USDA United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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December 19, 2019

Contents

The next release is December 26, 2019

WEEKLY HIGHLIGHTS

Wheat and Corn Drive Grain Inspections Higher

For the week ending December 12, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.53 million metric tons (mmt). Total grain inspections were up 11 percent from the previous week, down 4 percent from last year and down 13 percent from the 3-year average. The week-to-week increase in inspections was driven by a 38-percent increase in wheat inspections and a 40-percent jump in corn inspections. Soybean inspections decreased 7 percent from the previous week. Pacific Northwest (PNW) grain inspections increased 11 percent from the past week, and Mississippi Gulf inspections increased 12 percent. Although Texas Gulf grain inspections represented a smaller share of the total, weekly inspections in the region increased 86 percent, with year to date inspections up 71 percent from last year because of a strong demand for wheat.

Several Locks Closing on the Mississippi and Ohio Rivers

Multiple lock facilities are currently closed or plan to close before the end of the year to do repair work or accommodate the winter freezes. On the Mississippi River, Locks 4, 6, 8, 9, 11, 15, 18, 24, and 25 will all shut down through mid-March. Lock 19 closed December 15 to repair a guard gate and will reopen on February 28. Because large frozen portions of the river above these locks are already inactive for the winter, these closures should have minimal effect on grain traffic. Lock 27, near St. Louis, will close for 9 hours on December 19. Several locks in the New Orleans region will have closures or size restrictions that can slow traffic, particularly for large tows. Two lock facilities on the upper Ohio River will also close, though food and farm products represent only a small share of traffic in that span of the river.

Southern California Ports Seek Comments Regarding a Proposed "Clean Truck Fund" Rate

The Ports of Los Angeles and Long Beach seek public comment on a draft economic study conducted to help establish a "Clean Truck Fund" rate. To help the ports of Long Beach and Los Angeles meet a goal of a zero-emissions truck fleet by 2035, the rate would fund assistance for purchasing cleaner, low-nitrogen oxide (NOx), and zero-emissions heavy trucks. The draft economic study examines the rate's potential effect on cargo diversion and the local drayage truck industry. The Clean Truck Fund rate is expected to be instituted later in 2020 after a vote from the Boards of Harbor Commissioners. The new fee would apply to cargo owners that hire trucks to transport loaded containers, with rebates if they use trucks that meet low-NOx or zero-emissions standards.

Snapshots by Sector

Export Sales

For the week ending December 5, **unshipped balances** of wheat, corn, and soybeans totaled 22.36 mmt. This represented a 21-percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached .874 mmt, down 60 percent from the past week. Net **soybean export sales** were 1.05 mmt, up 54 percent from the previous week. Net weekly **wheat export sales** reached .503 mmt, up 120 percent from the from the previous week.

Rail

U.S. Class I railroads originated 23,262 **grain carloads** during the week ending December 7. This was a 14-percent increase from the previous week, 1 percent more than last year, and 2 percent fewer than the 3-year average.

Average December shuttle **secondary railcar** bids/offers (per car) were $431 below tariff for the week ending December 12. This was $206 more than last week and $169 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending December 14, **barge grain movements** totaled 708,597 tons. This was a 36-percent decrease from the previous week and 17 percent less than the same period last year.

For the week ending December 14, 453 grain barges **moved down river**—260 fewer barges than the previous week. There were 685 grain barges **unloaded in New Orleans**, 22 percent fewer than the previous week.

Ocean

For the week ending December 12, 32 **oceangoing grain vessels** were loaded in the Gulf—3 percent fewer than the same period last year. Within the next 10 days (starting December 13), 44 vessels were expected to be loaded—33 percent fewer than the same period last year.

As of December 12, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $47.25. This was 1 percent more than the previous week. The rate from PNW to Japan was $25.75 per mt, 2 percent more than the previous week.

Fuel

For the week ending December 16, the U.S. average **diesel fuel price** decreased 0.3 cents from the previous week to $3.046 per gallon, 7.5 cents below the same week last year.

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Web: **http://dx.doi.org/10.9752/TS056.12-19-2019**

Feature Article/Calendar

Containerized Grain Update

Over the last 20 years, containers have become integral to the worldwide transport of agricultural products, including grain. This article examines the current containerized grain market, identifies trends to date in 2019, and highlights some issues expected to affect the market in 2020.

Overview of Containerized Grain in 2019

Although over 100 different agricultural products ship in containers (including various fruits, vegetables, meats, and grains), containerized grain and oilseeds are shipped in the largest quantities. After increasing substantially from the early 2000s to 2016, containerized grain exports from the United States generally decreased through 2017, before rebounding strongly in 2018. As of the end of September 2019, year-to-date (YTD) containerized grain exports were down 14 percent from the same period last year and down 2 percent from the 5-year average. Soybeans remain the top containerized grain export, followed closely by dried distillers' grains with solubles (DDGS) (see table). However, both commodities decreased from the same period last year—soybeans by 9 percent and DDGS by 16 percent.

U.S. Containerized Grain Exports, Jan-Sep 2019

HTS Code	Commodity Description	Metric Tons	TEU	Share
120100	Soybeans	1,971,419	145,749	34%
230330	Dried Distillers Grains (with solubles)	1,934,694	148,672	34%
230990	Animal feed	616,076	56,260	11%
100590	Corn	608,453	48,108	11%
120810	Soybean flours and meals	317,509	24,778	6%
	Other	320,791	26,010	6%
	Total	**5,768,941**	**449,576**	**100%**

Source: USDA, Agricultural Marketing Service analysis of PIERS data

Note: TEU--Twenty-foot Equivalent Units

Although DDGS shipments have driven the containerized grain market for many years, containerized soybean shipments steadily increased nearly every year in the last decade. Containerized soybeans shipments reached record levels in 2017 and 2018, topping 215,000 20-foot-equivalent units in both years. Since 2017, some exports previously destined for the Chinese bulk soybean market switched to the containerized soybean market to serve smaller but emerging Asian markets such as Indonesia, Taiwan, Thailand, and Malaysia.

Outlook

At recent Agricultural Transportation Coalition (AgTC) workshops held in Atlanta, Minneapolis, and Kansas City, the agricultural transport community (agricultural and forest shippers, carriers, and other stakeholders) discussed current issues and concerns affecting the industry.[1] The following summarizes a few key issues that were discussed.

Low Sulphur Fuel Mandate and Fuel Surcharges: In less than 2 weeks, beginning January 1, 2020, the International Maritime Organization (IMO) is set to enact Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention), which lowers the maximum sulfur content of marine fuel oil used in oceangoing vessels from 3.5 percent of weight to 0.5 percent. For each

[1] There are 4 upcoming AgTC workshops in Portland, Oregon (January 29, 2020); Boise, Idaho (January 31, 2020); Sacramento, California (February 18, 2019); and Fresno, California (February 19, 2020).

vessel, carriers have the option of (1) installing scrubbers that would reduce sulfur emissions or (2) using very low-sulfur fuel. However, both options involve significant costs. For instance, according FreightWaves, low-sulfur fuel is expected to be 25 percent more expensive than the current high-sulfur fuel oil.[1] At the same time, installing scrubbers requires large capital outlays, with estimates ranging widely from $6 million per vessel to more than $12 million per vessel. An additional hurdle to scrubber installations is the long wait time—currently, about 6 months, owing to a backlog of orders for major suppliers.

Faced with likely higher and fluctuating costs for low-sulfur fuel purchases, container carriers have begun to implement "fuel surcharge" programs. Typically, under such a program, shippers pay an additional charge that adjusts up and down with shifting fuel prices. The surcharges stem from the carriers' need to recoup the additional costs imposed by complying with the mandate and fuel price fluctuations. Shippers, too, have concerns, most notably, about the lack of fairness and transparency in the formulas carriers use to recover these additional costs. Given an average range of $770 to $950 in freight for a port-to-port move for containerized exports, a $300 surcharge could increase freight rates by 30 to 40 percent.

