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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July 11, 2019

Contents

The next release is July 18, 2019

WEEKLY HIGHLIGHTS

Grain Inspections Rebound As Demand for Corn Increases

For the week ending July 4, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.1 million metric tons (mmt). This amount is up 18 percent from the previous week, down 16 percent from last year, and is 10 percent below the 3-year average. Inspections increased mainly due to a 147 percent jump in corn inspections, which were destined primarily to Asia and Latin America. Soybean inspections increased slightly from week to week, while inspections of wheat dropped 12 percent. Total inspections of grain increased (from the previous week) in the Pacific Northwest (PNW) and the Mississippi Gulf, by 26 percent and 33 percent, respectively.

Navigation Conditions Improve Throughout the Inland Waterways

As of July 11, the Mississippi River gauge at St. Louis was reported at 33.7 feet, a decline from higher levels in previous weeks. The National Weather Service forecasts river levels will continue to decline into mid-July. Mississippi River barge traffic at St. Louis was stopped from May 23 through June 23, when river levels exceeded 38 feet. River closures occur at certain gauges, set by the U.S. Coast Guard, U.S. Army Corps of Engineers, and River Industry representatives. Tow delays are reported at locks on the Upper Mississippi River, as traffic is slowly returning to normal operations. Navigation conditions have been improving on the Illinois, Ohio, and Arkansas Rivers. The number of grain barges being unloaded at Mississippi River export elevators amounted to 14,998 year to date, a 19 percent decrease from the 3-year average..

ERS Publishes Report on Soybean Trade

USDA's Economic Research Service recently released a study, *Interdependence of China, United States, and Brazil in Soybean Trade*, highlighting aspects of soybean production and trade among these countries. According to the report, "Soybeans are the largest and most concentrated segment of global agricultural trade. Two land-abundant countries—Brazil and the United States—supply most soybean exports, and China accounts for over 60 percent of global soybean imports." Among other objectives, the report reviews factors behind the geographic concentration of soybean trade; discusses China's growing demand for soybean meal and oil; reviews soybean production trends in the United States, Brazil, and China; compares production and transportation costs; and analyzes trends and fluctuations in export prices and prices paid by importers in China.

Snapshots by Sector

Export Sales

For the week ending June 27, **unshipped balances** of wheat, corn, and soybeans totaled 21.9 mmt. This indicates a 12 percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached .176 mmt, down 40 percent from the previous week. Net **soybean export sales** totaled .868 mmt, up significantly from the past week. Net weekly **wheat export sales** reached .276 mmt, down 55 percent from the from the previous week.

Rail

U.S. Class I railroads originated 20,955 **grain carloads** for the week ending June 29. This is an 8 percent decrease from the previous week, 11 percent lower than last year, and 10 percent below the 3-year average.

Average July shuttle **secondary railcar** bids/offers (per car) were $42 above tariff for the week ending July 4. This is $137 more than last week and $333 less than last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending July 6, **barge grain movements** totaled 779,876 tons. This is a 5 percent increase from the previous week and 33 percent lower than the same period last year.

For the week ending July 6, 489 grain barges **moved down river**. This is 20 more barges than the previous week. There were 434 grain barges **unloaded in New Orleans**, 16 percent more than the previous week.

Ocean

For the week ending July 4, 26 **ocean-going grain vessels** were loaded in the Gulf. This is 8 percent more than the same period last year. Forty-one vessels are expected to be loaded within the next 10 days. This is 2 percent fewer than the same period last year.

As of July 4, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $44.50. This is 3 percent more than the previous week. The rate from the PNW to Japan was $24.25 per mt; 2 percent more than the previous week.

Fuel

For the week ending July 8, the U.S. average **diesel fuel price** increased 1.3 cents from the previous week, to $3.055 per gallon. This price is 18.8 cents less than the same week last year.

Preferred citation: U.S. Dept. of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* July 11, 2019.
Web: http://dx.doi.org/10.9752/TS056.07-11-2019

Feature Article/Calendar

A Look at Grain Stocks and Movements through June 2019

Grain stocks, especially for soybeans, have been high throughout the year. As of June 1, 2019, corn stocks were up 2 percent from the 3-year average, and soybean stocks were up 76 percent. Grain leaves storage throughout the year for various uses, which results in demand for transportation services from barge, rail, and truck carriers. The amount of grain used between December 2018 and March 2019 was lower than last year, but similar amounts were used between March and June 2019. Given lower levels of barge and rail transportation during that latter quarter, this suggests more grain moved by truck in March, April, and May this year versus 2018. This article describes grain stock and transportation movements from December through June and offers a look at USDA data related to the upcoming corn and soybean crops.

Grain Stocks, Usage, and Movements: December 2018 through May 2019

USDA's National Agricultural Statistics Service (NASS) provides data on the inventory of stored grain in storage (i.e. stocks) during four times of the year: March 1, June 1, September 1, and December 1. Since these dates match quarterly periods in the crop marketing year, the data can be analyzed period-to-period to better understand grain flows in and out of storage.

Following record soybean production and the third largest corn crop, the U.S. had record inventories of grain (barley, corn, grain sorghum, oats, soybeans, and wheat) on December 1, 2018.[1] Farmers and commercial facilities continued to hold record stores into March and June of 2019. NASS reported U.S. grain stocks were 13.3 billion bushels (bbu) as of March 1, 2019 and 8.3 bbu as of June 1, 2019. June grain stocks were up 6 percent from last year and were 12 percent higher than the 3-year average. Notably, June 1 soybean stocks were 76 percent higher than the 3-year average, compared to corn (up 2 percent) and wheat (down 1 percent).

