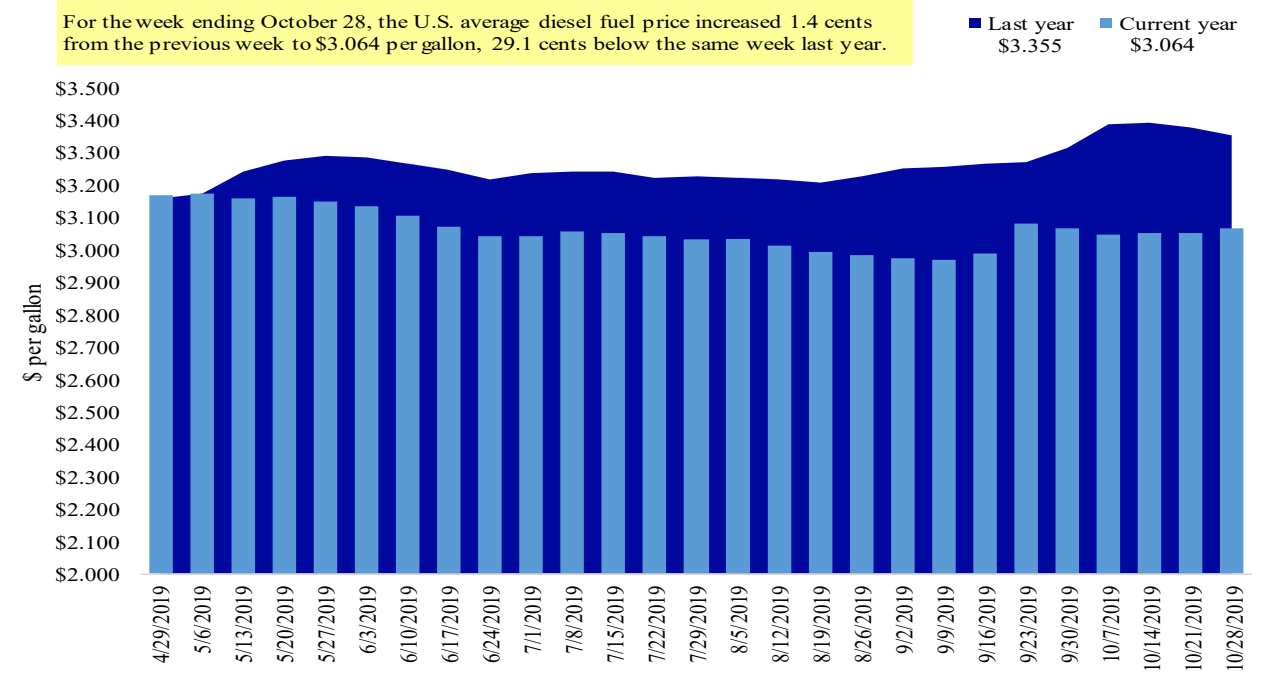
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.056	0.011	-0.290
	New England	3.028	-0.017	-0.337
	Central Atlantic	3.246	0.011	-0.277
	Lower Atlantic	2.932	0.016	-0.285
II	Midwest	2.963	0.006	-0.347
III	Gulf Coast	2.806	0.004	-0.311
IV	Rocky Mountain	3.082	0.038	-0.323
V	West Coast	3.724	0.049	-0.124
	West Coast less California	3.379	0.089	-0.185
	California	3.998	0.018	-0.076
Total	U.S.	3.064	0.014	-0.291

