USDA 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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August 29, 2019

Contents

The next release is September 5, 2019

WEEKLY HIGHLIGHTS

Panama Canal Lock Maintenance Tentatively Scheduled, Reducing Transit Capacity

Maintenance and repair work are scheduled for the center wall of the Gatun Panamax Locks on the Panama Canal from August 26 to September 6, 2019. In addition, the East and West Lanes of the Gatun Locks are scheduled for maintenance and repair work for 12 hours daily on September 5 and 6. Due to the maintenance work, the estimated transit capacity of the Canal is 27–29 vessels per day, rather than the normal transit capacity of 32–34 vessels, depending on vessel mix and other factors. At this time, no major delays are anticipated despite the reduction in transit capacity.

Grain Inspections Continue to Fall but Corn Rebounds

For the week ending August 22, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.16 million metric tons (mmt). This amount is 7 percent less than the previous week, down 22 percent from last year, and 15 percent below the 3-year average. The drop in total inspections was caused mainly by lower wheat and soybean inspections. Corn inspections, however, rebounded from the previous week, increasing 25 percent. Week-to-week inspections of corn for export increased to Latin America and Asia, with Latin America accounting for 68 percent of all corn inspected. Pacific Northwest (PNW) grain inspections increased 11 percent from the previous week, but Mississippi Gulf grain inspections decreased 17 percent.

Port of Virginia Adjusting Vessel Schedules to Improve Container Flow

On July 24, the Port of Virginia completed a two-year renovation and expansion project at the Virginia International Gateway (VIG). The port nearly doubled overall container stack capacity, power plugs for refrigerated cargo, and on-dock rail capacity as well as added four ship-to-shore cranes. With construction complete, the port is adjusting vessel terminal calls to better align containers with the appropriate rail service. The port aims to move 40 percent of its container throughput via on-dock rail by 2022, more than any other East Coast port. Nearly 16 percent of U.S. containerized grain exports move through the Port of Virginia.

Snapshots by Sector

Export Sales

For the week ending August 15, **unshipped balances** of wheat, corn, and soybeans totaled 11.6 million metric tons (mmt). This indicates an 18 percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached .119 mmt, up 113 percent from the previous week. Net **soybean export sales** were .026 mmt, up significantly from the past week. Net weekly **wheat export sales** reached .595 mmt, up 35 percent from the previous week.

Rail

U.S. Class I railroads originated 19,840 **grain carloads** during the week ending August 17. This is a 7 percent decrease from the previous week, 15 percent less than last year, and 10 percent lower than the 3-year average.

Average September shuttle **secondary railcar** bids/offers (per car) were $131 below tariff for the week ending August 22. This is $19 more than last week and $69 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending August 24, **barge grain movements** totaled 890,199 tons. This is a 63 percent increase from the previous week and 1 percent more than the same period last year.

For the week ending August 24, 564 grain barges **moved down river**. This is 216 more barges than the previous week. There were 599 grain barges **unloaded in New Orleans**, 12 percent less than the previous week.

Ocean

For the week ending August 22, 31 **ocean-going grain vessels** were loaded in the Gulf. This is 9 percent fewer than the same period last year. Forty-one vessels are expected to be loaded within the next 10 days. This is 18 percent fewer than the same period last year.

As of August 22, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $51.00. This is 1 percent more than the previous week. The rate from the PNW to Japan was $28.50 per mt, 3 percent more than the previous week.

Fuel

For the week ending August 26, the U.S. average **diesel fuel price** decreased 1.1 cents from the previous week to $2.983 per gallon. This price is 24.3 cents less than the same week last year.

Preferred citation: U.S. Dept. of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* August 29, 2019.
Web: http://dx.doi.org/10.9752/TS056.08-29-2019

Feature Article/Calendar

Assessing Pre-Harvest Rail Performance Using STB Service Metrics

Railroads are a critical mode of transportation for grain shippers, and timely rail transportation is especially important at harvest. Due to limited grain storage, much of the corn and soybean harvests must enter the transportation system immediately. Congestion and delays on the rail system can lead to excessive stocks on and off farm and, in extreme cases, can also result in product loss. With an eye toward the upcoming corn and soybean harvests, this article looks at various rail performance indicators for grain from the Surface Transportation Board's (STB) Rail Service Issues Reports. The article concludes with a look at state-level production projections compared to historical state-level rail car loadings to provide a sense of how spatial patterns in transportation demand might look in 2019, compared to recent years.

All Grain Rail Performance Data Now on USDA's Platform

STB's Rail Service Data includes 11 separate data items that railroads report each week, such as train speeds, dwell times, grain loadings, order fulfillment, and carloadings. This data is extremely useful to the grain community, and our new Open Data Platform now includes the full set of STB's service metrics, making more grain transportation data usable, shareable, discoverable, and accessible (see the August 1, 2019 *Grain Transportation Report* for more information on this platform). All of the datasets can be accessed through the Data Catalog. This article showcases trends in several of these datasets.

Rail Demand for Grain Transportation

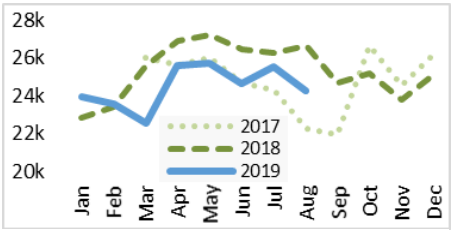
Figures 1 and 2 provide seasonal comparisons of recent grain carloadings and grain rail car auction market bids. These data provide insight into current grain transportation demand and supply.

For instance, the figures highlight the impact of the flooding and weather issues earlier in the year. Grain carloads fell month-to-month through March, when the Midwest flooding was severe (Figure 1). At the same time, shipper bids for timely, guaranteed service rose significantly from January to February, stayed high through March, and declined as railroads recovered and railcar supply increased and became more predictable (Figure 2).

In August of this year, weekly rail carloads were 9 percent below August 2018, but 9 percent above 2017. At the same time, average grain railcar secondary auction market bids were $298 below August of last year and $480 lower than the prior three-year August average.

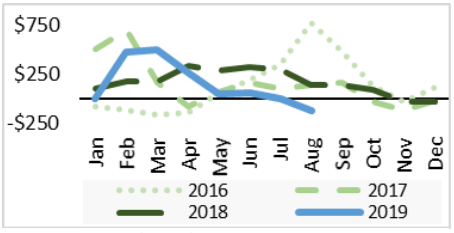
Figure 1 suggests current grain transportation demand is not unusually high or low. The auction market data in Figure 2 indicates that shippers are not currently willing to pay for more timely, guaranteed rail service. The bids in Figure 2 are averaged over the month they were made and include delivery of railcars that month and in future months. While average August bids for delivery in September (-$144) and October ($0) are slightly higher than for August (-$176), they are still at or below zero dollars. This suggests that shippers believe they will have adequate rail service to meet demand over the next couple of months. This could be the result of expectations of strong rail performance and railcar supply or expectations of relatively low rail demand, as the next two sections will address.

Figure 1: Average Weekly Grain Carloadings



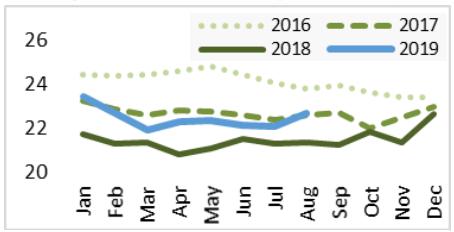
Source: Surface Transportation Board

Figure 2: Grain Car Auction Market Bids



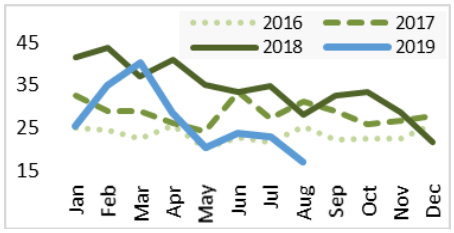
Source: USDA/AMS/TSD

Figure 3: Grain Train Speeds (MPH)



Source: Surface Transportation Board

Figure 4: Grain Origin Dwell Times (Hours)



Source: Surface Transportation Board

Rail Supply of Grain Transportation

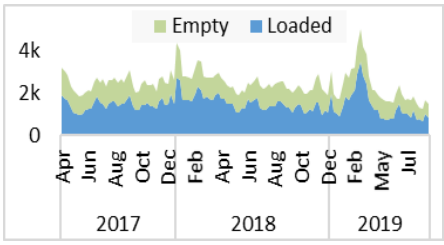
Train speeds are a key measure of rail capacity. Figures 3 and 4 show grain train speeds and grain origin dwell times. Average grain train speeds in August were 6 percent above last year and 1 percent above the prior three-year average (Figure 3). Similarly, average origin dwell times in August were 39 percent below the prior 3-year average (Figure 4). These numbers suggest that the rail system is prepared to handle additional freight brought on by the corn and soybean harvests.

In addition to the more traditional performance metrics, the STB collects and publishes other data on rail movements of grain. This includes grain cars that have not moved in over 48 hours, grain unit trains holding, grain car order fulfillment metrics for manifest service, and grain cars loaded and billed at the state level, among other datasets. The first three are plotted over time in Figures 5, 6, and 7.