Looking at the change in quarterly stocks—or "disappearance"—provides insight into grain usage and transportation demand, as grain is moved and used for food, feed, fuel, exports, and other purposes. Between December 1, 2018 and June 1, 2019, disappearance was 9.9 bbu, down 4 percent from last year and 1 percent lower than the 3-year average. Disappearance decreased 7 percent from last year between December 1 and March 1, but was relatively unchanged between March 1 and June 1.

Transportation data suggest that changes in grain shipments by truck may be behind the disappearance observations. On average, trucks move about 60 percent of the grain in the U.S., with barge and rail accounting for 40 percent.[2] However, data on truck volumes and flows is relatively limited. The combined barge and rail grain tonnage was down 1 percent in the second quarter (December, January, and February) compared to last year. They fell 14 percent in the third quarter (March, April, and May), mainly due to reduced barge shipments.[3]

Given grain disappearance and usage were about even with last year in the third quarter, this suggests grain freight by truck increased. Based on data limitations, identifying the factors behind the disappearance observations can only be partially determined. For example, combined exports of corn, soybeans, and wheat—which are largely supplied by barge and rail transportation—were down 8 percent December through May compared to last year, mostly due to reduced exports in the third quarter.[4] Accordingly, exports do not explain the sizeable disappearance levels during the third quarter. In addition, trucks supply most grain destined to ethanol facilities, but the amount of corn used to produce fuel over the six-month span was down 5 percent from last year. Trucks also help supply raw soybeans to crush facilities, which was unchanged in the third quarter compared to last year. Feed, another major use category for grain, could be driving these trends. Only second quarter numbers are currently available. According to preliminary estimates from USDA's Economic Research Service (ERS), corn for feed and residual use fell 20 percent, December to February this year,

[1] February 21, 2019 *Grain Transportation Report*.
[2] USDA-AMS, *Transportation of U.S. Grains: A Modal Share Analysis*, April 2019.
[3] Note: Throughout the article, quarters are based on the corn and soybean marketing year. For example, the first quarter includes September, October, and November.
[4] Wheat exports were actually up 26 percent December through May but were offset by larger decreases in corn and soybean exports.

compared to last year. Given decreases in exports, corn used to produce ethanol, and crushed soybeans in the third quarter, the increased disappearance could be due to increased truck flows to domestic feed markets. A more complete picture should emerge with USDA's July *World Agricultural Supply and Demand Estimates* report (released July 11) and ERS' revised disappearance numbers (released July 12).

A Look at the Present: June 2019 through Early July

The June grain stocks report by NASS revealed significant stores of grain remain on farms. As of June 1, 2019, on-farm grain stocks were 19 percent above last year and 21 percent higher than the 3-year average. Corn, soybeans, and wheat were up 10, 121, and 19 percent, respectively. Large farm inventories mean a sizeable amount of grain has yet to enter marketing and transportation channels and represent a source of potential future demand for grain transportation. Partially due to reduced exports, states with relatively high soybean stocks saw the largest increases (from 2018) in their total June 1 grain stocks. With a 78 percent increase in soybean stocks in 2019, North Dakota experienced a 21 percent increase in its total June grain stocks, compared to the same time last year. Similarly, states such as South Dakota, Ohio, and Indiana saw significant increases in their total June grain stocks. High stocks mean transportation demand could materialize in and from these areas.

Despite the high stocks in the beginning of June, which means large supplies are potentially available to move, rail and barge transportation has been lower than expected so far. Specifically, rail and barge tonnages in June (through June 29) have decreased 7 and 65 percent less from last year, respectively. Both modes have been affected by flooding in recent months.[5] Similarly, exports have generally remained well below average in June (**GTR Figure 14**).

At the same time, U.S. farmers are harvesting wheat and other small grains, such as barley and oats. According to the latest NASS *Crop Progress* report, farmers are 47 percent complete with the winter wheat harvest as of July 9, 14 percentage points behind last year and the 5-year average. Winter wheat represents the largest class of wheat, at around a 63 percent share of all wheat production in 2018. In its June *Crop Production* report, NASS forecasts winter wheat production at 1.3 bbu, up 8 percent from 2018.

A Look Ahead

Farmers will continue to boost grain supplies, as they undertake and finish harvesting wheat and other small grains. Water levels on the Mississippi continue to recede, resulting in improved navigation conditions. Railroads have restored lines and improved service. Origin dwell times (which measure dwell at origin points for loaded shipments) for grain trains have improved for BNSF Railway and Union Pacific Railroad, since early June. However, in a July 11 bulletin, the National Oceanic and Atmospheric Administration issued hurricane watches for parts of southeastern Louisiana, as Tropical Storm Barry develops.

The annual NASS *Acreage* report, published June 28, provides a glimpse into possible upcoming spatial changes in the demand for grain transportation starting this fall. It includes the acreage expected to be planted and harvested in the 2019/20 marketing year. According to the report, corn and soybean acreage in most major grain-producing states is expected to fall. For instance, South Dakota's corn and soybean acreage is expected to fall 17 percent compared to last year. Also expected to fall are Missouri (down 8 percent), Ohio (down 7 percent), Minnesota (down 6 percent), and North Dakota (down 5 percent). Kansas, on the other hand, is predicted to see a 5 percent increase from last year in its corn and soybean acreage. Due to excessive rainfall affecting plantings in many states, NASS is collecting updated acreage information and will publish any revised estimates in its August *Crop Production* report.

PeterA.Caffarelli@usda.gov, *Jack.Novak@usda.gov*, *Jesse.Gastelle@usda.gov*

[5] June 27, 2019 *Grain Transportation Report*.