[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]									
10/17/2019	1,240	617	1,172	916	205	4,149	7,729	12,096	23,975
This week year ago	1,322	609	1,603	1,031	99	4,664	12,947	14,882	32,493
Cumulative exports-marketing year[2]									
2019/20 YTD	4,049	1,163	2,644	1,766	313	9,935	3,127	6,367	19,429
2018/19 YTD	2,251	914	2,359	2,075	240	7,838	8,491	6,072	22,401
YTD 2019/20 as % of 2018/19	180	127	112	85	130	127	37	105	87
Last 4 wks as % of same period 2018/19	97	100	81	96	202	94	61	82	75
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 10/17/2019	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	5,812	6,901	(16)	14,659
Japan	1,530	3,324	(54)	11,955
Korea	71	1,876	(96)	4,977
Colombia	581	979	(41)	4,692
Peru	0	753	(100)	2,808
Top 5 Importers	**7,994**	**13,834**	**(42)**	**39,091**
Total U.S. corn export sales	**10,856**	**21,438**	**(49)**	**54,024**
% of projected exports	22%	41%		
Change from prior week[2]	**491**	**350**		
Top 5 importers' share of U.S. corn export sales	74%	65%		72%
USDA forecast, October 2019	**48,346**	**52,545**	**(8)**	
Corn use for ethanol USDA forecast, October 2019	**137,160**	**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 10/17/2019	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 -			- 1,000 mt -
China	5,709	1,027	456	25,733
Mexico	2,437	3,200	(24)	4,271
Indonesia	486	693	(30)	2,386
Japan	690	705	(2)	2,243
Egypt	688	600	15	1,983
Top 5 importers	**10,010**	**6,224**	**61**	**36,616**
Total U.S. soybean export sales	**18,464**	**20,954**	**(12)**	**53,746**
% of projected	38%	44%		
change from prior week[2]	**475**	**213**		
Top 5 importers' share of U.S. soybean export sales	54%	30%		**68%**
USDA forecast, October 2019	**48,365**	**47,629**	**102**	

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

[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.

Source: USDA, Foreign Agriculltural Service.

Table 15

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

For the week ending 10/17/2019	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 -			- 1,000 mt -
Philippines	1,615	1,823	(11)	3,047
Mexico	2,180	1,480	47	3,034
Japan	1,399	1,488	(6)	2,695
Nigeria	939	547	72	1,564
Indonesia	357	335	7	1,381
Korea	828	854	(3)	1,355
Taiwan	678	569	19	1,164
Egypt	101	0	n/a	821
Thailand	418	538	(22)	747
Iraq	262	362	(27)	574
Top 10 importers	**8,776**	**7,994**	10	**16,382**
Total U.S. wheat export sales	**14,084**	**12,502**	**13**	**24,388**
% of projected	54%	49%		
change from prior week[2]	**262**	**443**		
Top 10 importers' share of U.S. wheat export sales	62%	64%		67%
USDA forecast, October 2019	**25,886**	**25,504**	**1**	

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

[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. 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 .

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 10/24/19	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	306	407	75	11,599	10,806	107	120	175	13,315
Corn	0	1	n/a	6,922	17,157	40	0	1	20,024
Soybeans	421	244	172	8,389	7,104	118	113	33	7,719
Total	**728**	**652**	**112**	**26,910**	**35,067**	**77**	**78**	**61**	**41,058**
Mississippi Gulf									
Wheat	89	33	272	3,995	3,296	121	77	105	3,896
Corn	262	428	61	18,059	28,939	62	55	63	33,735
Soybeans	1,025	991	103	23,216	21,131	110	132	86	28,124
Total	**1,377**	**1,452**	**95**	**45,270**	**53,366**	**85**	**95**	**80**	**65,755**
Texas Gulf									
Wheat	108	117	92	5,507	2,512	219	165	91	3,198
Corn	0	0	n/a	577	665	87	31	35	730
Soybeans	0	0	n/a	2	69	2	n/a	0	69
Total	**108**	**117**	**92**	**6,086**	**3,245**	**188**	**140**	**63**	**3,997**
Interior									
Wheat	15	54	28	1,603	1,361	118	107	134	1,614
Corn	100	140	72	6,246	7,355	85	75	85	8,650
Soybeans	154	126	122	5,715	5,654	101	87	90	6,729
Total	**270**	**319**	**84**	**13,565**	**14,370**	**94**	**83**	**91**	**16,993**
Great Lakes									
Wheat	32	1	n/a	936	673	139	755	216	894
Corn	11	0	n/a	11	404	3	19	49	404
Soybeans	0	0	n/a	473	818	58	0	0	1,192
Total	**44**	**1**	**n/a**	**1,421**	**1,895**	**75**	**43**	**42**	**2,491**
Atlantic									
Wheat	0	0	n/a	37	69	54	n/a	5	69
Corn	0	1	0	99	117	85	19	6	138
Soybeans	50	39	126	1,090	1,592	68	65	50	2,047
Total	**50**	**41**	**122**	**1,226**	**1,778**	**69**	**61**	**39**	**2,253**
U.S. total from ports*									
Wheat	551	611	90	23,678	18,716	127	123	143	22,986
Corn	374	570	66	31,914	54,637	58	45	59	63,682
Soybeans	1,650	1,401	118	38,885	36,367	107	113	65	45,879
Total	**2,575**	**2,582**	**100**	**94,477**	**109,720**	**86**	**88**	**73**	**132,547**