Overall, these charts tell a similar story, matching the train speeds and origin dwell time data, but each provides a slightly different perspective on the service picture. Each of the charts shows significant spikes in service issues in February and March of this year. Compared to January, average weekly grain cars not moved in March were up 99 percent, average daily trains holding were up 98 percent, and unfilled grain car orders were up 293 percent. More recently, the August average for each of those metrics was down from August 2018—38 percent for cars not moved and 30 percent for trains held short. However,

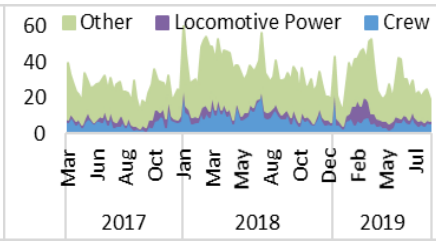
while unfilled orders for grain cars using manifest service have declined significantly from March, they are still up 90 percent from August of 2018 (Figure 7).[1]

Figure 5: Grain Cars Not Moved in 48+ Hours



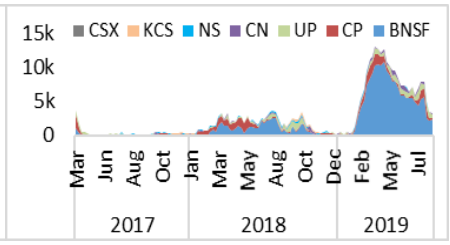
Source: Surface Transportation Board

Figure 6: Grain Trains Holding



Source: Surface Transportation Board

Figure 7: Unfilled Manifest Grain Orders



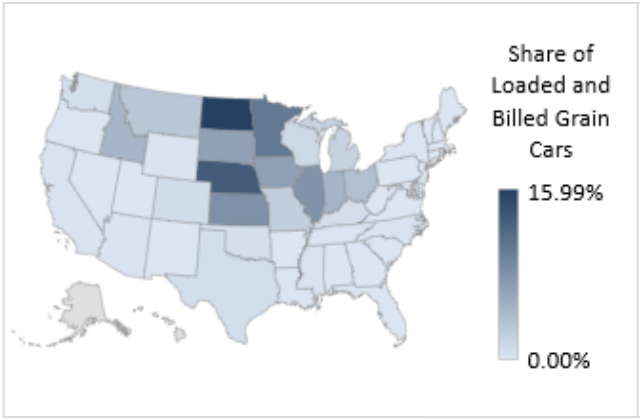
Source: Surface Transportation Board

In general, the STB metrics suggest rail service has recovered from winter weather issues and improved year over year. However, the unfilled orders metric does not fit this story. There were weather and service issues throughout 2018, yet unfilled orders were significantly worse in 2019 than in prior years. Moreover, shippers have recently reported cuts in their service to the STB that would not necessarily show up in these metrics, such as reduced number of days per week that rail service is offered.[2] While the majority of these metrics show positive signs for the upcoming harvest, the unfilled orders metric and shipper reports to STB are concerning.

Outlook

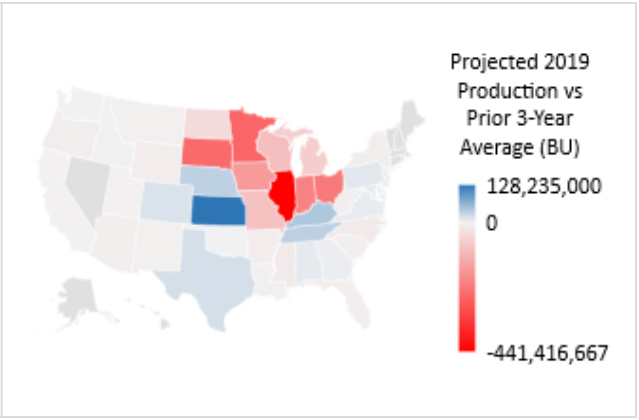
The new marketing year (MY) for corn and soybeans begins on September 1. To offer a glimpse into what changes may occur, this final section examines rail activity for grain and expected changes in production compared to past years by state. To that end, Figure 8 shows the concentration and pattern of railcars loaded and billed in the months of October, November, and December. Figure 9 shows the increase or decrease in expected production of corn and soybeans in MY2019/20 compared to the prior 3-year average.

Figure 8: Fourth Quarter State Shares of Loaded and Billed Railcars, 2014-2018



Source: Surface Transportation Board

Figure 9: State Changes in Grain (Corn, Wheat, and Soybean) Production, Projected 2019 vs Prior 3-Year Average



Source: USDA-AMS analysis of USDA-NASS data.

As the left map shows, much of the rail freight for grain in October, November, and December originates in the central Plains and western Corn Belt, namely North Dakota, Nebraska, Minnesota, Kansas, Illinois, and South Dakota. Across the U.S., demand for railcars for grain freight may slacken somewhat in MY2019/20, due to a reduction in grain supplies. According to the latest (August) *World Agricultural Supply and Demand Estimates* report, USDA projects corn and soybean supplies (including beginning stocks, new production, and imports) will be down 2 percent in MY2019/20, compared to last year. Inventories of corn and soybeans are projected up by 852 million bushels (33 percent), but production is projected down by 1,383 million bushels (7 percent).

State production data suggest that the demand for railcars will be more nuanced. If USDA's projections are realized, six states would see a drop in their corn and soybean production of at least 150 million bushels (mbu) compared to the 3-year average. As the map in the right pane shows, most of the reduction would be concentrated in Illinois (-441 mbu), Minnesota (-256 mbu), South Dakota (-246 mbu), and Ohio (-220 mbu). On the other hand, Kansas and Nebraska, for instance, could see an increase in grain rail shipments in MY2019/20, supported by projected increases of 128 mbu and 34 mbu more than the prior 3-year average, respectively. *Jesse.Gastelle@usda.gov*, *PeterA.Caffarelli@usda.gov*

[1] It is worth noting that manifest grain car orders placed and filled were down 9 percent and up 2 percent, respectively, from August 2018. So, the increase in unfilled orders does not appear to be the result of a change in reporting or in the volume of orders.

[2] See, for example, the NFGA letter to the STB when these complaints started in 2018. For a more recent example, see STB's August 21, 2019 decision ordering Union Pacific to restore and maintain service levels at 5 instead of 3 days per week.

Grain Transportation Indicators

Table 1

Grain Transport Cost Indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit Train	Shuttle		Gulf	Pacific
08/28/19	200	n/a	215	260	228	202
08/21/19	201	n/a	214	262	226	197

[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); and ocean = routes to Japan ($/metric ton)
n/a = not available
Source: Transportation & Marketing Program/AMS/USDA

Table 2

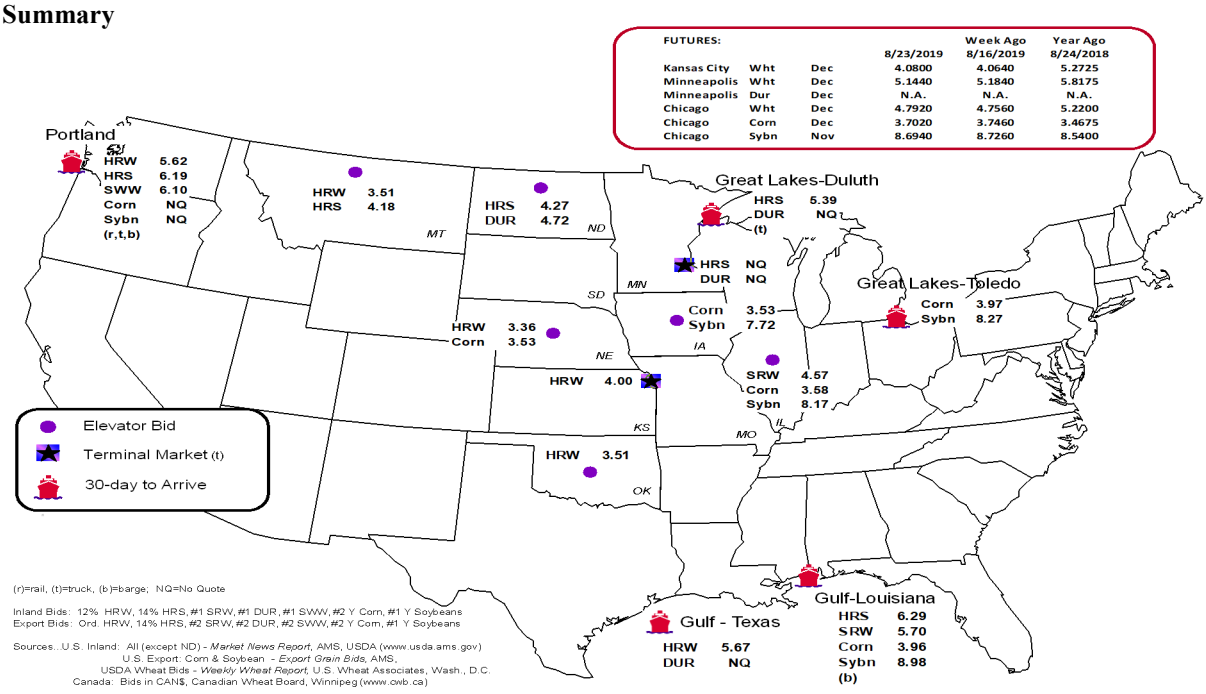
Market Update: U.S. Origins to Export Position Price Spreads ($/bushel)

Commodity	Origin--Destination	8/23/2019	8/16/2019
Corn	IL--Gulf	-0.38	-0.41
Corn	NE--Gulf	-0.43	-0.50
Soybean	IA--Gulf	-1.26	-0.79
HRW	KS--Gulf	-1.67	-1.77
HRS	ND--Portland	-1.92	-1.86

Note: nq = no quote; n/a = not available
Source: Transportation & Marketing Program/AMS/USDA

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]
8/21/2019[p]	690	1,111	4,318	385	6,504	8/17/2019	2,827
8/14/2019[r]	686	591	4,352	321	5,950	8/10/2019	2,597
2019 YTD[r]	32,379	38,904	171,442	12,536	255,261	2019 YTD	80,184
2018 YTD[r]	13,522	35,662	222,388	13,745	285,317	2018 YTD	77,681
2019 YTD as % of 2018 YTD	239	109	77	91	89	% change YTD	103
Last 4 weeks as % of 2018[2]	138	149	78	212	93	Last 4wks % 2018	108
Last 4 weeks as % of 4-year avg.[2]	132	84	91	199	96	Last 4wks % 4 yr	129
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.