Grain Transportation Indicators

Table 1

Grain Transport Cost Indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit Train	Shuttle		Gulf	Pacific
07/10/19	205	n/a	222	252	199	172
07/03/19	204	288	217	271	192	168

[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

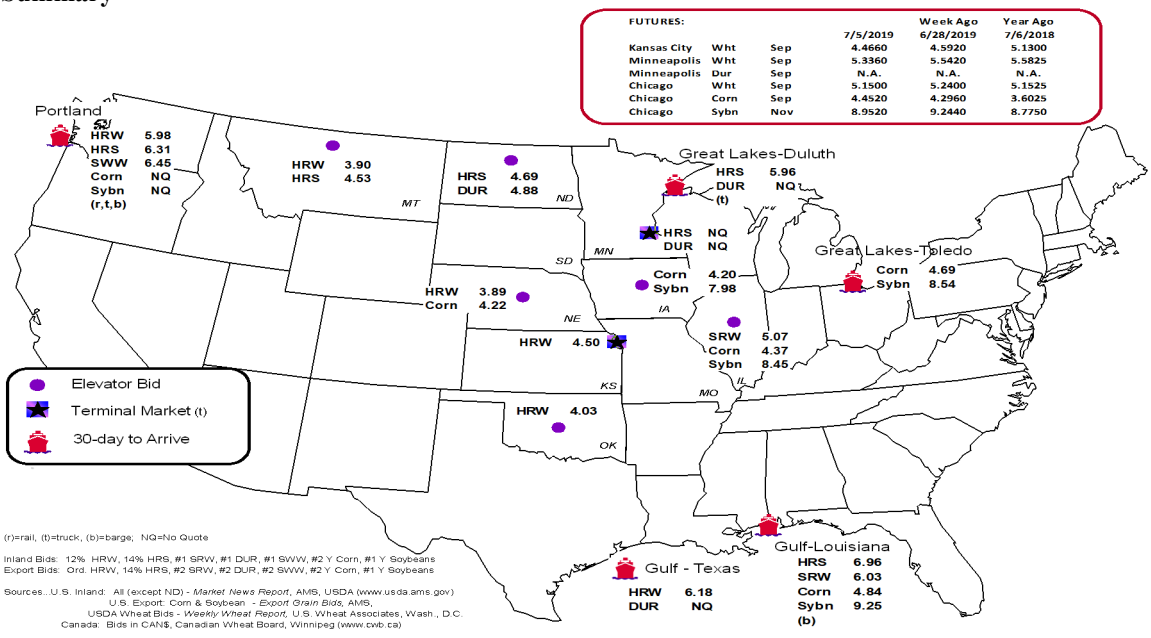
Market Update: U.S. Origins to Export Position Price Spreads ($/bushel)

Commodity	Origin--Destination	7/5/2019	6/28/2019
Corn	IL--Gulf	-0.47	-0.71
Corn	NE--Gulf	-0.62	-0.85
Soybean	IA--Gulf	-1.27	-1.44
HRW	KS--Gulf	-1.68	-1.81
HRS	ND--Portland	-1.62	-1.65

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]
7/03/2019[p]	1,655	1,244	4,136	433	7,468	6/29/2019	1,917
6/26/2019[r]	1,900	1,580	3,164	317	6,961	6/22/2019	3,000
2019 YTD[r]	26,335	32,208	141,084	9,515	209,142	2019 YTD	61,134
2018 YTD[r]	10,926	31,865	180,586	11,782	235,159	2018 YTD	59,664
2019 YTD as % of 2018 YTD	241	101	78	81	89	% change YTD	102
Last 4 weeks as % of 2018[2]	608	220	55	91	85	Last 4wks % 2018	95
Last 4 weeks as % of 4-year avg.[2]	784	109	78	155	107	Last 4wks % 4 yr	106
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.

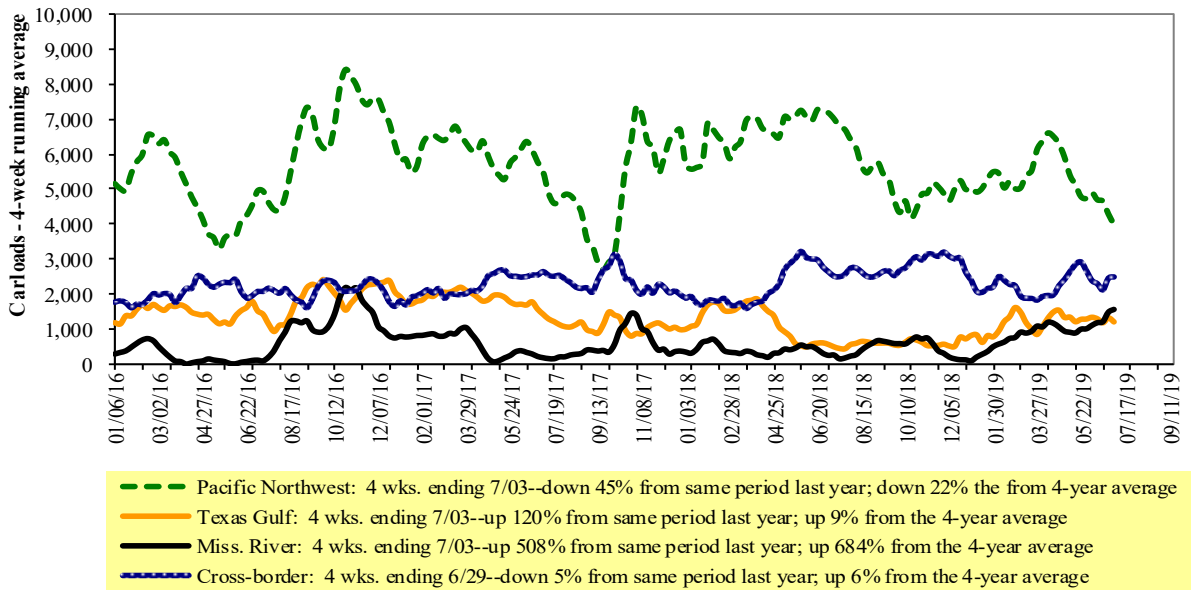
[3] Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads to reflect switching between KCSM and Grupo Mexico.