Detention and Demurrage Charges: Detention and demurrage charges are widely used by the containerized shipping industry. The carrier charges the shipper a detention fee for use of containers beyond the allowed free period, while the port charges the shipper a demurrage fee, usually minimal, for use of space within the terminal beyond the free period. Carriers typically use these charges to incentivize quicker turnaround of containers by shippers. Detention and demurrage charges have increased significantly since 2014, and according to the Federal Maritime Commission (FMC), weather and congestion delays do not fully account for these charges.[2] The FMC is seeking to establish standardized language on detention and demurrage charges and to determine whether the fees are reasonable.

At the workshops, shippers expressed concern the charges could allow carriers to generate revenue streams unrelated to freight costs and that shippers would be penalized for factors outside of their control, such as port congestion and vessel delays. Shippers are hoping that the new year brings reform and additional scrutiny of how, when, and why these charges are assessed.

Carrier Consolidation: Having significantly consolidated in the last few years, the containerized shipping industry has seen a sharp reduction in the number of carriers. By 2021, it is projected that 75 percent of the containership fleet will be owned by just seven companies.[3] This ongoing consolidation is a source of tension between shippers and carriers. Shippers argue that consolidation and alliances have led to weaker competition, along with more congestion and delays. Carriers maintain that consolidation has contributed to reduced costs, greater efficiencies, better managed ship capacity, and better service.

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[1] FreightWaves, "IMO 2020 Regulation Preparation," December 12, 2019.
[2] Federal Maritime Commission, "Fact Finding Investigation No.28 -Conditions and Practices Relating to Detention, Demurrage and Free Time in International Oceanborne Commerce, Interim Report." September 4, 2018.
[3] World Maritime News, "In Depth: Nixon: Consolidation in Container Shipping Getting More Challenging," April 23, 2019.

Grain Transportation Indicators

Table 1

Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit train	Shuttle		Gulf	Pacific
12/18/19	204	n/a	207	188	211	183
12/11/19	205	n/a	198	191	209	179

[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	12/13/2019	12/6/2019
Corn	IL–Gulf	-0.51	-0.53
Corn	NE–Gulf	-0.70	-0.74
Soybean	IA–Gulf	-1.23	-1.23
HRW	KS–Gulf	-2.32	-2.30
HRS	ND–Portland	-2.44	-2.67

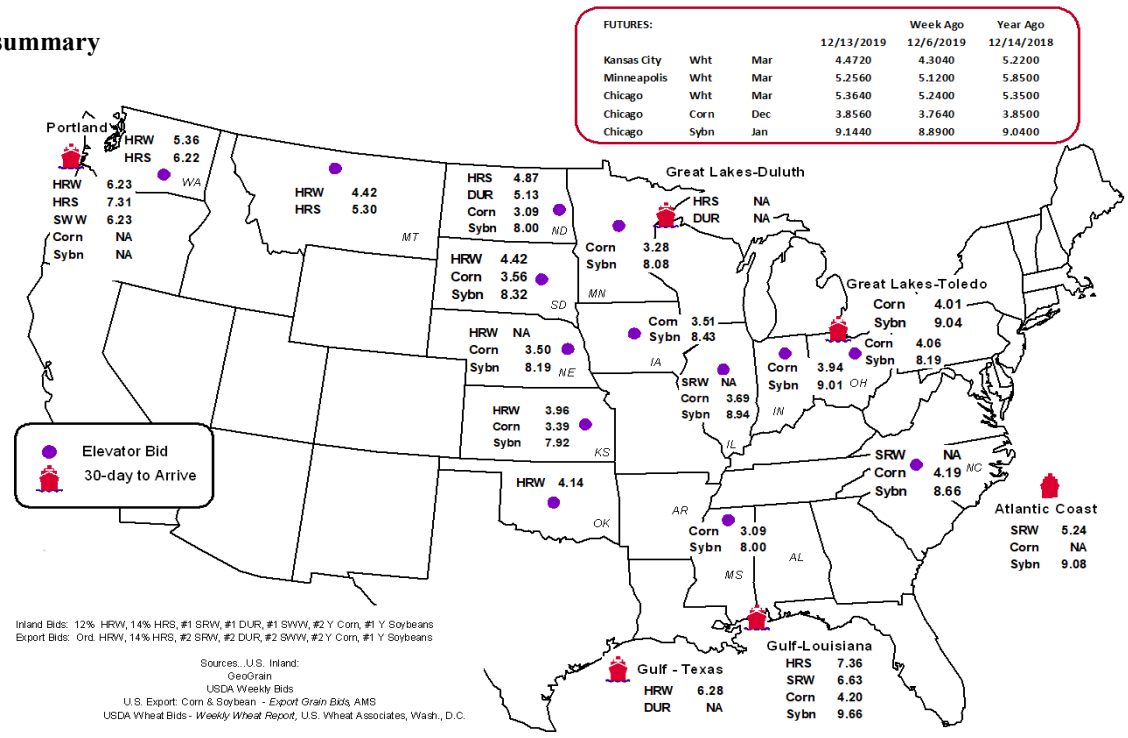
Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

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]
12/11/2019[p]	650	565	4,307	168	5,690	12/7/2019	2,748
12/04/2019[r]	249	428	3,312	183	4,172	11/30/2019	2,431
2019 YTD[r]	40,099	50,158	243,368	15,836	349,461	2019 YTD	121,750
2018 YTD[r]	21,816	44,785	300,744	20,669	388,014	2018 YTD	124,404
2019 YTD as % of 2018 YTD	184	112	81	77	90	% change YTD	98
Last 4 weeks as % of 2018[2]	317	117	95	28	98	Last 4wks. % 2018	94
Last 4 weeks as % of 4-year avg.[2]	118	41	78	17	69	Last 4wks. % 4 yr.	128
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.

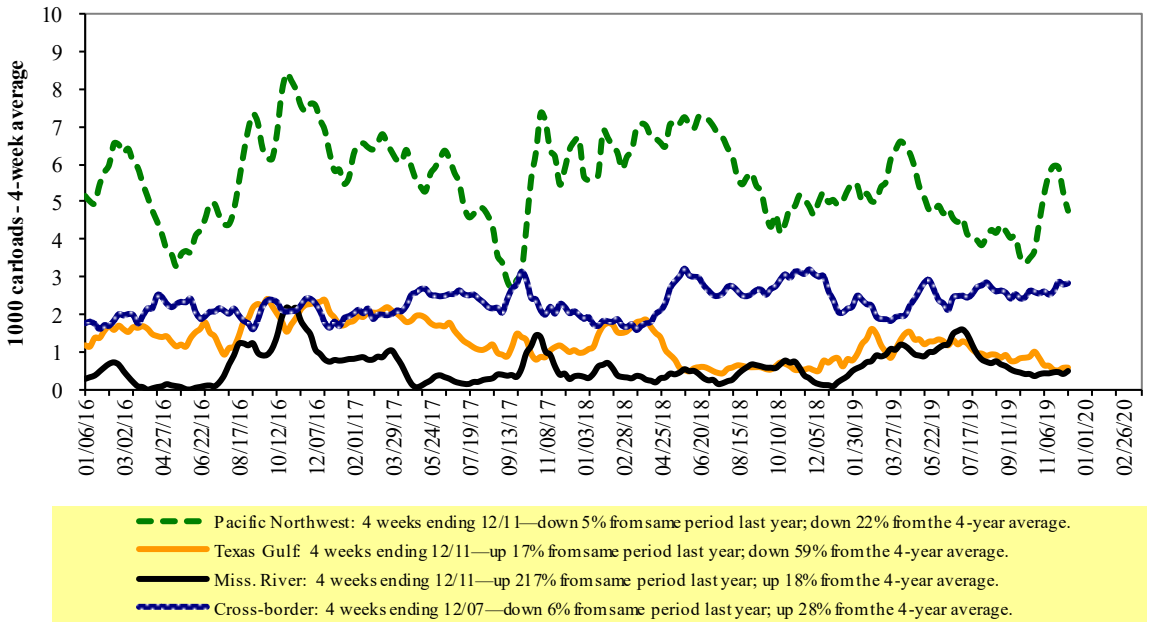
[3] Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads. to reflect switching between Kansas City Southern de Mexico (KCSM) and Grupo Mexico.