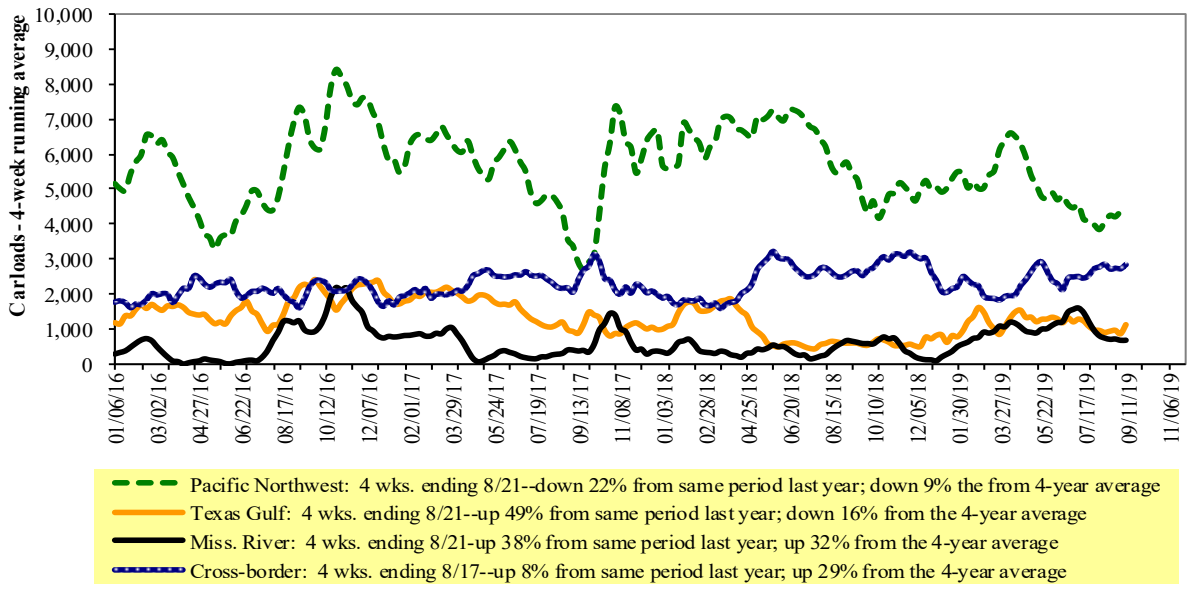
[3] Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads to reflect switching between KCSM and Grupo Mexico.

YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

Source: Transportation & Marketing Program/AMS/USDA

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: Transportation & Marketing Program/AMS/USDA

Table 4

Class I Rail Carrier Grain Car Bulletin (grain carloads originated)

For the week ending:	East		West			U.S. total	Canada	
8/17/2019	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,168	2,664	10,373	1,103	4,532	19,840	2,674	4,284
This week last year	1,897	2,839	12,547	750	5,265	23,298	3,628	4,599
2019 YTD	61,041	94,408	365,290	36,871	170,300	727,910	138,035	145,005
2018 YTD	64,428	85,302	412,093	31,718	172,798	766,339	124,375	153,117
2019 YTD as % of 2018 YTD	95	111	89	116	99	95	111	95
Last 4 weeks as % of 2018*	76	97	89	121	94	91	79	97
Last 4 weeks as % of 3-yr avg.**	96	103	93	126	90	95	80	99
Total 2018	98,978	133,161	635,458	48,638	267,713	1,183,948	211,806	244,697

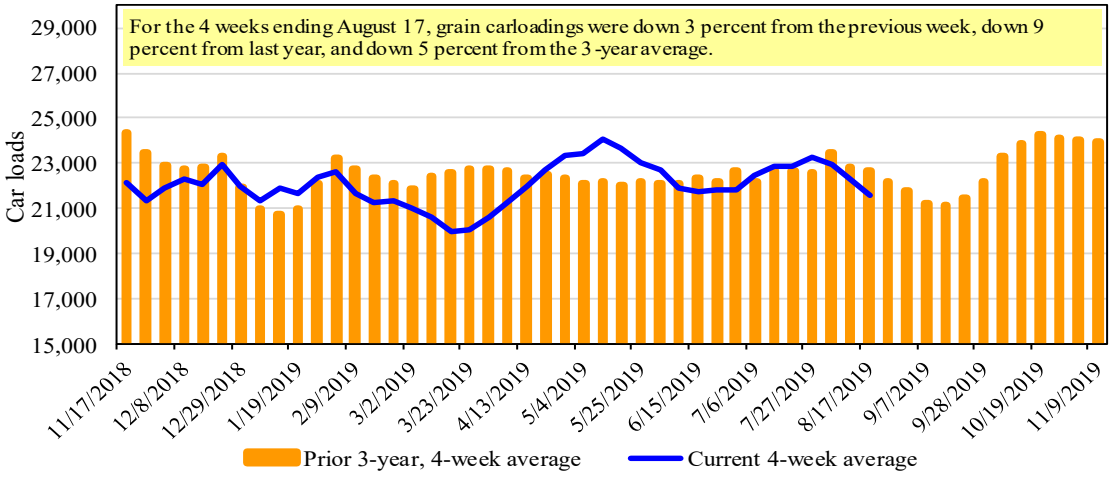
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

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

Source: Association of American Railroads (www.aar.org)

Figure 3

Total Weekly U.S. Class I Railroad Grain Car Loadings



Source: Association of American Railroads

Table 5

Railcar Auction Offerings[1] ($/car)[2]

For the week ending:		Delivery period							
8/22/2019		Sep-19	Sep-18	Oct-19	Oct-18	Nov-19	Nov-18	Dec-19	Dec-18
BNSF[3]	COT grain units	no bid	5	no bid	0	no bid	0	no bid	0
	COT grain single-car[5]	0	102	27	116	28	106	32	111
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	no bid	no offer	no bid	no offer	no offer	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

[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.

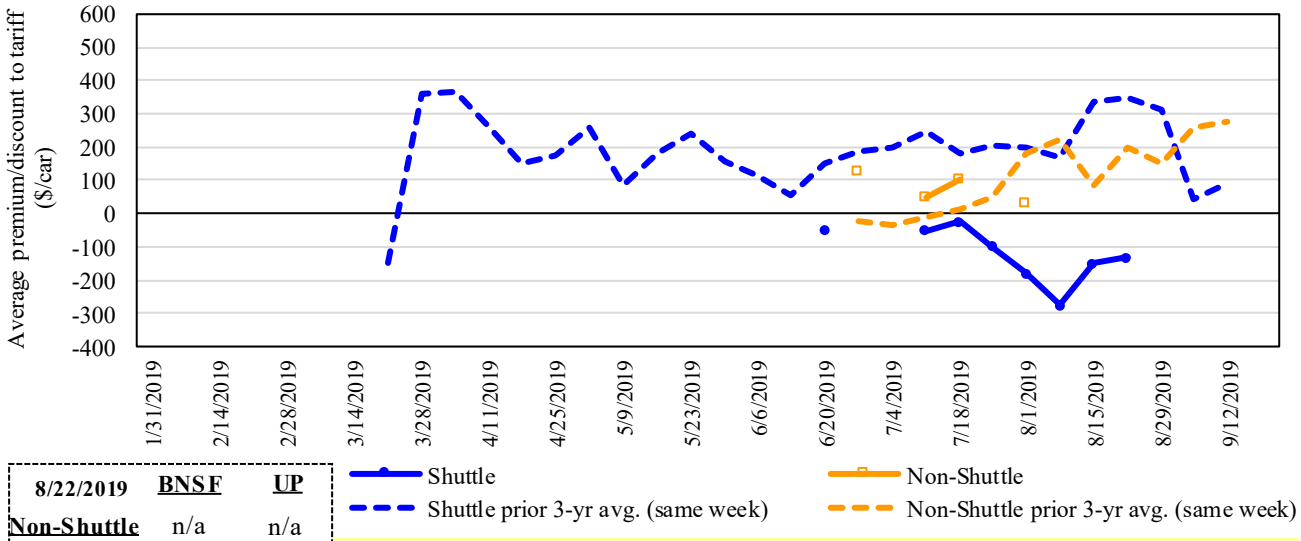
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

[5]Range is shown because average is not available. Not available = n/a.

Source: Transportation & Marketing Program/AMS/USDA.

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 September 2019, Secondary Market

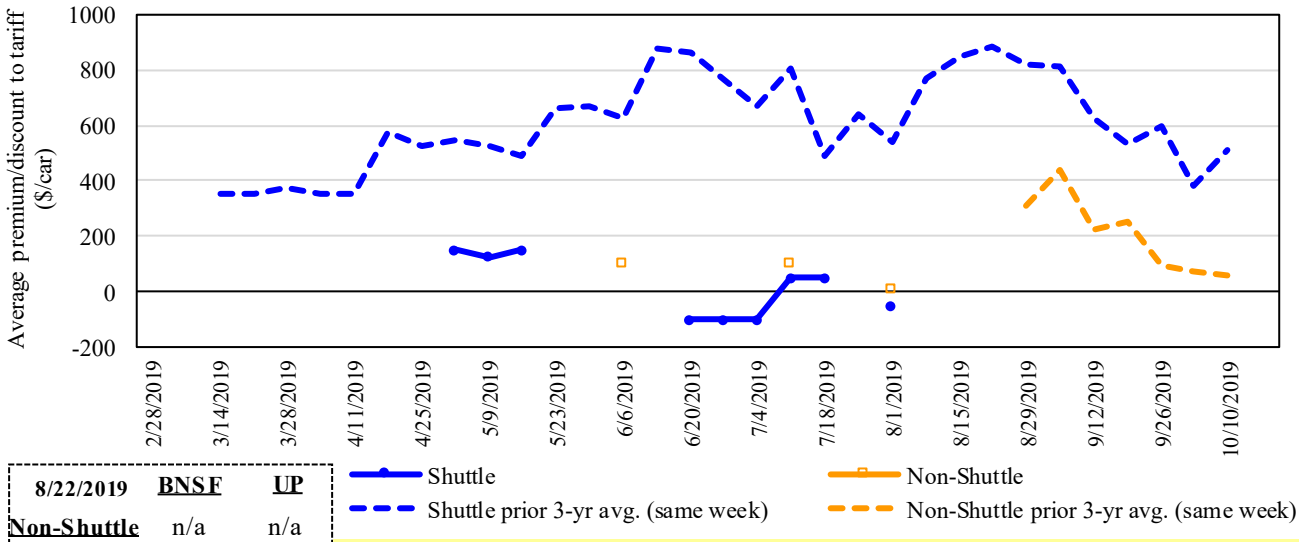


8/22/2019	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	-$150	-$113

There were no Non-Shuttle bids/offers this week.
Average Shuttle bids/offers rose $19 this week and are $106 below the peak.