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	
6/29/2019	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,681	3,013	10,064	932	5,265	20,955	4,882	4,839
This week last year	2,386	2,506	12,223	1,260	5,135	23,510	3,834	4,729
2019 YTD	49,953	73,853	285,498	28,925	132,915	571,144	114,304	113,132
2018 YTD	50,335	65,431	324,201	25,307	136,820	602,094	97,135	120,567
2019 YTD as % of 2018 YTD	99	113	88	114	97	95	118	94
Last 4 weeks as % of 2018*	91	111	86	105	98	93	126	90
Last 4 weeks as % of 3-yr avg.**	101	105	92	122	96	96	139	93
Total 2018	98,978	133,240	635,458	48,638	267,713	1,184,027	211,802	244,697

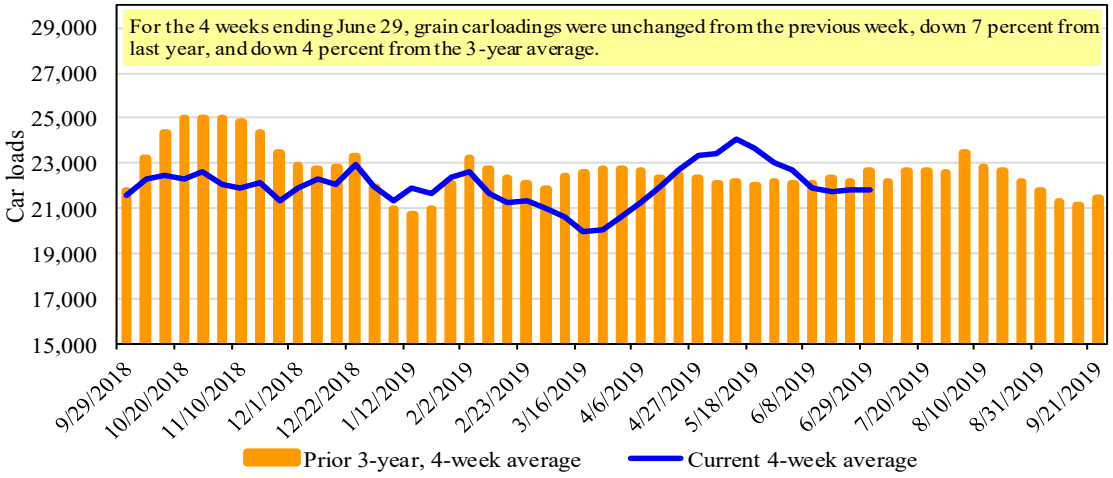
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

**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							
7/4/2019		Jul-19	Jul-18	Aug-19	Aug-18	Sep-19	Sep-18	Oct-19	Oct-18
BNSF[3]	COT grain units	20	no offer	6	no offer	0	no offer	no bids	68
	COT grain single-car[5]	0	no offer	0	no offer	1	no offer	11	193
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no bids	no offer	no bids	n/a	n/a
	GCAS/Region 2	no offer	no offer	no bids	10	no offer	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

[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.

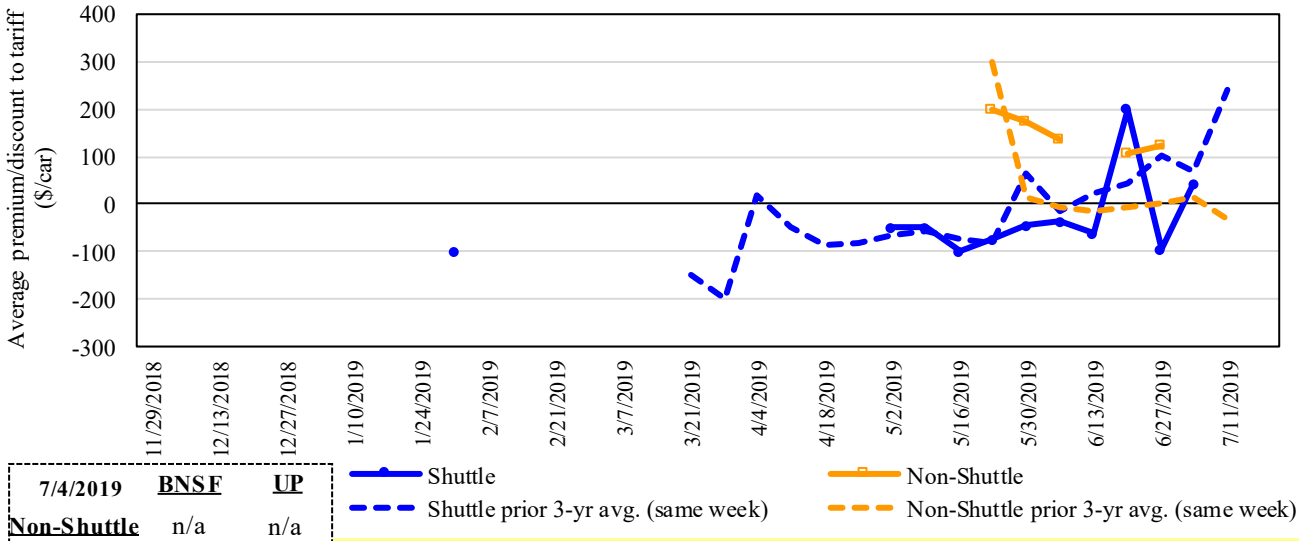
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