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	
12/7/2019	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,609	2,921	12,452	1,276	5,004	23,262	5,397	5,464
This week last year	1,510	2,683	13,504	1,032	4,353	23,082	4,050	4,614
2019 YTD	87,276	130,715	537,411	55,747	246,992	1,058,141	200,516	222,657
2018 YTD	94,379	125,081	600,375	45,800	253,493	1,119,128	199,303	230,973
2019 YTD as % of 2018 YTD	92	105	90	122	97	95	101	96
Last 4 weeks as % of 2018*	85	101	100	121	97	99	91	106
Last 4 weeks as % of 3-yr. avg.**	81	92	100	119	89	96	96	102
Total 2018	98,978	133,238	635,458	48,638	267,713	1,184,025	211,639	244,697

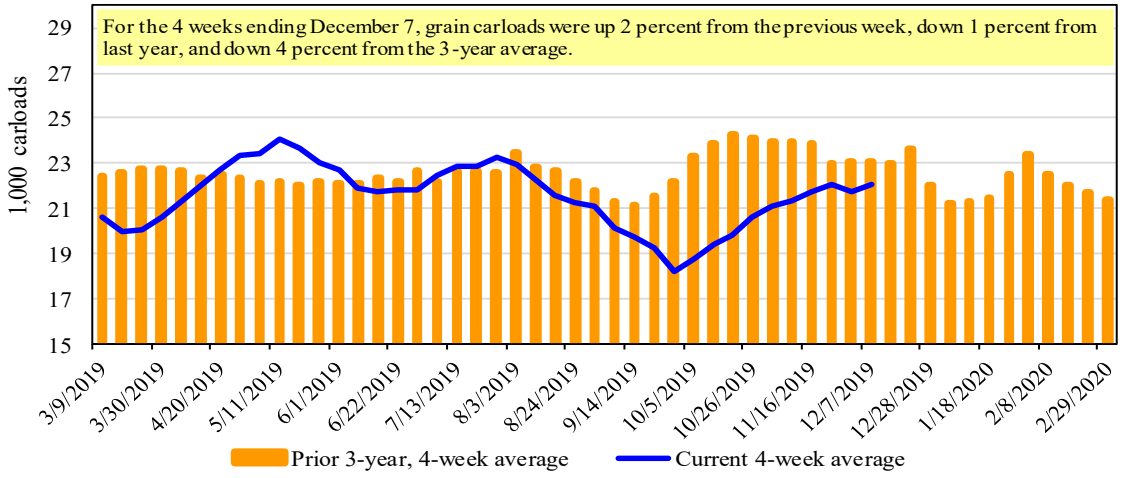
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

**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							
12/12/2019		Dec-19	Dec-18	Jan-20	Jan-19	Feb-20	Feb-19	Mar-20	Mar-19
BNSF[3]	COT grain units	no offer	620	0	-60	no bid	6	no bid	6
	COT grain single-car	no offer	no offer	0	103	0	61	0	11
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no bid	no offer	no bid	n/a	n/a
	GCAS/Region 2	no offer	no offer	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.

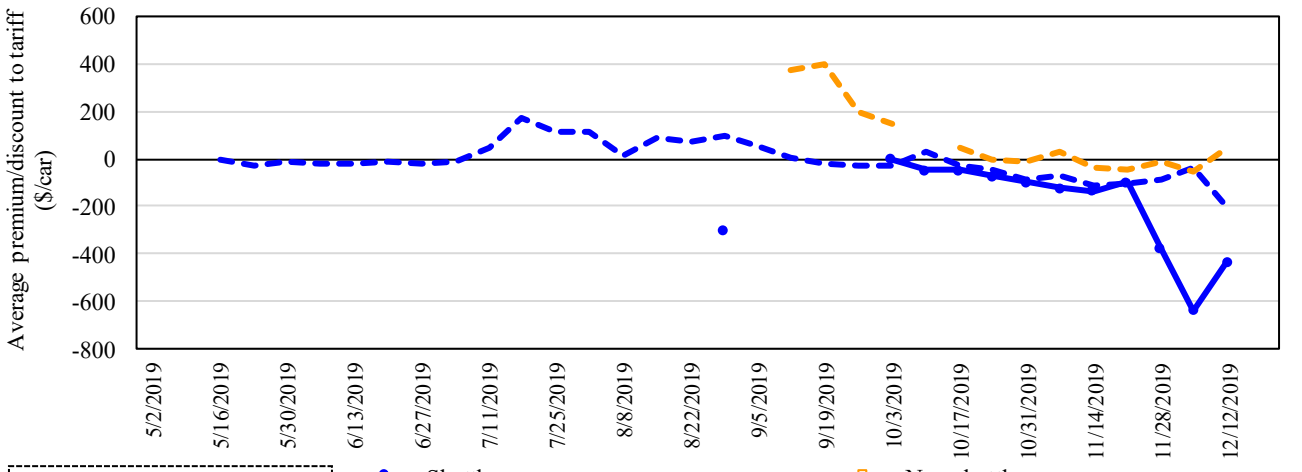
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

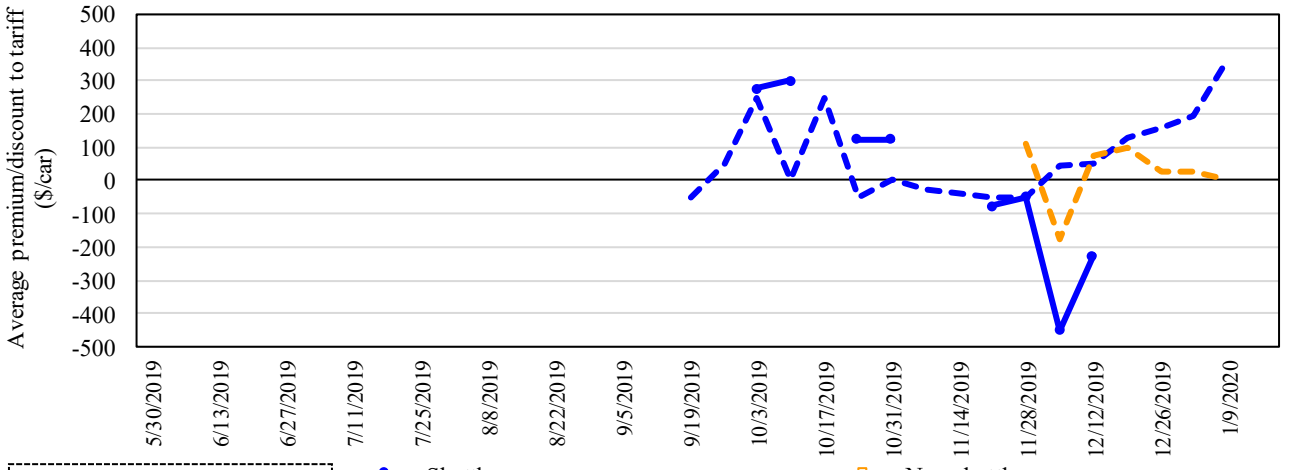


12/12/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$363	-$500

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $206 this week and are $431 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