Non-shuttle bids include unit-train and single-car bids. n/a = not available.
Source: Transportation & Marketing Program/AMS/USDA

Figure 5
Bids/Offers for Railcars to be Delivered in October 2019, Secondary Market



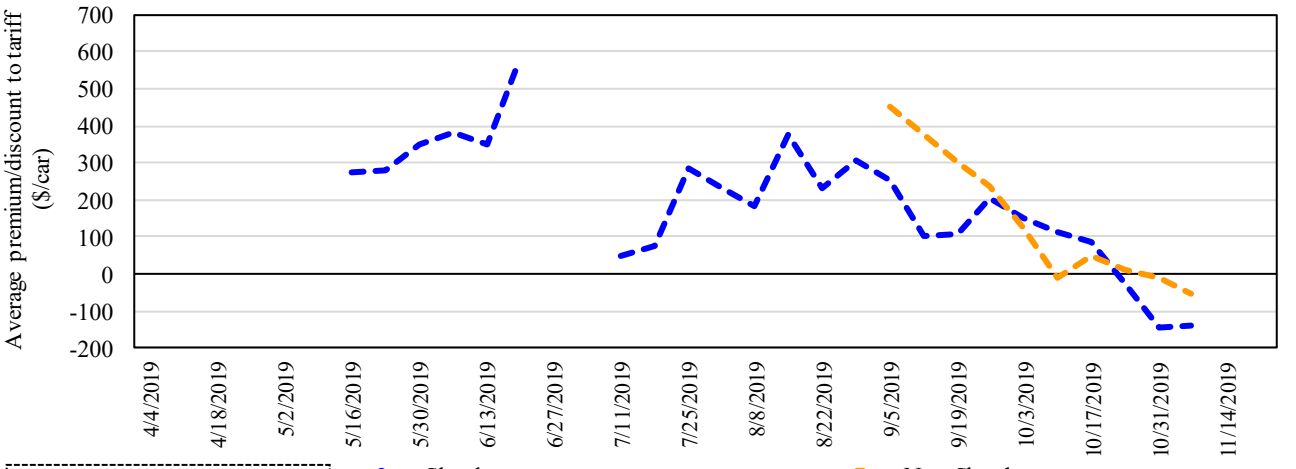
8/22/2019	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	n/a	n/a

There were no Non-Shuttle bids/offers this week.
There were no Shuttle bids/offers this week.

Non-shuttle bids include unit-train and single-car bids. n/a = not available.
Source: Transportation & Marketing Program/AMS/USDA

Figure 6

Bids/Offers for Railcars to be Delivered in November 2019, Secondary Market



8/22/2019	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.

Non-shuttle bids include unit-train and single-car bids. n/a = not available.
Source: Transportation & Marketing Program/AMS/USDA

Table 6

Weekly Secondary Railcar Market ($/car)[1]

	For the week ending: 8/22/2019	Delivery period					
		Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-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**	**(150)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	0	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	**(113)**	**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	(50)	n/a	n/a	n/a	n/a	n/a

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

Note: Bids listed are market INDICATORS only & are NOT guaranteed prices,

n/a = not available; GF = guaranteed freight; Pool = guaranteed pool

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

Source: Transportation and Marketing Program/AMS/USDA

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]

August, 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	0
	Grand Forks, ND	Duluth-Superior, MN	$4,333	$0	$43.03	$1.17	2
	Wichita, KS	Los Angeles, CA	$7,240	$0	$71.90	$1.96	1
	Wichita, KS	New Orleans, LA	$4,525	$178	$46.70	$1.27	-1
	Sioux Falls, SD	Galveston-Houston, TX	$6,976	$0	$69.28	$1.89	1
	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	$3,800	$201	$39.73	$1.01	-4
	Toledo, OH	Raleigh, NC	$6,581	$0	$65.35	$1.66	4
	Des Moines, IA	Davenport, IA	$2,114	$43	$21.42	$0.54	-7
	Indianapolis, IN	Atlanta, GA	$5,646	$0	$56.07	$1.42	4
	Indianapolis, IN	Knoxville, TN	$4,704	$0	$46.71	$1.19	4
	Des Moines, IA	Little Rock, AR	$3,660	$125	$37.59	$0.95	1
	Des Moines, IA	Los Angeles, CA	$5,520	$365	$58.44	$1.48	2
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$201	$38.05	$1.04	-12
	Toledo, OH	Huntsville, AL	$5,459	$0	$54.21	$1.48	3
	Indianapolis, IN	Raleigh, NC	$6,698	$0	$66.51	$1.81	4
	Indianapolis, IN	Huntsville, AL	$4,937	$0	$49.03	$1.33	4
	Champaign-Urbana, IL	New Orleans, LA	$4,545	$201	$47.13	$1.28	-5
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	$5,896	$0	$58.55	$1.59	4
	Grand Forks, ND	Portland, OR	$5,736	$0	$56.96	$1.55	0
	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	1
Corn	Minneapolis, MN	Portland, OR	$5,180	$0	$51.44	$1.31	4
	Sioux Falls, SD	Tacoma, WA	$5,140	$0	$51.04	$1.30	4
	Champaign-Urbana, IL	New Orleans, LA	$3,720	$201	$38.94	$0.99	-1
	Lincoln, NE	Galveston-Houston, TX	$3,880	$0	$38.53	$0.98	5
	Des Moines, IA	Amarillo, TX	$4,060	$157	$41.88	$1.06	1
	Minneapolis, MN	Tacoma, WA	$5,180	$0	$51.44	$1.31	4
	Council Bluffs, IA	Stockton, CA	$5,000	$0	$49.65	$1.26	4
Soybeans	Sioux Falls, SD	Tacoma, WA	$5,750	$0	$57.10	$1.55	3
	Minneapolis, MN	Portland, OR	$5,800	$0	$57.60	$1.57	3
	Fargo, ND	Tacoma, WA	$5,650	$0	$56.11	$1.53	3
	Council Bluffs, IA	New Orleans, LA	$4,775	$232	$49.72	$1.35	-1
	Toledo, OH	Huntsville, AL	$4,634	$0	$46.02	$1.25	6
	Grand Island, NE	Portland, OR	$5,710	$327	$59.95	$1.63	-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 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 calculated using tariff rate plus fuel surcharge

Sources: www.bnsf.com, www.cn.ca, www.csx.com, www.up.com

Table 8

Tariff Rail Rates for U.S. Bulk Grain Shipments to Mexico

Date: August, 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	$596	$83.07	$2.26	5
	TX	Salinas Victoria, NL	$4,329	$85	$45.10	$1.23	0
Corn	IA	Guadalajara, JA	$8,828	$508	$95.39	$2.42	8
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	6
	NE	Queretaro, QA	$8,207	$291	$86.83	$2.20	2
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	2
	MO	Tlalnepantla, EM	$7,573	$284	$80.28	$2.04	2
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	5
Soybeans	MO	Bojay (Tula), HG	$8,497	$480	$91.72	$2.49	6
	NE	Guadalajara, JA	$9,122	$503	$98.34	$2.67	7
	IA	El Castillo, JA	$9,390	$0	$95.94	$2.61	5
	KS	Torreon, CU	$7,914	$349	$84.43	$2.30	7
Sorghum	NE	Celaya, GJ	$7,787	$452	$84.19	$2.14	8
	KS	Queretaro, QA	$8,000	$174	$83.52	$2.12	2
	NE	Salinas Victoria, NL	$6,633	$140	$69.20	$1.76	2
	NE	Torreon, CU	$7,172	$323	$76.58	$1.94	6

[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

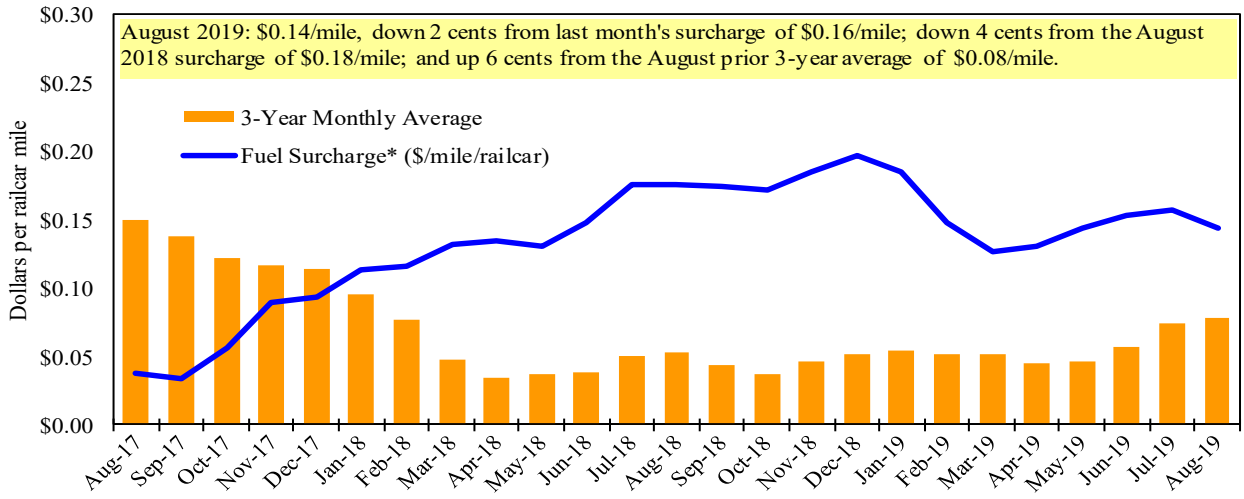
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu

[4]Percentage change calculated using tariff rate plus fuel surchage

Sources: www.bnsf.com, www.uprr.com, www.kcsouthern.com

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.