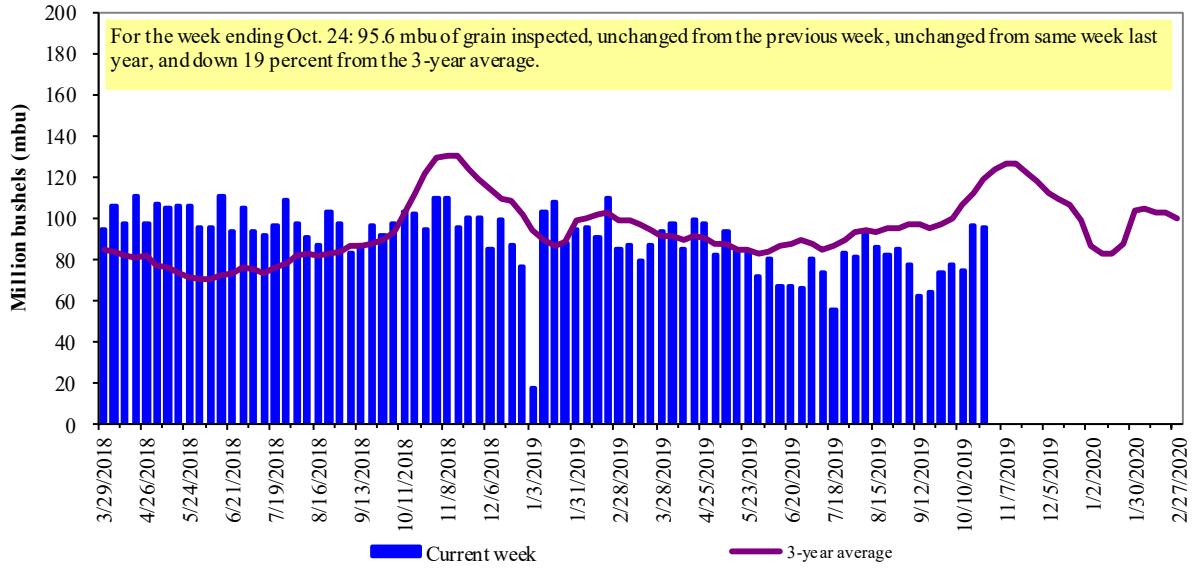
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