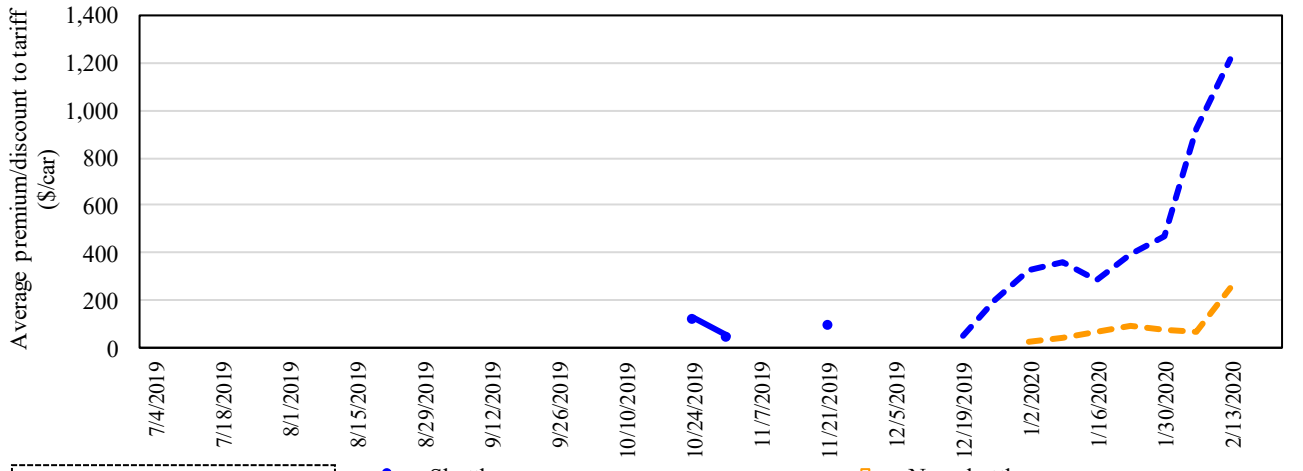


12/12/2019	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$250	-$200

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $225 this week and are $525 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



12/12/2019	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: 12/12/2019	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**	**(363)**	**(250)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	237	200	n/a	n/a	n/a	n/a
	Change from same week 2018	(188)	(425)	n/a	n/a	n/a	n/a
	UP-Pool	**(500)**	**(200)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	175	n/a	n/a	n/a	n/a	n/a
	Change from same week 2018	(150)	(200)	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.

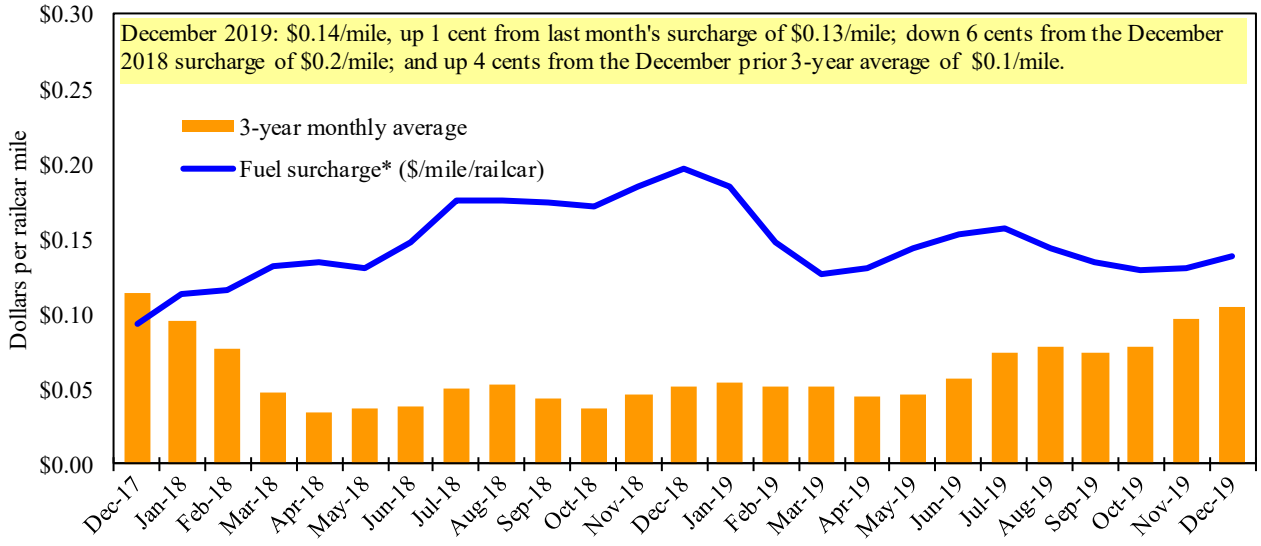
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

[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.

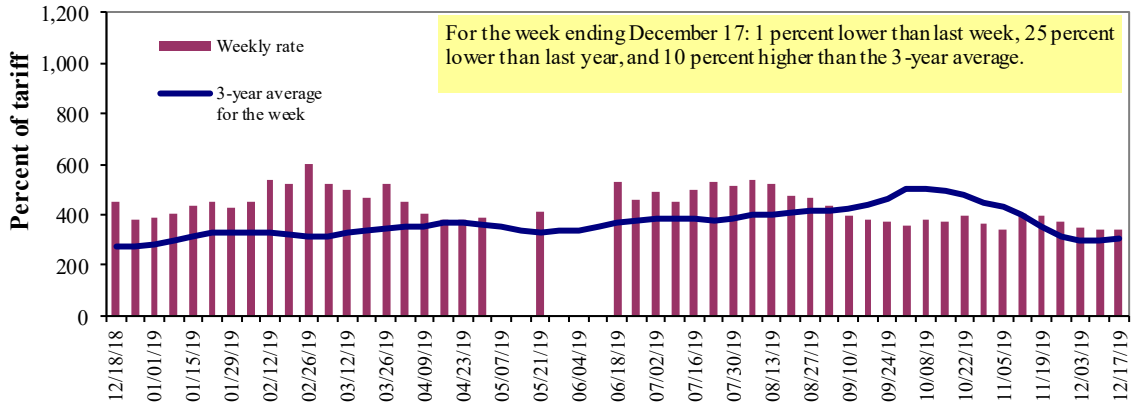
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

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

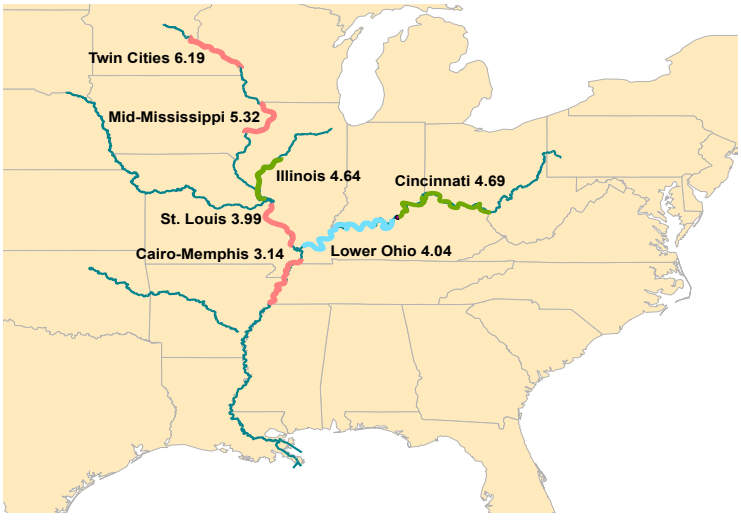
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	12/17/2019	-	-	338	235	243	243	218
	12/10/2019	-	-	343	244	251	251	224
$/ton	12/17/2019	-	-	15.68	9.38	11.40	9.82	6.85
	12/10/2019	-	-	15.92	9.74	11.77	10.14	7.03
Current week % change from the same week:								
	Last year	-	-	-25	-22	-39	-39	-19
	3-year avg. [2]	-	-	10	5	-13	-12	11
Rate[1]	January	-	-	349	243	245	245	220
	March	-	-	349	243	245	245	220