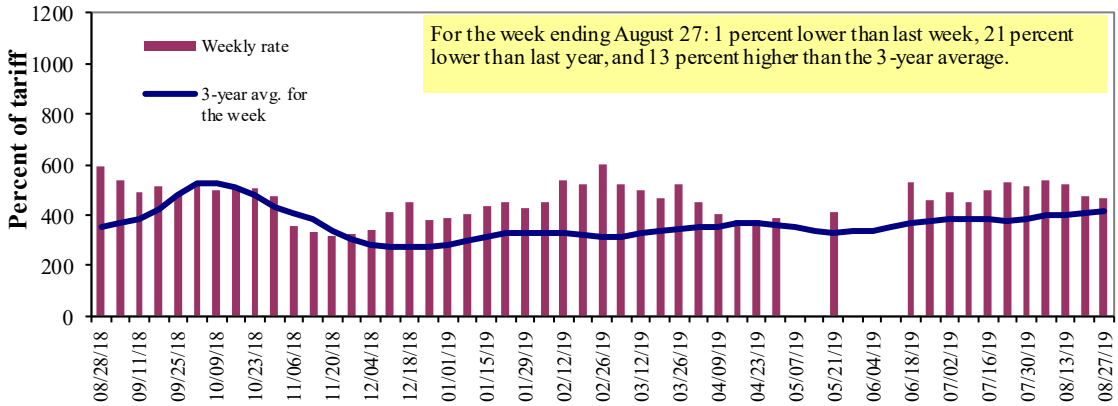
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

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

Sources: www.bnsf.com, www.cn.ca, www.cpr.ca, www.csx.com, www.kcsi.com, www.nscorp.com, www.uprr.com

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: Transportation & Marketing Program/AMS/USDA

Table 9
Weekly Barge Freight Rates: Southbound Only

		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	8/27/2019	445	465	468	387	350	350	375
	8/20/2019	489	480	471	374	356	356	373
$/ton	8/27/2019	27.55	24.74	21.72	15.44	16.42	14.14	11.78
	8/20/2019	30.27	25.54	21.85	14.92	16.70	14.38	11.71
Current week % change from the same week:								
	Last year	-25	-23	-21	-14	-39	-39	-16
	3-year avg. [2]	-8	10	13	33	0	0	38
Rate[1]	September	433	437	433	378	380	380	385
	November	-	400	387	312	347	347	292

[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; "-" n/a due to closure
* - Current weekly rate is a nominal value, reflecting the anticipation of improved navigation conditions
Source: Transportation & Marketing Programs/AMS/USDA

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.

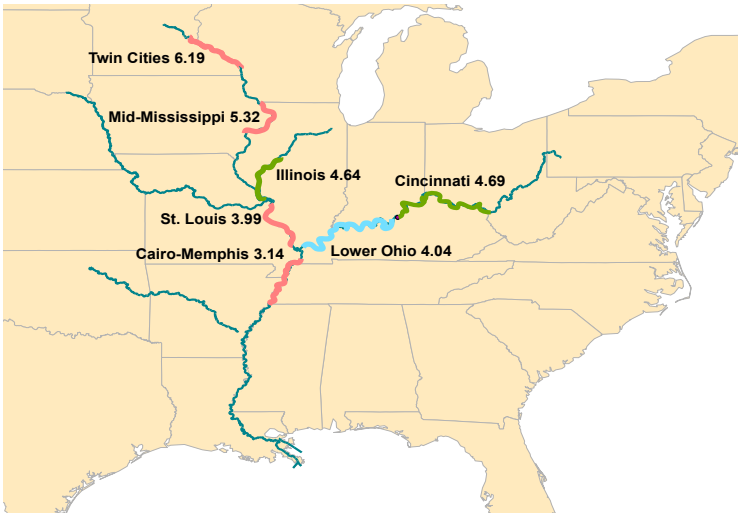
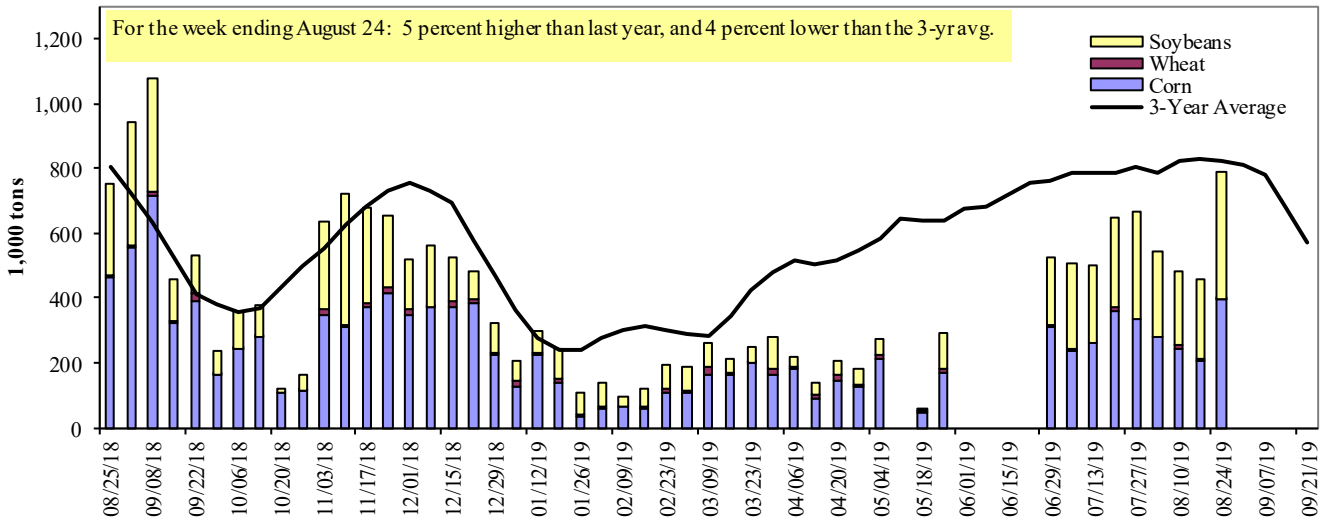


Figure 10

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 08/24/2019	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	126	2	210	0	337
Winfield, MO (L25)	277	2	296	0	574
Alton, IL (L26)	348	2	397	0	747
Granite City, IL (L27)	396	2	395	0	793
Illinois River (LAGRANGE)	60	0	91	0	151
Ohio River (OLMSTED)	7	16	30	13	65
Arkansas River (L1)	0	10	22	0	32
Weekly total - 2019	403	27	448	13	890
Weekly total - 2018	516	40	318	4	877
2019 YTD[1]	8,514	1,169	7,397	119	17,198
2018 YTD[1]	15,911	1,219	7,973	86	25,189
2019 as % of 2018 YTD	54	96	93	138	68
Last 4 weeks as % of 2018[2]	59	60	117	211	80
Total 2018	23,349	1,674	12,819	133	37,975

[1] Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/OLMSTED, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

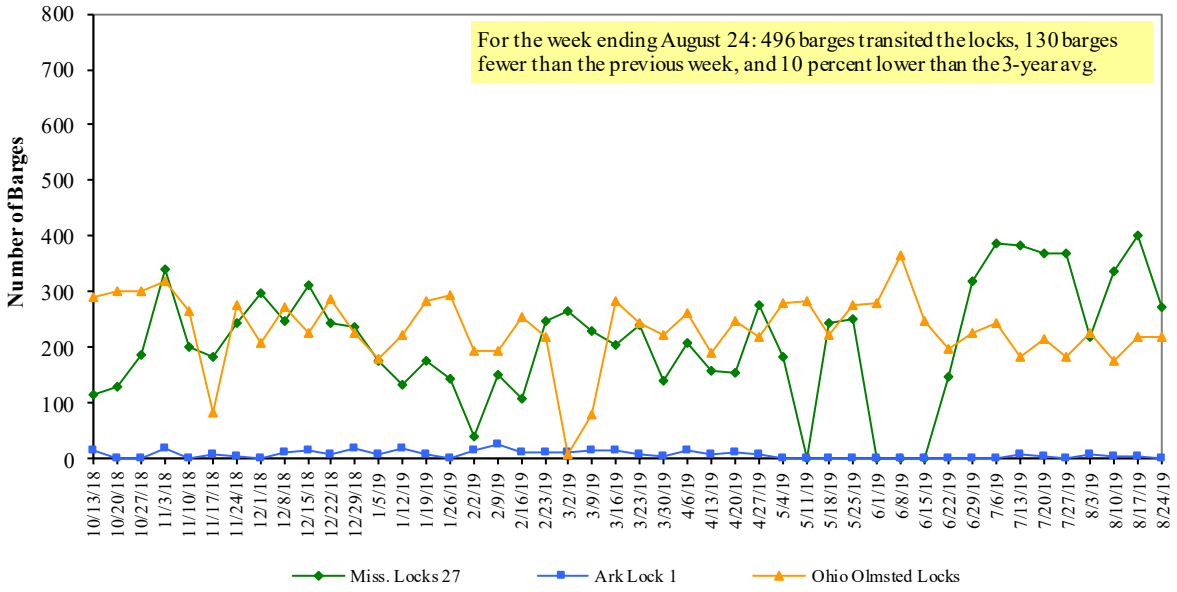
[2] As a percent of same period in 2018.