[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 July 2019, Secondary Market

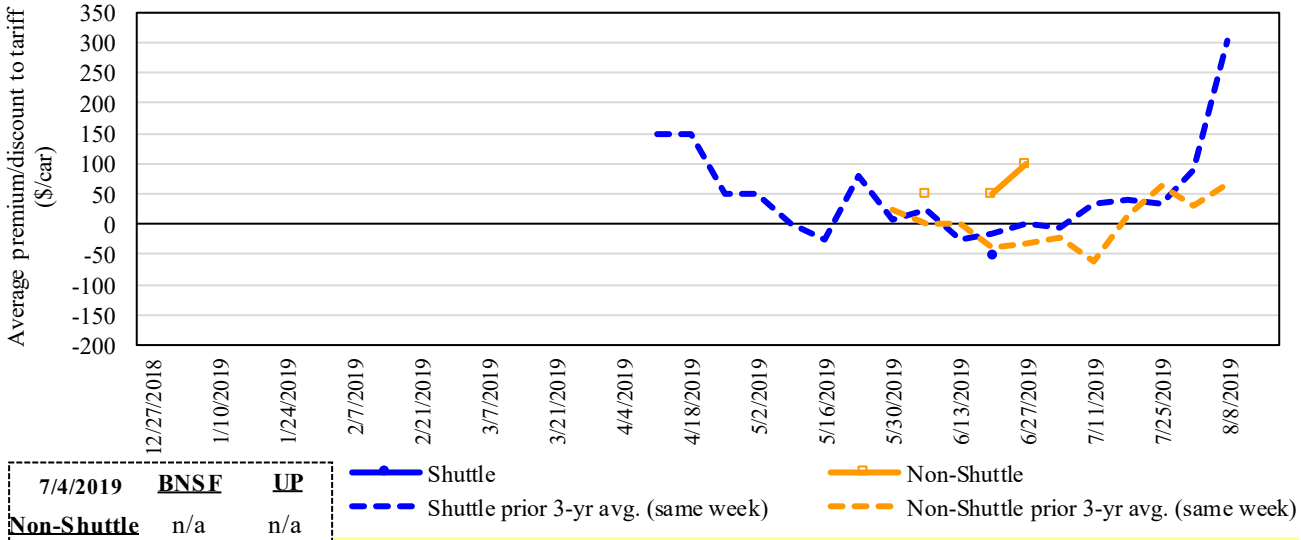


7/4/2019	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	-$50	$133

There were no Non-Shuttle bids/offers this week.
Average Shuttle bids/offers rose $137 this week and are $158 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 August 2019, Secondary Market



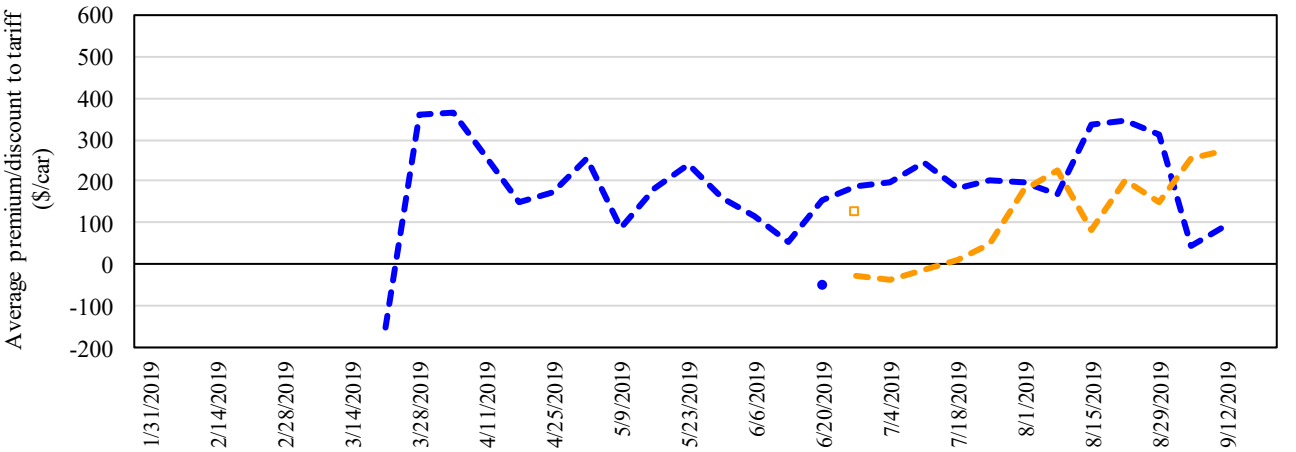
7/4/2019	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	n/a	n/a

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 September 2019, Secondary Market



7/4/2019	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: 7/4/2019	Delivery period					
		Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
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**	**(50)**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	75	n/a	n/a	n/a	n/a	n/a
	Change from same week 2018	(400)	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**133**	**n/a**	**n/a**	**(100)**	**n/a**	**n/a**
	Change from last week	199	n/a	n/a	0	n/a	n/a
	Change from same week 2018	(267)	n/a	n/a	(850)	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]