[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

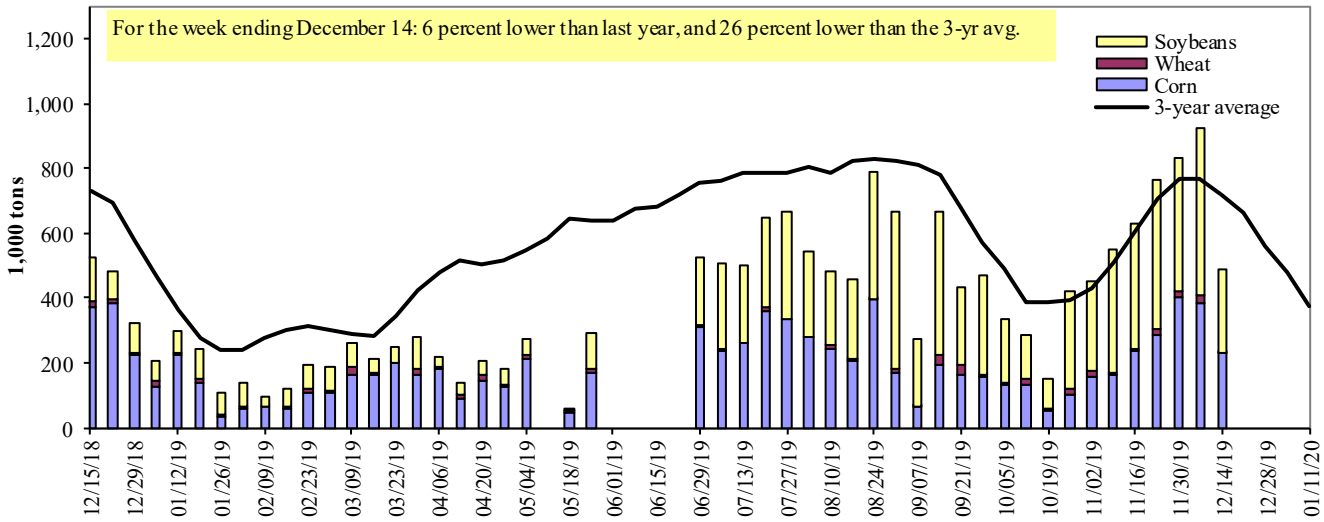
Select applicable index from market quotes included in tables on this page. The 1976 benchmark rates per ton are provided in map.



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 12/14/2019	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	5	0	0	0	5
Winfield, MO (L25)	83	0	203	0	286
Alton, IL (L26)	204	0	246	0	450
Granite City, IL (L27)	230	2	260	0	491
Illinois River (LAGRANGE)	87	5	59	0	151
Ohio River (OLMSTED)	58	4	124	0	185
Arkansas River (L1)	0	4	28	0	32
Weekly total - 2019	288	9	412	0	709
Weekly total - 2018	492	38	310	14	854
2019 YTD[1]	12,381	1,571	14,080	143	28,175
2018 YTD[1]	22,562	1,619	12,355	130	36,666
2019 as % of 2018 YTD	55	97	114	110	77
Last 4 weeks as % of 2018[2]	82	92	174	6	118
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.

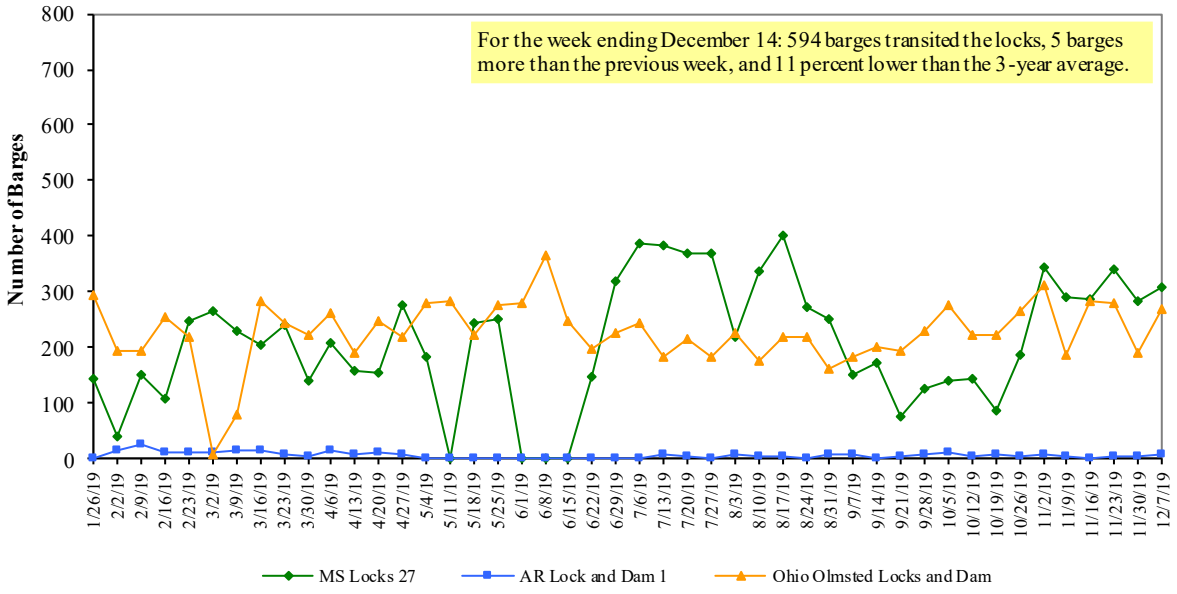
[2] As a percent of same period in 2018.

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

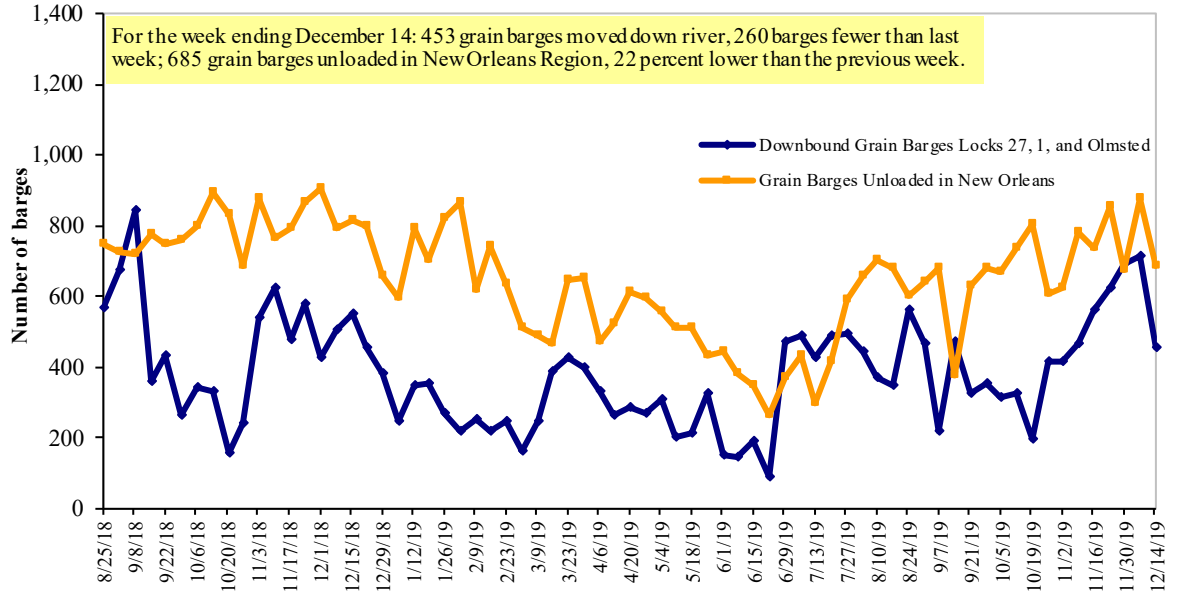
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 12/16/2019 (U.S. $/gallon)