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

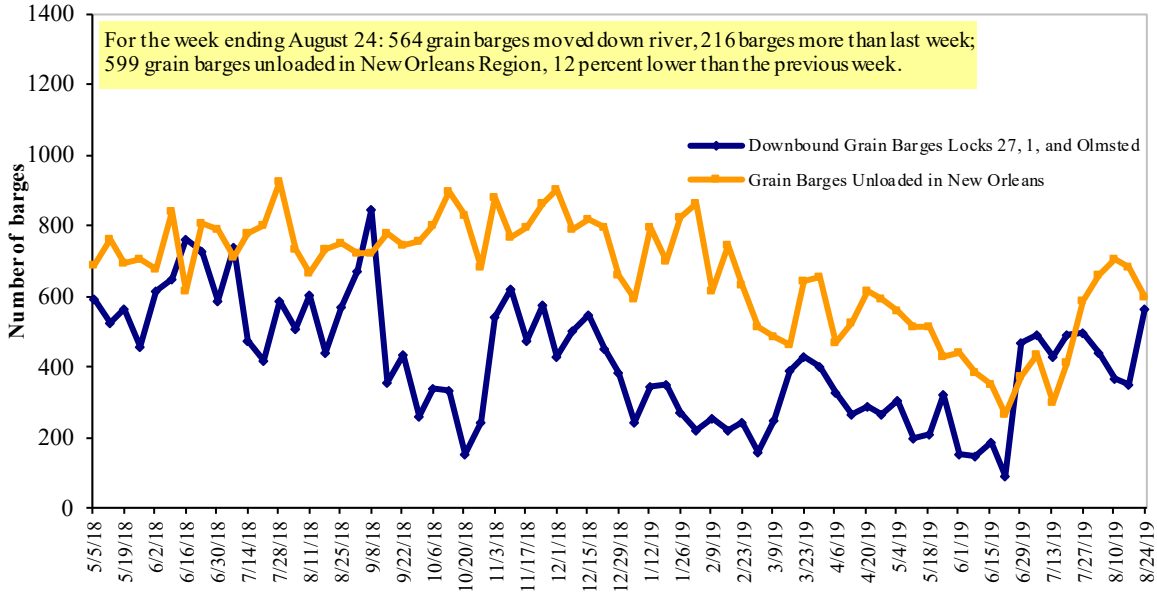
Upbound Empty Barges Transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 AMS FGIS

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 8/26/2019 (US $/gallon)

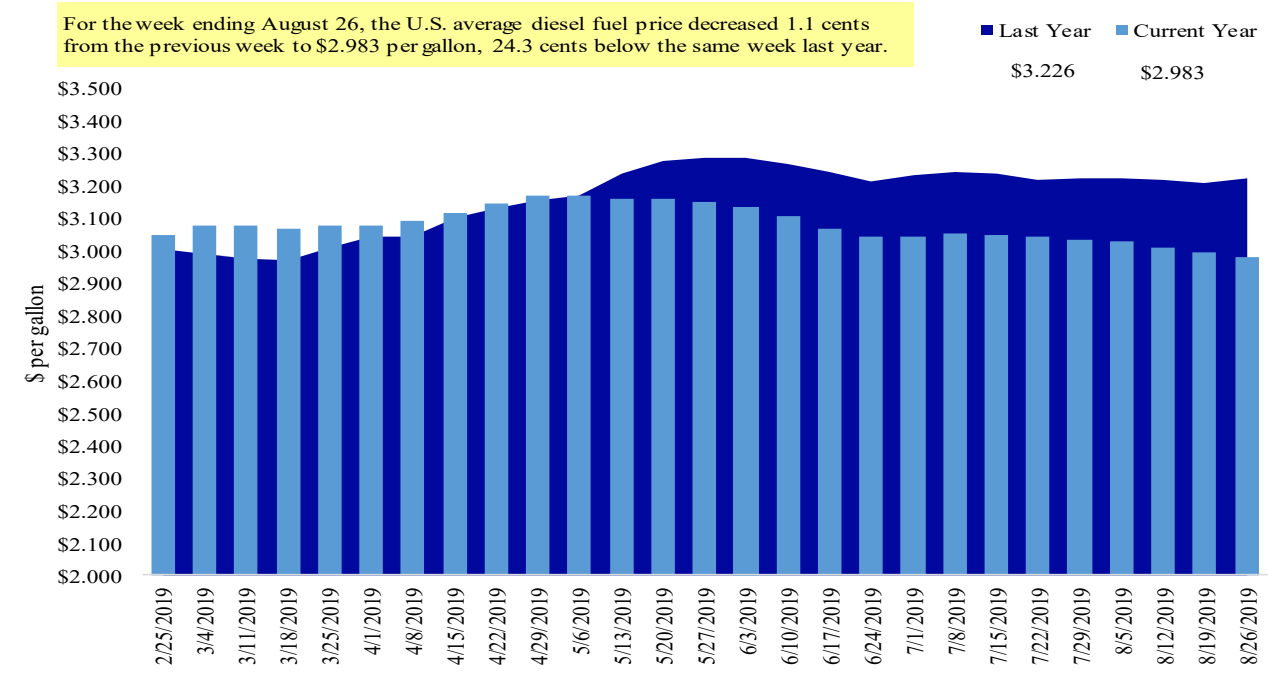
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.003	-0.016	-0.216
	New England	3.031	-0.017	-0.236
	Central Atlantic	3.186	-0.013	-0.199
	Lower Atlantic	2.874	-0.018	-0.220
II	Midwest	2.890	-0.010	-0.263
III	Gulf Coast	2.744	-0.007	-0.260
IV	Rocky Mountain	2.936	-0.003	-0.428
V	West Coast	3.556	-0.008	-0.163
	West Coast less California	3.139	-0.019	-0.294
	California	3.887	0.000	-0.058
Total	U.S.	2.983	-0.011	-0.243

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

Source: Energy Information Administration/U.S. Department of Energy (www.eia.doe.gov)

Figure 13

Weekly Diesel Fuel Prices, U.S. Average



Source: Retail On-Highway Diesel Prices, Energy Information Administration, Dept. of Energy

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]									
8/15/2019	1,520	688	1,511	947	297	4,962	2,172	4,499	11,634
This week year ago	1,274	540	1,384	942	153	4,293	5,709	4,244	14,246
Cumulative exports-marketing year[2]									
2018/19 YTD	2,516	624	1,294	878	148	5,459	47,931	44,119	97,509
2017/18 YTD	1,188	544	1,233	1,259	39	4,264	54,657	54,518	113,439
YTD 2018/19 as % of 2017/18	212	115	105	70	376	128	88	81	86
Last 4 wks as % of same period 2017/18	118	140	109	105	206	118	52	146	100
2017/18 Total	9,150	2,343	5,689	4,854	384	22,419	57,209	56,214	135,842
2016/17 Total	11,096	2,285	7,923	4,254	484	26,042	41,864	51,156	119,062

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

[2] Shipped export sales to date; new marketing year now in effect for wheat

Note: YTD = year-to-date. Marketing Year: wheat = 6/01-5/31, corn & soybeans = 9/01-8/31

Source: Foreign Agricultural Service/USDA (www.fas.usda.gov)

Table 13

Top 5 Importers[1] of U.S. Corn

For the week ending 8/15/2019	Total Commitments[2]			% change current MY from last MY	Exports[3] 3-year avg 2015-2017
	2019/20 Next MY	2018/19 Current MY	2017/18 Last MY		
		- 1,000 mt -			
Mexico	2,418	15,694	15,323	2	13,691
Japan	589	12,869	11,826	9	11,247
Korea	65	3,695	5,913	(38)	4,754
Colombia	23	4,682	4,876	(4)	4,678
Peru	0	1,992	3,242	(39)	2,975
Top 5 Importers	**3,095**	**38,932**	**41,180**	**(5)**	**37,344**
Total US corn export sales	**4,682**	**50,103**	**60,366**	**(17)**	**53,184**
% of Projected	9%	94%	97%		
Change from prior week[2]	**302**	**119**	**173**		
Top 5 importers' share of U.S. corn export sales	66%	78%	68%		70%
USDA forecast, August 2019	**54,707**	**53,435**	**62,036**	**(14)**	
Corn Use for Ethanol USDA forecast, August 2019	**139,065**	**137,795**	**142,367**	**(3)**	

(n) indicates negative number.

[1]Based on FAS Marketing Year Ranking Reports for 2017/18 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. 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 - http://apps.fas.usda.gov/export-sales/myrkaug.htm; 3-yr average

Table 14

Top 5 Importers[1] of U.S. Soybeans

For the week ending 8/15/2019	Total Commitments[2]			% change current MY from last MY	Exports[3] 3-yr avg. 2015-2017
	2019/20 Next MY	2018/19 Current MY	2017/18 Last MY		
		- 1,000 mt -			- 1,000 mt -
China	260	14,073	27,922	(50)	31,228
Mexico	930	4,964	4,521	10	3,716
Indonesia	47	2,421	2,747	(12)	2,250
Japan	207	2,604	2,353	11	2,145
Netherlands	0	2,111	2,465	(14)	2,209
Top 5 importers	**1,444**	**26,172**	**40,008**	**(35)**	**41,549**
Total US soybean export sales	**5,261**	**48,618**	**58,762**	**(17)**	**55,113**
% of Projected	11%	105%	101%		
Change from prior week[2]	**793**	**26**	**153**		
Top 5 importers' share of U.S. soybean export sales	27%	54%	68%		**75%**
USDA forecast, August 2019	**48,365**	**46,322**	**58,147**	**80**	

(n) indicates negative number.

[1] Based on FAS Marketing Year Ranking Reports for 2017/18 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.

[2] Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. 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 Final Reports - www.fas.usda.gov/export-sales/myfi_rpt.htm. (Carryover plus Accumulated Exports)

Table 15

Top 10 Importers[1] of All U.S. Wheat

For the week ending 8/15/2019	Total Commitments[2]		% change current MY from last MY	Exports[3] 3-yr avg 2015-2017
	2019/20 Current MY	2018/19 Last MY		
	- 1,000 mt -			- 1,000 mt -
Mexico	1,475	993	49	2,781
Japan	1,007	1,040	(3)	2,649
Philippines	1,252	1,301	(4)	2,441
Korea	525	673	(22)	1,257
Nigeria	644	416	55	1,254
Indonesia	304	220	38	1,076
Taiwan	503	388	30	1,066
China	60	0	n/a	944
Colombia	90	284	(68)	714
Thailand	371	404	(8)	618
Top 10 importers	**6,230**	**5,718**	9	**14,800**
Total US wheat export sales	**10,422**	**8,557**	**22**	**22,869**
% of Projected	39%	34%		
Change from prior week[2]	**595**	**240**		
Top 10 importers' share of U.S. wheat export sales	60%	67%		65%
USDA forecast, August 2019	**26,567**	**25,504**	**4**	

(n) indicates negative number.