July, 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	$111	$40.66	$1.11	0
	Grand Forks, ND	Duluth-Superior, MN	$4,268	$0	$42.38	$1.15	3
	Wichita, KS	Los Angeles, CA	$7,240	$0	$71.90	$1.96	1
	Wichita, KS	New Orleans, LA	$4,525	$196	$46.88	$1.28	-1
	Sioux Falls, SD	Galveston-Houston, TX	$6,976	$0	$69.28	$1.89	1
	Northwest KS	Galveston-Houston, TX	$4,801	$215	$49.81	$1.36	0
	Amarillo, TX	Los Angeles, CA	$5,121	$299	$53.82	$1.46	0
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,800	$221	$39.93	$1.01	-3
	Toledo, OH	Raleigh, NC	$6,581	$0	$65.35	$1.66	4
	Des Moines, IA	Davenport, IA	$2,114	$47	$21.46	$0.55	-6
	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	$138	$37.71	$0.96	1
	Des Moines, IA	Los Angeles, CA	$5,520	$401	$58.80	$1.49	3
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$216	$38.20	$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	$221	$47.33	$1.29	-4
Shuttle Train							
Wheat	Great Falls, MT	Portland, OR	$4,078	$0	$40.50	$1.10	3
	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	2
	Grand Forks, ND	Galveston-Houston, TX	$6,056	$0	$60.14	$1.64	2
	Northwest KS	Portland, OR	$6,012	$352	$63.20	$1.72	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	$221	$39.14	$0.99	-1
	Lincoln, NE	Galveston-Houston, TX	$3,880	$0	$38.53	$0.98	5
	Des Moines, IA	Amarillo, TX	$4,060	$173	$42.04	$1.07	2
	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	$255	$49.95	$1.36	0
	Toledo, OH	Huntsville, AL	$4,634	$0	$46.02	$1.25	6
	Grand Island, NE	Portland, OR	$5,710	$360	$60.28	$1.64	0

[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: July, 2019							
Commodity	Origin state	Destination region	Tariff rate/car[1]	Fuel surcharge per car[2]	Tariff plus surcharge per: metric ton[3]	bushel[3]	Percent change[4] Y/Y
Wheat	MT	Chihuahua, CI	$7,284	$0	$74.43	$2.02	-2
	OK	Cuautitlan, EM	$6,775	$153	$70.79	$1.92	0
	KS	Guadalajara, JA	$7,534	$614	$83.25	$2.26	6
	TX	Salinas Victoria, NL	$4,329	$93	$45.18	$1.23	1
Corn	IA	Guadalajara, JA	$8,828	$528	$95.60	$2.43	8
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	6
	NE	Queretaro, QA	$8,207	$317	$87.09	$2.21	2
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	2
	MO	Tlalnepantla, EM	$7,573	$309	$80.54	$2.04	2
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	5
Soybeans	MO	Bojay (Tula), HG	$8,497	$499	$91.91	$2.50	7
	NE	Guadalajara, JA	$8,982	$524	$97.12	$2.64	5
	IA	El Castillo, JA	$9,110	$0	$93.08	$2.53	2
	KS	Torreon, CU	$7,814	$366	$83.58	$2.27	6
Sorghum	NE	Celaya, GJ	$7,925	$472	$85.79	$2.18	10
	KS	Queretaro, QA	$8,000	$191	$83.70	$2.12	2
	NE	Salinas Victoria, NL	$6,633	$154	$69.34	$1.76	3
	NE	Torreon, CU	$7,390	$339	$78.97	$2.00	10

[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

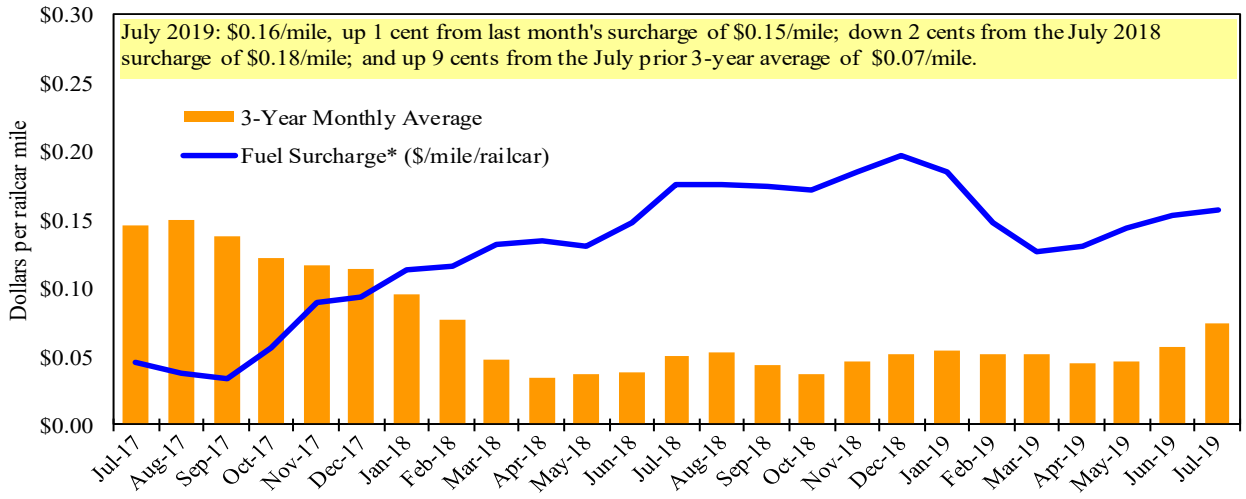
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu

[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.