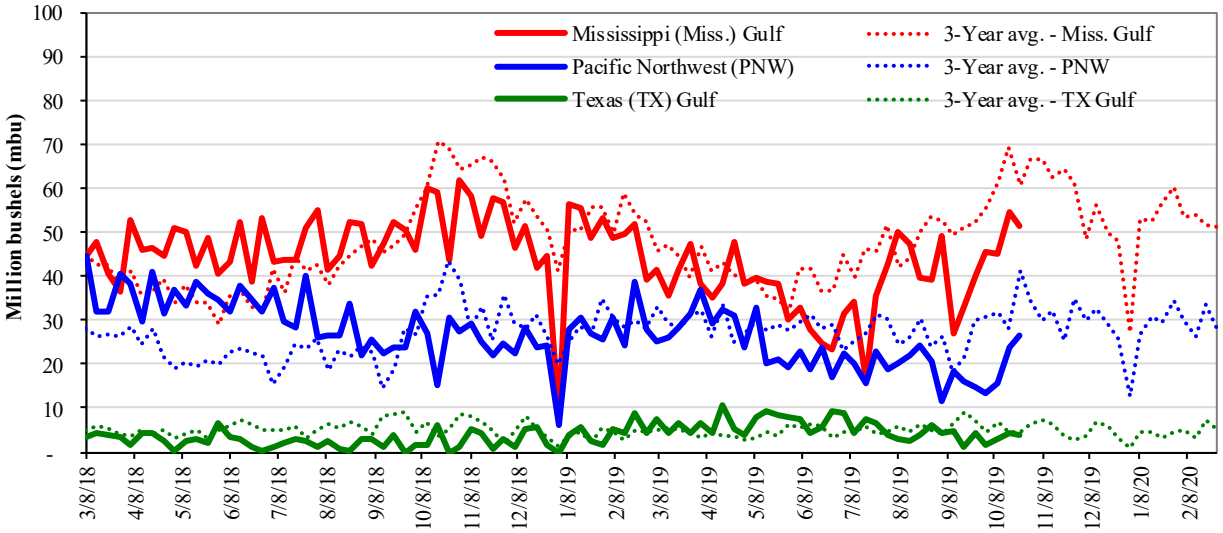


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 10/24/19 inspections (mbu):	
MS Gulf:	51.3
PNW:	26.7
TX Gulf:	4.0

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	down 6	down 8	down 6	up 12
Last Year (same wk):	up 18	n/a	up 27	down 13
3-yr avg. (4-wk. mov. Avg):	down 17	down 21	down 17	down 19

Source: USDA, Federal Grain Inspection Service.

Table 17

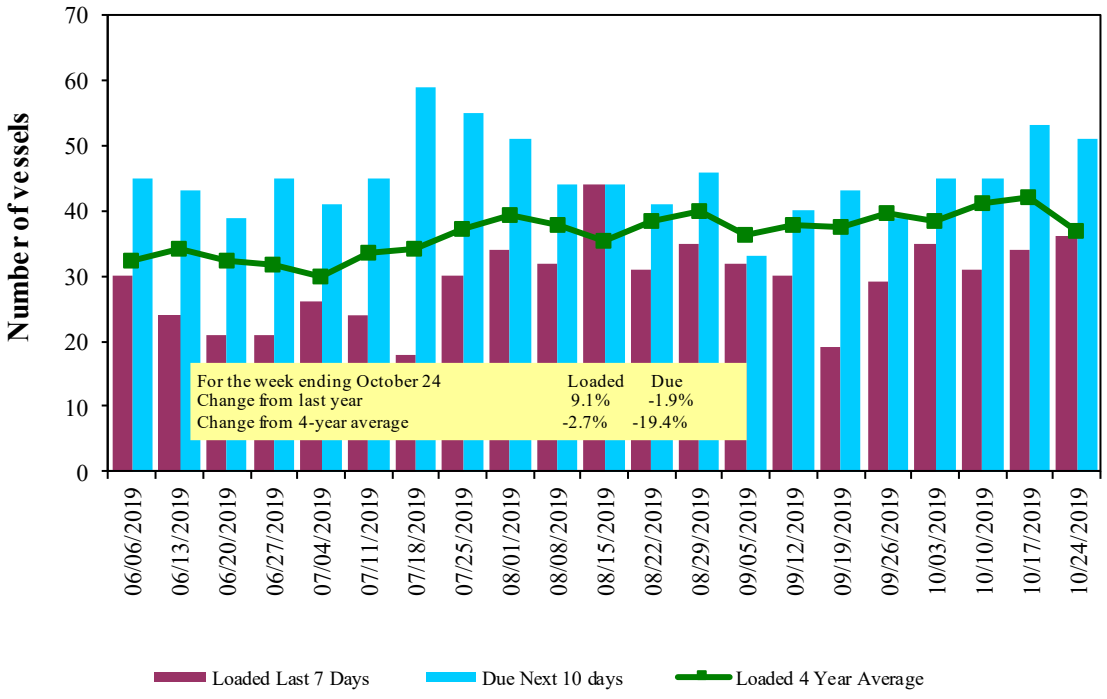
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
10/24/2019	27	36	51	18
10/17/2019	33	34	53	16
2018 range	(23...88)	(24...41)	(38...67)	(4...30)
2018 average	40	34	54	17

Source: USDA, Agricultural Marketing Service.