[1] Based on FAS Marketing Year Ranking Reports for 2017/18 - www.fas.usda.gov; Marketing year = Jun 1 - May 31.

[2] Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. 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 - www.fas.usda.gov/export-sales/myfi_rpt.htm.

Table 16

Grain Inspections for Export by U.S. Port Region (1,000 metric tons)

Port Regions	For the Week Ending 08/22/19	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	310	324	95	8,910	8,474	105	92	95	13,315
Corn	0	0	n/a	6,858	14,767	46	8	9	20,024
Soybeans	352	271	130	6,771	5,938	114	348	257	7,719
Total	**662**	**596**	**111**	**22,540**	**29,179**	**77**	**78**	**79**	**41,058**
Mississippi Gulf									
Wheat	61	106	58	3,308	2,706	122	140	140	3,896
Corn	460	360	128	15,573	23,272	67	64	74	33,735
Soybeans	526	799	66	16,114	15,463	104	126	113	28,124
Total	**1,047**	**1,264**	**83**	**34,995**	**41,442**	**84**	**94**	**96**	**65,755**
Texas Gulf									
Wheat	55	56	99	4,681	2,106	222	487	64	3,198
Corn	32	17	192	490	535	92	109	54	730
Soybeans	0	0	n/a	2	69	2	0	0	69
Total	**87**	**73**	**120**	**5,173**	**2,709**	**191**	**261**	**62**	**3,997**
Interior									
Wheat	39	38	104	1,257	994	126	161	151	1,614
Corn	133	125	106	4,986	5,714	87	82	89	8,650
Soybeans	127	145	88	4,464	4,465	100	103	136	6,729
Total	**300**	**308**	**97**	**10,706**	**11,172**	**96**	**98**	**113**	**16,993**
Great Lakes									
Wheat	52	70	74	660	411	161	224	149	894
Corn	0	0	n/a	0	324	0	0	0	404
Soybeans	0	0	n/a	398	445	89	35	55	1,192
Total	**52**	**70**	**74**	**1,058**	**1,180**	**90**	**83**	**76**	**2,491**
Atlantic									
Wheat	2	0	n/a	34	67	50	259	40	69
Corn	3	0	n/a	94	67	140	n/a	24	138
Soybeans	7	4	150	865	1,381	63	76	131	2,047
Total	**11**	**4**	**248**	**993**	**1,516**	**66**	**80**	**111**	**2,253**
U.S. total from ports*									
Wheat	519	594	87	18,850	14,758	128	121	101	22,986
Corn	628	501	125	28,001	44,679	63	51	56	63,682
Soybeans	1,012	1,219	83	28,613	27,761	103	135	131	45,879
Total	**2,159**	**2,315**	**93**	**75,464**	**87,198**	**87**	**91**	**91**	**132,547**

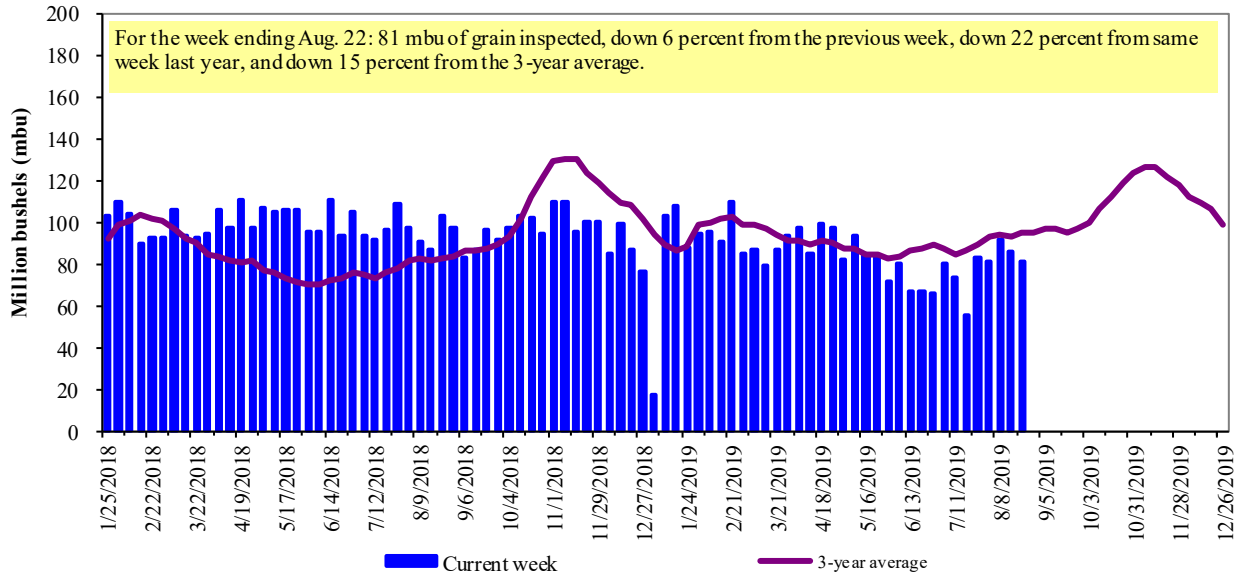
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: USDA/Federal Grain Inspection Service (www.gipsa.usda.gov/fgis); YTD= year-to-date; n/a = not applicable

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

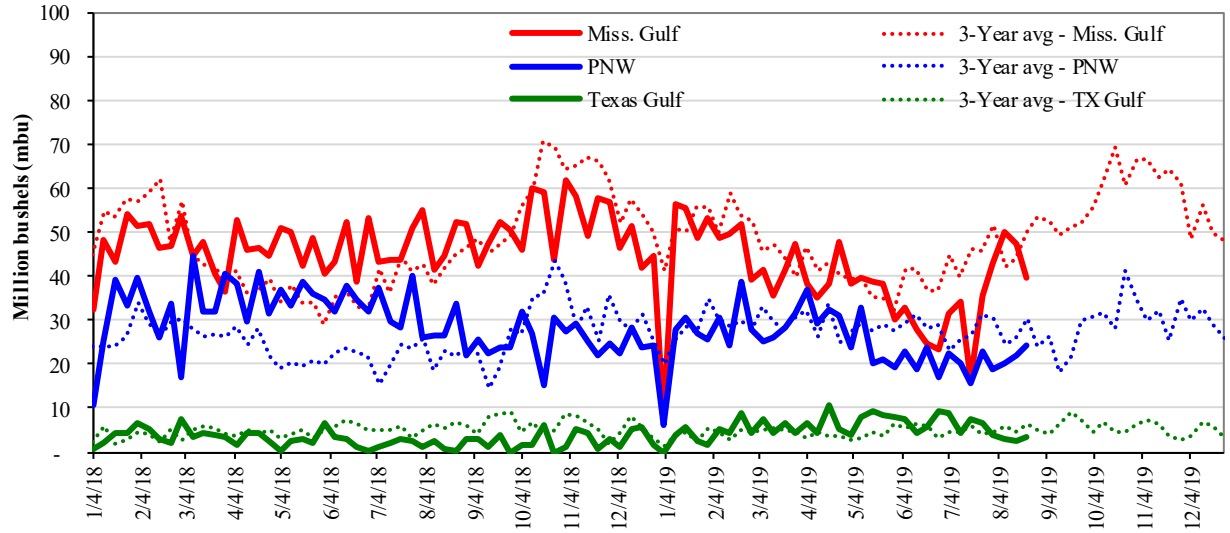
U.S. grain inspected for export (wheat, corn, and soybeans)



Source: USDA/Federal Grain Inspection Service (www.gipsa.usda.gov/fgis)
Note: 3-year average consists of 4-week running average

Figure 15

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



Week ending 08/22/19 inspections (mbu):	
Mississippi Gulf:	39.7
PNW:	24.3
Texas Gulf:	3.3

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last Week:	down 16	up 21	down 14	up 11
Last Year (same week):	down 24	up 804	down 18	down 28
3-yr avg. (4-wk. mov. Avg):	down 16	down 39	down 18	down 12

Source: USDA/Federal Grain Inspection Service (www.gipsa.usda.gov/fgis)

Table 17

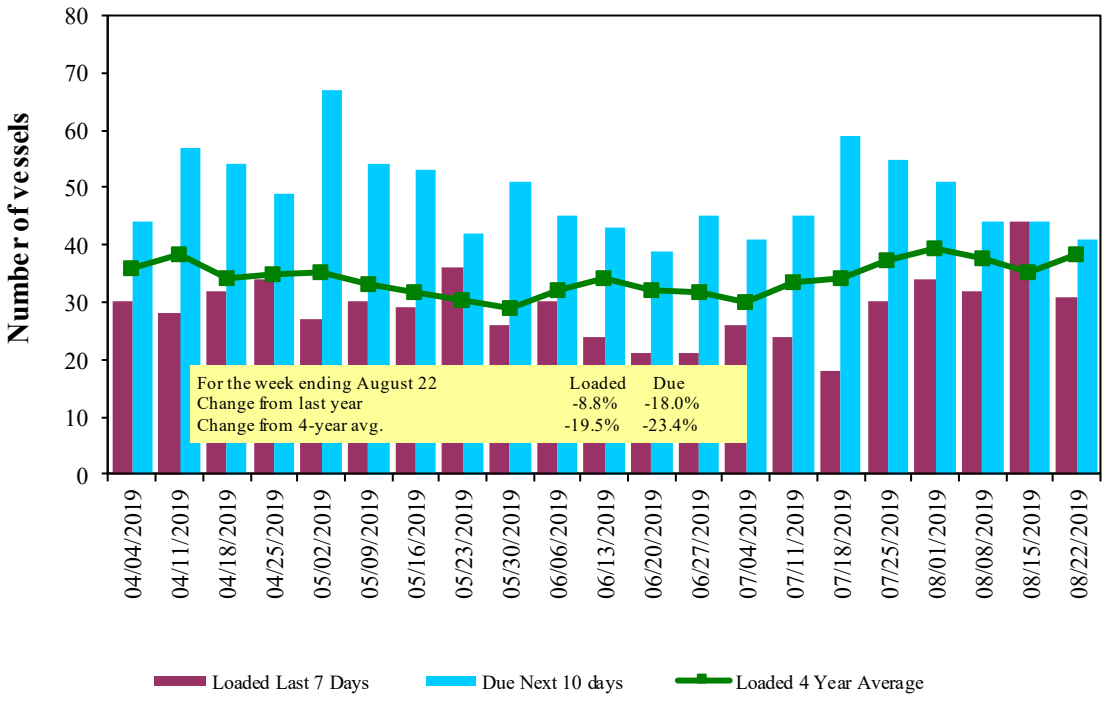
Weekly Port Region Grain Ocean Vessel Activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
8/22/2019	52	31	41	15
8/15/2019	41	44	44	15
2018 range	(23..88)	(24..41)	(38..67)	(4..30)
2018 avg.	40	34	54	17