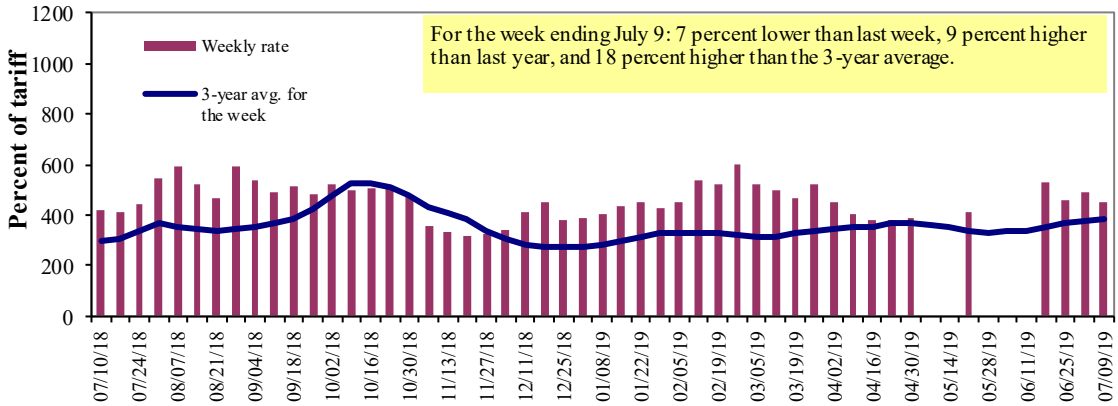
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

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]	7/9/2019	458	458	453	293	273	273	278
	7/2/2019	463	488	488	300	275	275	280
$/ton	7/9/2019	28.35	24.37	21.02	11.69	12.80	11.03	8.73
	7/2/2019	28.66	25.96	22.64	11.97	12.90	11.11	8.79
Current week % change from the same week:								
	Last year	0	10	9	-7	-18	-18	3
	3-year avg. [2]	5	26	27	8	-2	-3	17
Rate[1]	August	415	393	390	293	310	310	288
	October	450	433	433	337	400	400	330

[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.

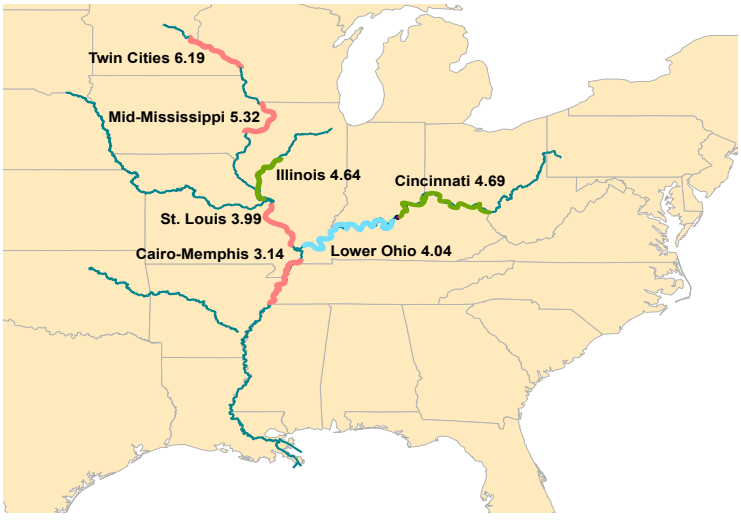
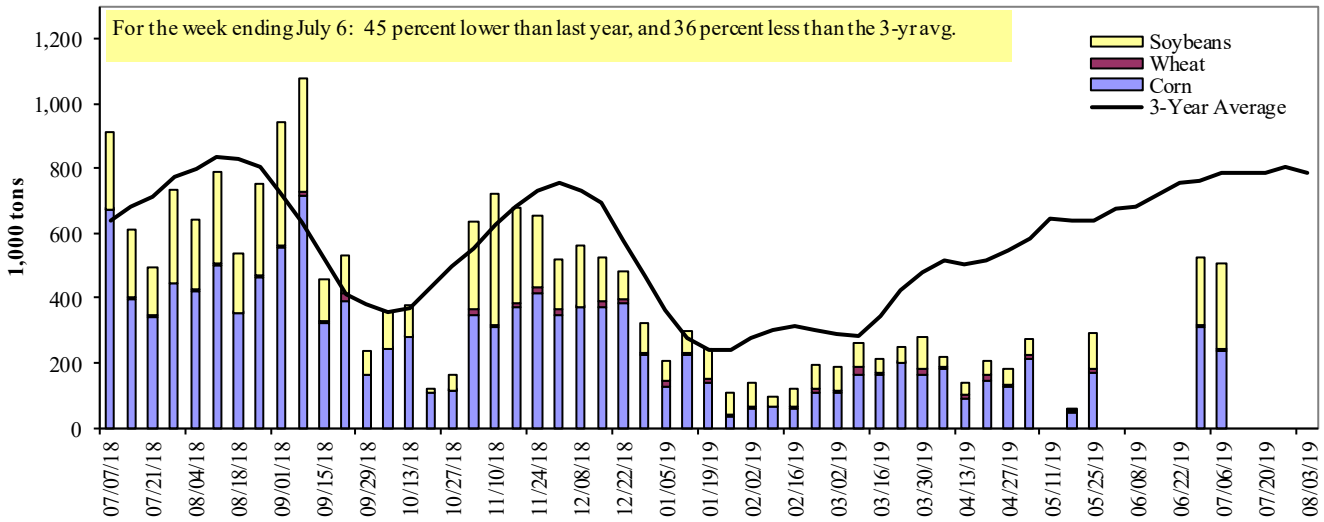


Figure 10

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 07/06/2019	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	36	2	82	0	120
Winfield, MO (L25)	128	9	149	0	286
Alton, IL (L26)	246	9	269	0	525
Granite City, IL (L27)	237	9	260	0	506
Illinois River (LAGRANGE)	66	0	94	0	160
Ohio River (OLMSTED)	68	58	119	0	245
Arkansas River (L1)	0	0	29	0	29
Weekly total - 2019	305	67	408	0	780
Weekly total - 2018	771	86	300	0	1,157
2019 YTD[1]	6,279	986	4,942	74	12,282
2018 YTD[1]	12,593	899	5,990	66	19,548
2019 as % of 2018 YTD	50	110	83	111	63
Last 4 weeks as % of 2018[2]	32	58	78	148	46
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.