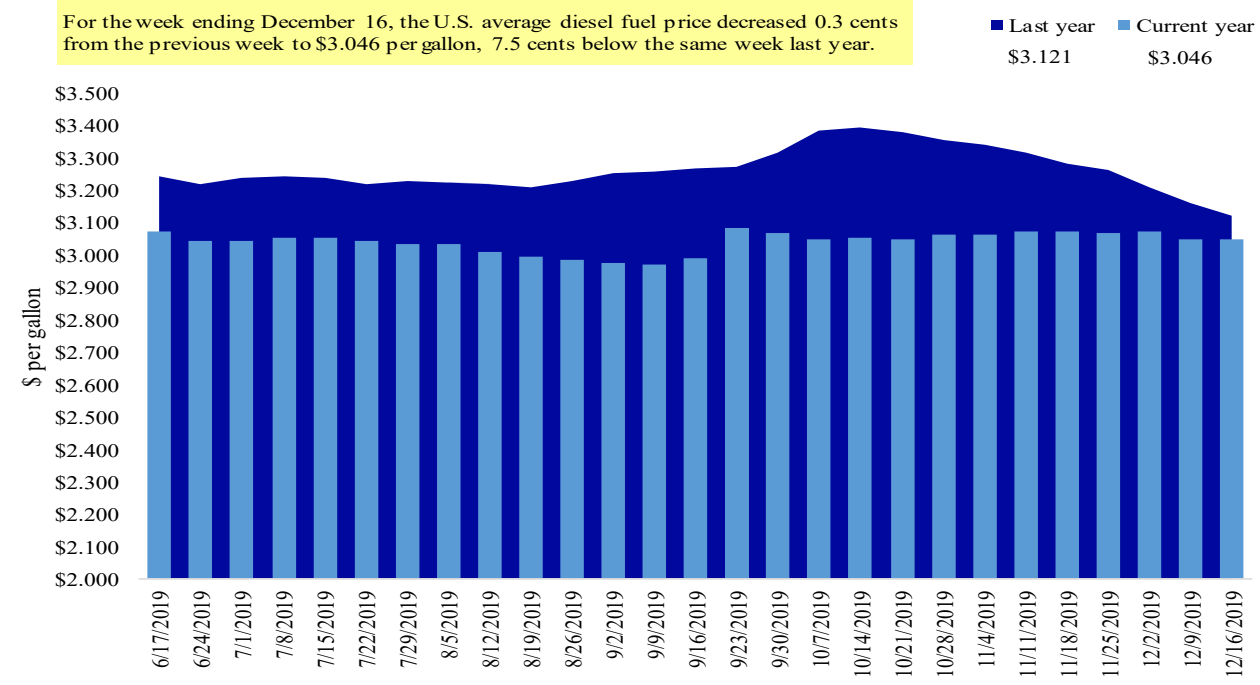
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.053	0.003	-0.112
	New England	3.083	-0.002	-0.193
	Central Atlantic	3.239	-0.002	-0.103
	Lower Atlantic	2.921	0.007	-0.100
II	Midwest	2.970	0.004	-0.048
III	Gulf Coast	2.763	0.004	-0.137
IV	Rocky Mountain	3.161	-0.046	-0.017
V	West Coast	3.616	-0.031	0.012
	West Coast less California	3.280	-0.043	-0.033
	California	3.882	-0.022	0.047
Total	U.S.	3.046	-0.003	-0.075

[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]									
12/5/2019	1,284	525	1,303	936	139	4,187	8,613	9,563	22,364
This week year ago	1,801	888	1,845	1,114	140	5,789	11,930	10,626	28,346
Cumulative exports-marketing year[2]									
2019/20 YTD	4,922	1,455	3,469	2,385	541	12,771	6,876	17,431	37,078
2018/19 YTD	3,146	1,221	3,269	2,667	266	10,568	15,721	14,076	40,365
YTD 2019/20 as % of 2018/19	156	119	106	89	204	121	44	124	92
Last 4 wks as % of same period 2018/19	70	59	66	77	140	70	69	98	80
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 12/05/2019	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	7,380	8,730	(15)	14,659
Japan	2,246	5,386	(58)	11,955
Korea	25	2,219	(99)	4,977
Colombia	1,162	1,699	(32)	4,692
Peru	15	1,235	(99)	2,808
Top 5 Importers	**10,827**	**19,268**	**(44)**	**39,091**
Total U.S. corn export sales	**15,489**	**27,651**	**(44)**	**54,024**
% of projected exports	33%	53%		
Change from prior week[2]	**874**	**903**		
Top 5 importers' share of U.S. corn export sales	70%	70%		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 12/05/2019	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	9,847	456	2062	25,733
Mexico	2,778	3,420	(19)	4,271
Indonesia	823	1,091	(25)	2,386
Japan	1,050	1,180	(11)	2,243
Egypt	1,174	939	25	1,983
Top 5 importers	**15,673**	**7,085**	**121**	**36,616**
Total U.S. soybean export sales	**26,995**	**24,703**	**9**	**53,746**
% of projected exports	56%	52%		
change from prior week[2]	**1,050**	**736**		
Top 5 importers' share of U.S. soybean export sales	58%	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 12/05/2019	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	2,138	2,269	(6)	3,047
Mexico	2,474	2,003	24	3,034
Japan	1,798	1,949	(8)	2,695
Nigeria	987	840	18	1,564
Indonesia	486	626	(22)	1,381
Korea	922	1,104	(17)	1,355
Taiwan	867	702	24	1,164
Egypt	101	220	(54)	821
Thailand	536	754	(29)	747
Iraq	262	364	(28)	574
Top 10 importers	**10,571**	**10,830**	(2)	**16,382**
Total U.S. wheat export sales	**16,958**	**16,357**	**4**	**24,388**
% of projected exports	64%	64%		
change from prior week[2]	**503**	**754**		
Top 10 importers' share of U.S. wheat export sales	62%	66%		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 12/12/19	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	240	214	112	13,301	12,689	105	81	87	13,315
Corn	40	0	n/a	7,027	19,381	36	7	11	20,024
Soybeans	423	419	101	11,769	7,719	152	873	127	7,719
Total	**703**	**633**	**111**	**32,096**	**39,789**	**81**	**114**	**88**	**41,058**
Mississippi Gulf									
Wheat	81	62	131	4,422	3,764	118	70	87	3,896
Corn	465	270	172	20,276	32,717	62	62	68	33,735
Soybeans	740	819	90	29,670	26,991	110	122	99	28,124
Total	**1,286**	**1,151**	**112**	**54,368**	**63,472**	**86**	**96**	**89**	**65,755**
Texas Gulf									
Wheat	78	13	594	5,899	3,001	197	74	58	3,198
Corn	0	29	0	608	730	83	100	45	730
Soybeans	0	0	n/a	2	69	2	n/a	0	69
Total	**78**	**42**	**186**	**6,508**	**3,800**	**171**	**77**	**45**	**3,997**
Interior									
Wheat	59	55	107	1,889	1,587	119	125	158	1,614
Corn	170	182	93	7,587	8,439	90	129	126	8,650
Soybeans	142	133	107	6,770	6,522	104	128	128	6,729
Total	**370**	**369**	**100**	**16,245**	**16,548**	**98**	**128**	**130**	**16,993**
Great Lakes									
Wheat	75	42	180	1,260	872	144	150	163	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	**75**	**42**	**180**	**1,744**	**2,448**	**71**	**73**	**79**	**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	20	48	41	1,315	1,993	66	54	44	2,047
Total	**20**	**48**	**41**	**1,452**	**2,195**	**66**	**53**	**44**	**2,253**
U.S. total from ports*									
Wheat	533	385	138	26,808	21,982	122	87	92	22,986
Corn	674	481	140	35,608	61,805	58	56	65	63,682
Soybeans	1,325	1,419	93	49,999	44,466	112	152	101	45,879
Total	**2,533**	**2,285**	**111**	**112,414**	**128,252**	**88**	**102**	**89**	**132,547**