Figure 16

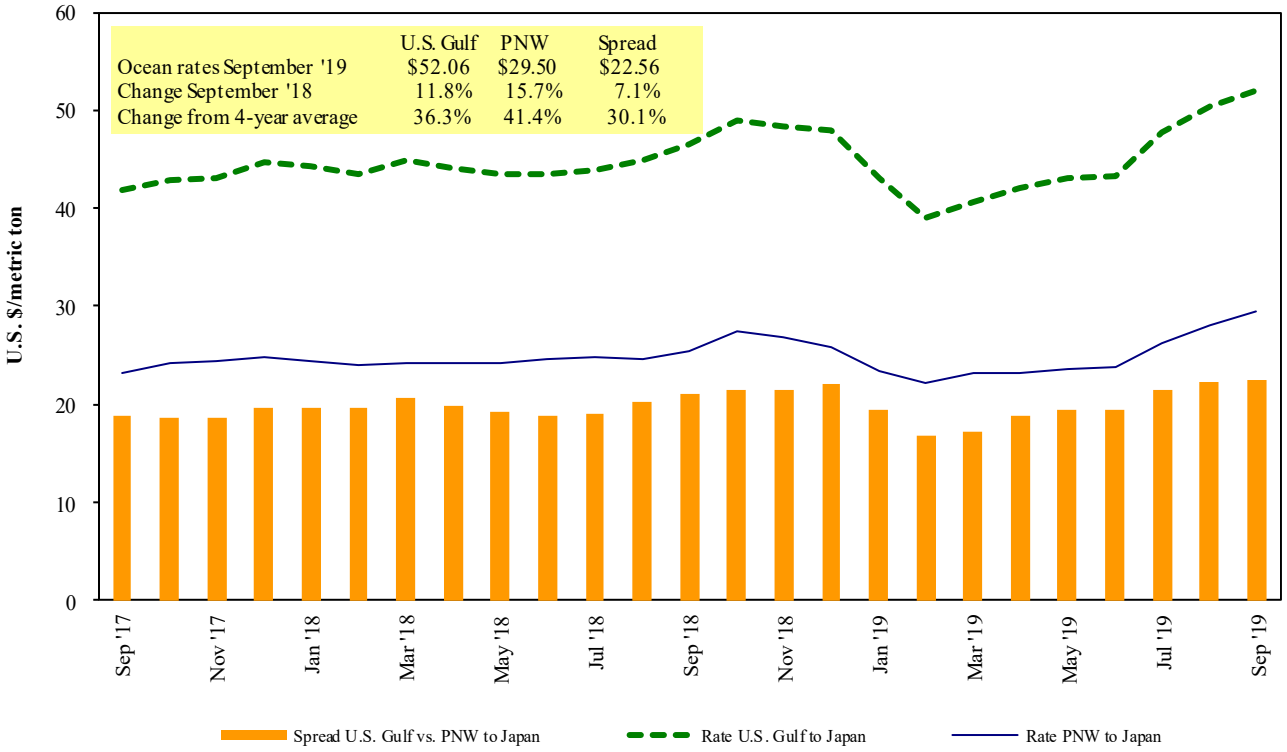
U.S. Gulf[1] vessel loading activity



[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 10/26/2019

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
Ukraine	Egypt Med	Heavy Grain	Oct 19/23	60,000	13.50