Source: Transportation & Marketing Programs/AMS/USDA

Figure 16

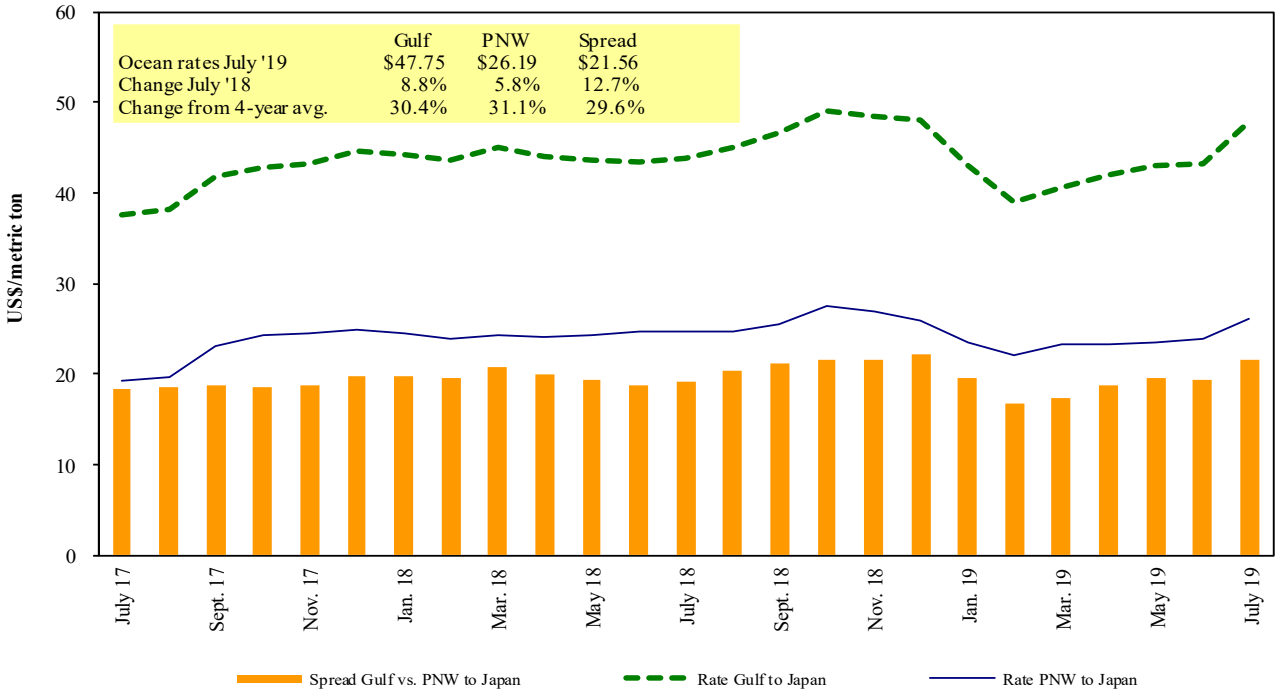
U.S. Gulf Vessel Loading Activity



Source: Transportation & Marketing Program/AMS/USDA
[1]U.S. Gulf includes Mississippi, Texas, and East Gulf.

Figure 17

Grain Vessel Rates, U.S. to Japan



Data Source: O'Neil Commodity Consulting

Table 18

Ocean Freight Rates For Selected Shipments, Week Ending 08/24/2019

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	China	Heavy Grain	Jun 1/30	63,000	42.00
U.S. Gulf	Pt Sudan	Sorghum	Sep 20/30	24,960	58.15*
U.S. Gulf	Djibouti	Wheat	Aug 19/29	20,000	85.66*
U.S. Gulf	Somaliland	Sorghum	Sep 20/30	32,240	61.75*
PNW	Yemen	Wheat	Aug 19/29	29,200	71.75*
Brazil	China	Heavy Grain	Jun 10/20	65,000	33.00
Brazil	China	Heavy Grain	Apr 20/May 5	63,000	33.00

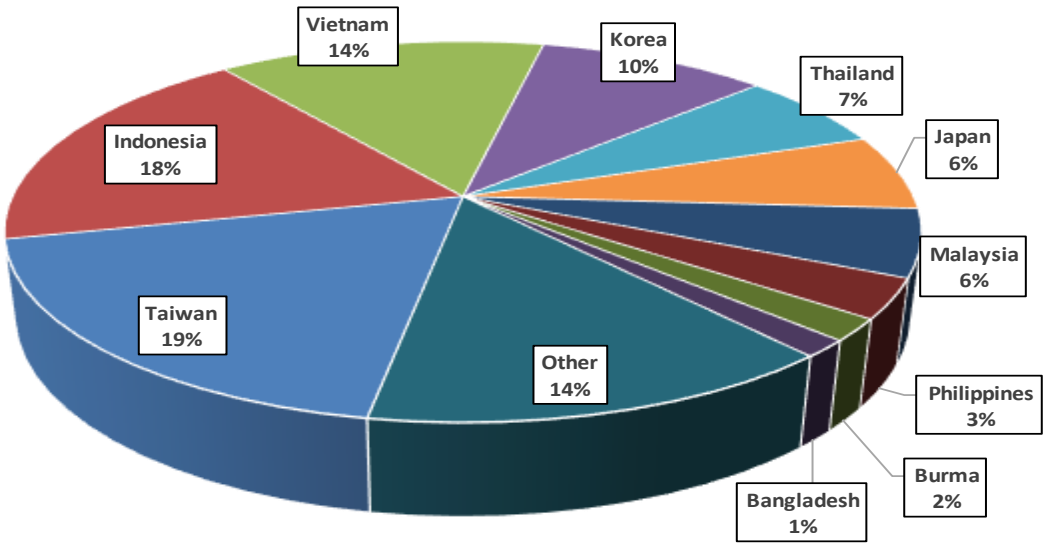
Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), F.O.B., except where otherwise indicated; op = option

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

Source: Maritime Research Inc. (www.maritime-research.com)

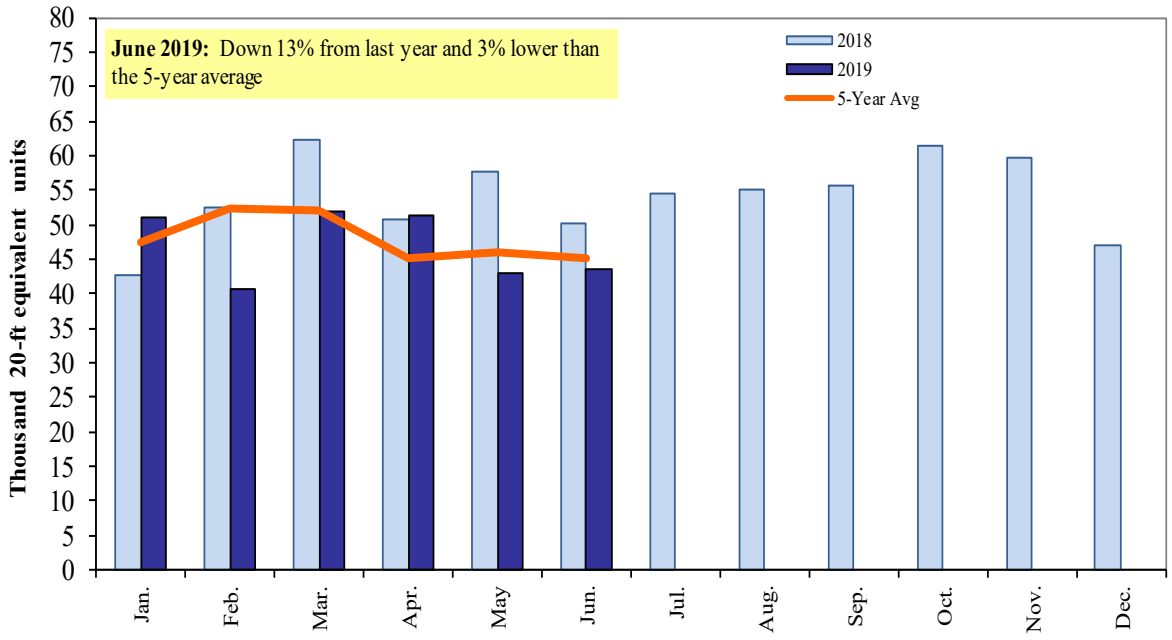
In 2018, containers were used to transport 8 percent of total U.S. waterborne grain exports. Approximately 55 percent of U.S. waterborne grain exports in 2018 went to Asia, of which 13 percent were moved in containers. Approximately 94 percent of U.S. waterborne containerized grain exports were destined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

Figure 18
Top 10 Destination Markets for U.S. Containerized Grain Exports, Jan-Jun 2019



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

Figure 19
Monthly Shipments of Containerized Grain to Asia



Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data.

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.

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Preferred citation: U.S. Dept. of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* August 29, 2019. Web: **http://dx.doi.org/10.9752/TS056.08-29-2019**