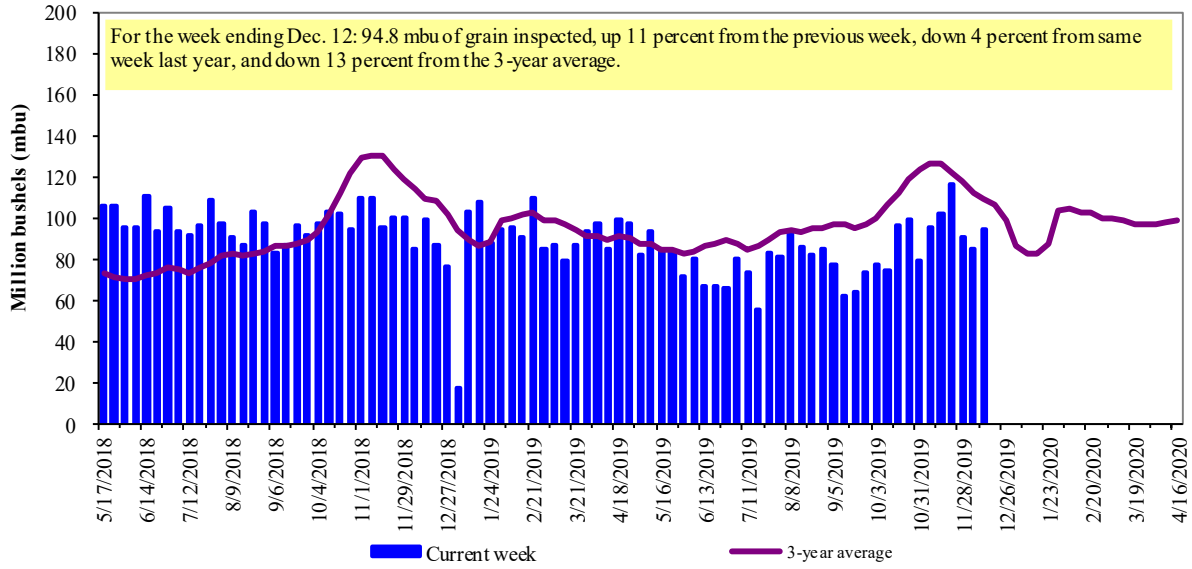
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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)

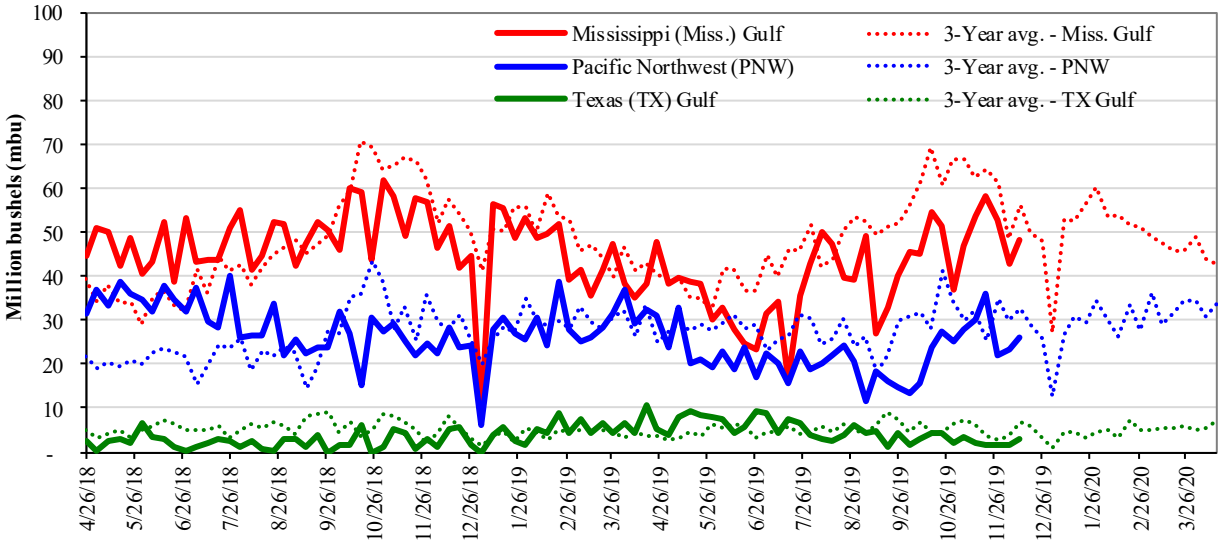


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 12/12/19 inspections (mbu):	
MS Gulf:	48.5
PNW:	26.0
TX Gulf:	2.9

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	up 13	up 78	up 15	up 12
Last Year (same wk):	down 5	down 46	down 9	down 8
3-yr avg. (4-wk. mov. Avg):	down 16	down 32	down 17	down 16

Source: USDA, Federal Grain Inspection Service.

Table 17

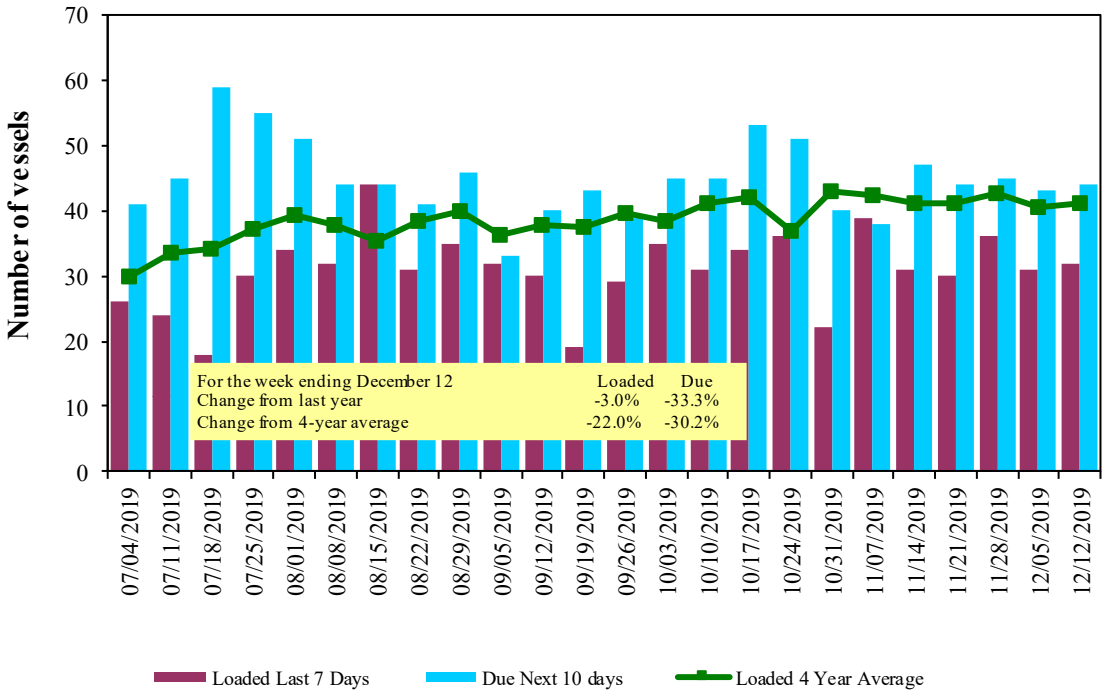
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
12/12/2019	28	32	44	13
12/5/2019	28	31	43	17
2018 range	(23...88)	(24...41)	(38...67)	(4...30)
2018 average	40	34	54	17

Source: USDA, Agricultural Marketing Service.