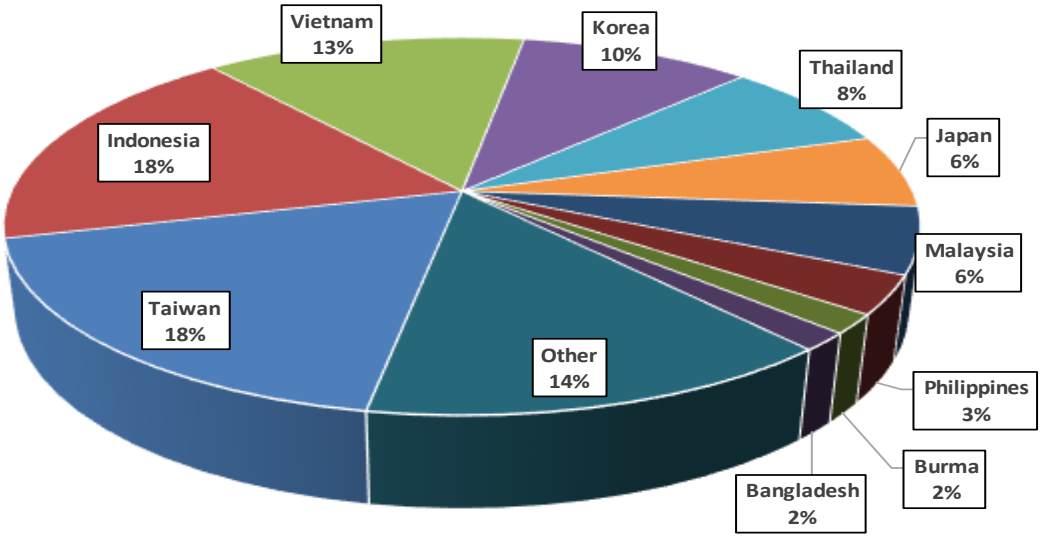
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

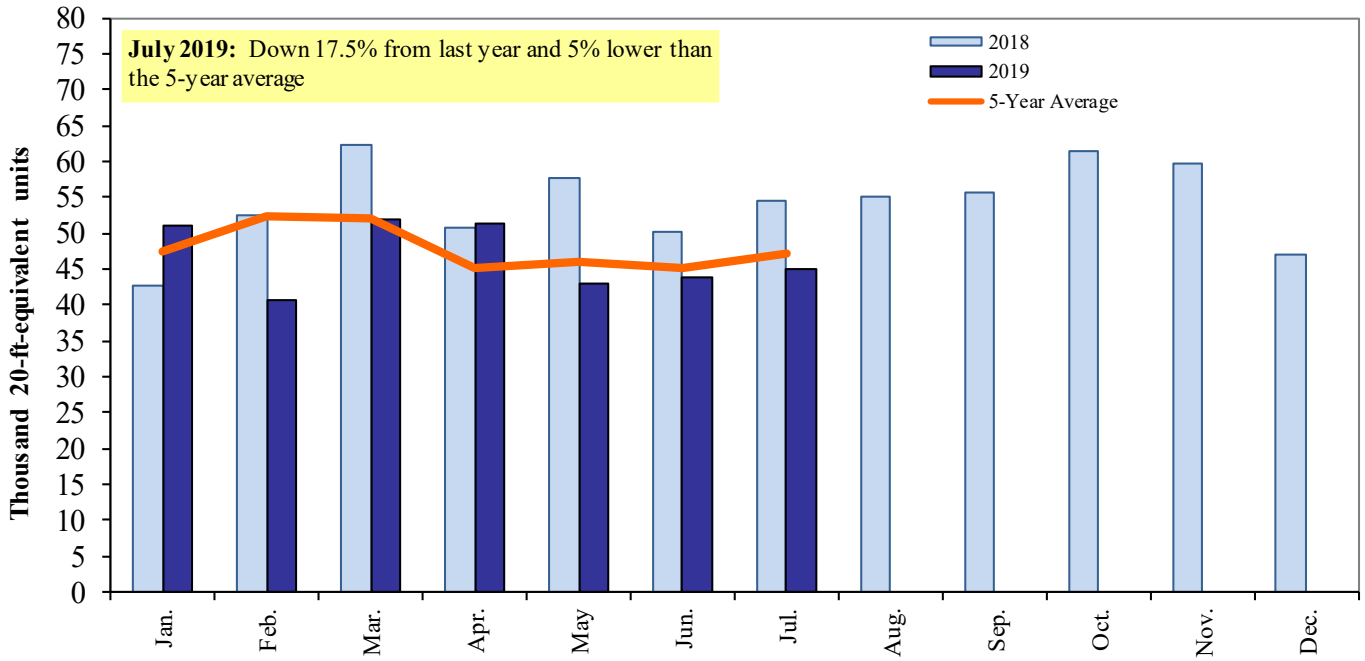
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Jul 2019



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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