Figure 16

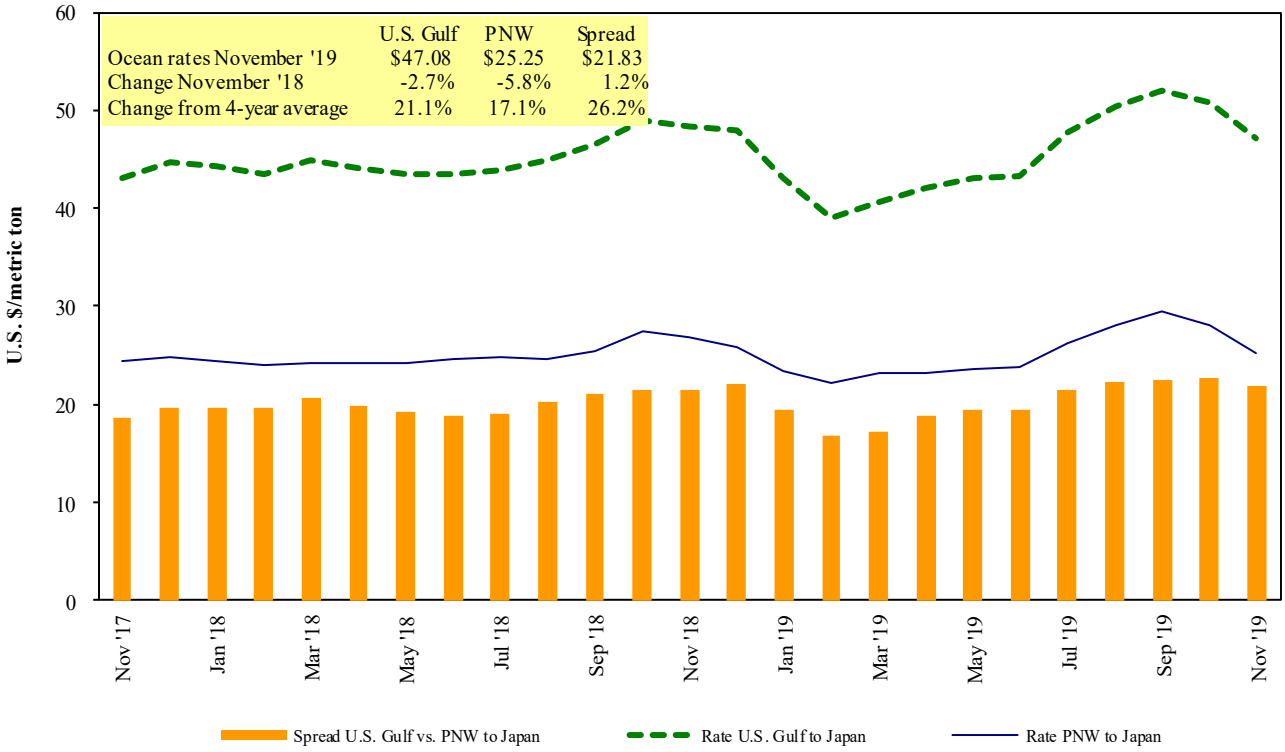
U.S. Gulf[1] vessel loading activity



[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 12/14/2019

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

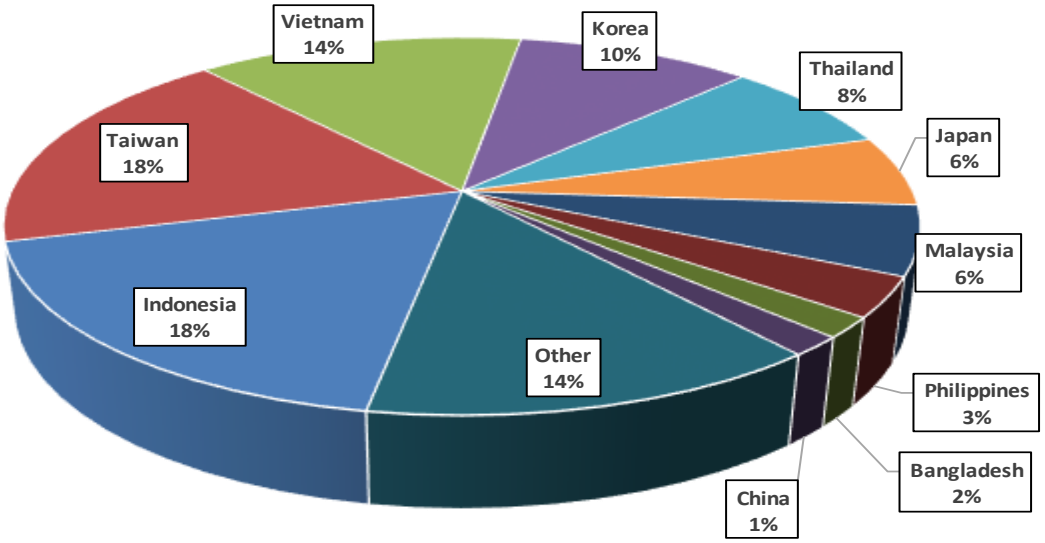
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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.

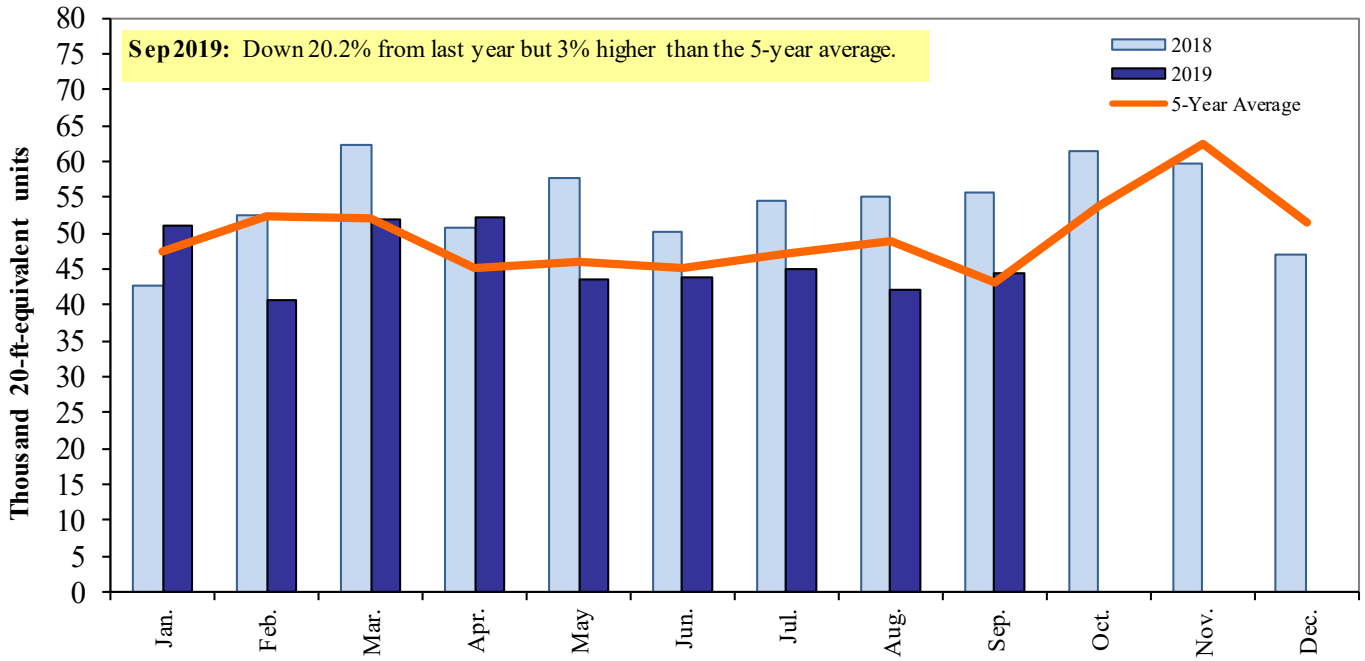
Figure 18
Top 10 destination markets for U.S. containerized grain exports, Jan-Sep 2019



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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