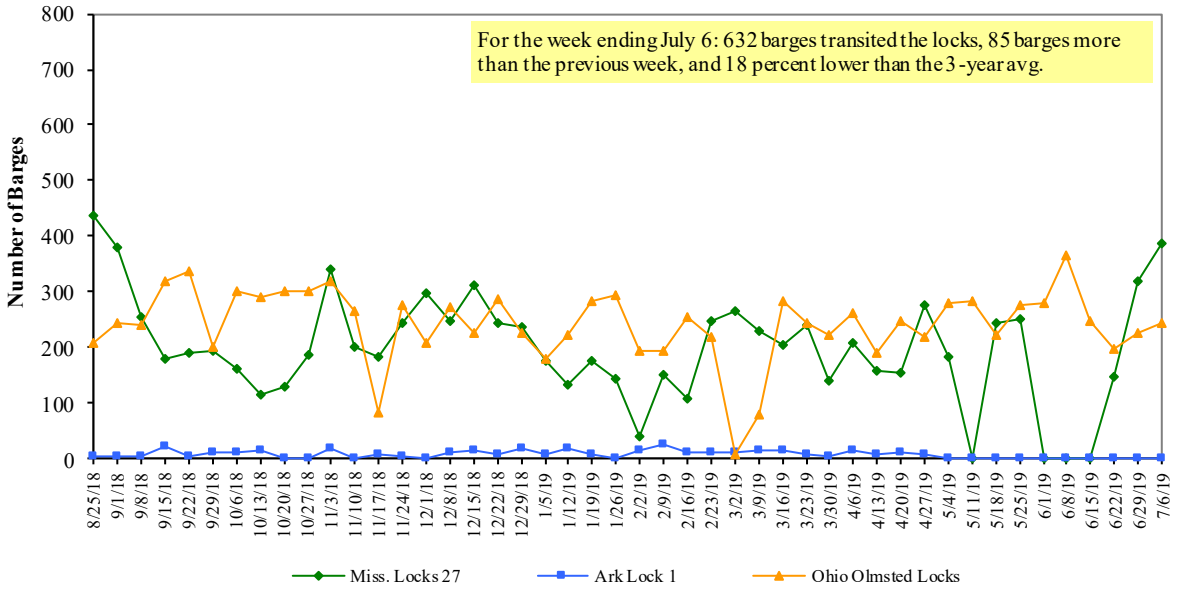
[2] As a percent of same period in 2018.

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

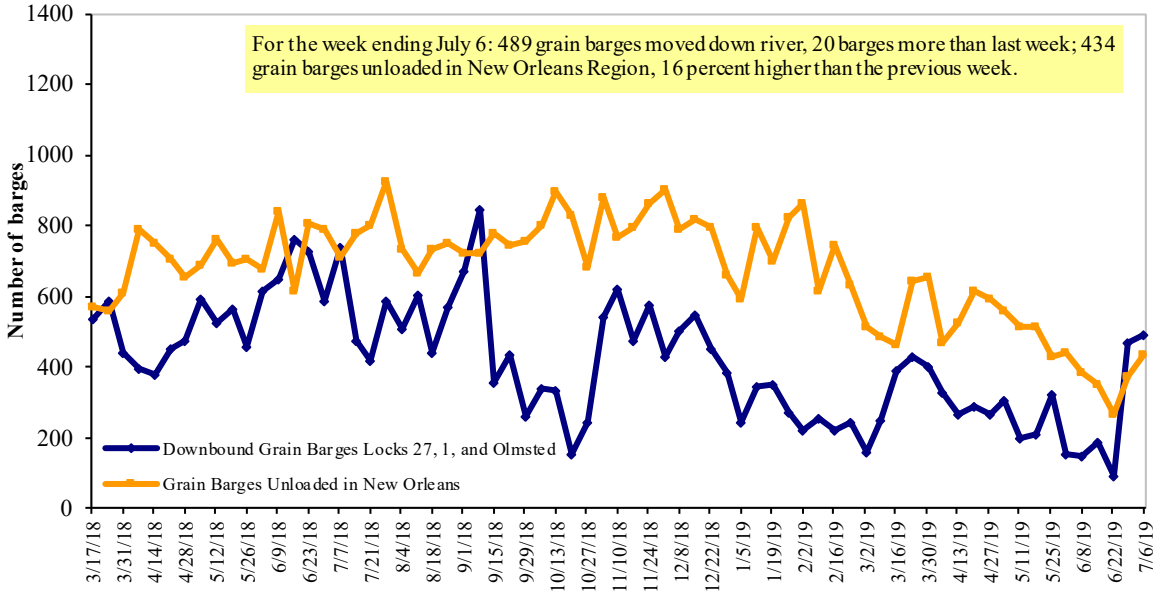
Upbound Empty Barges Transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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 7/8/2019 (US $/gallon)

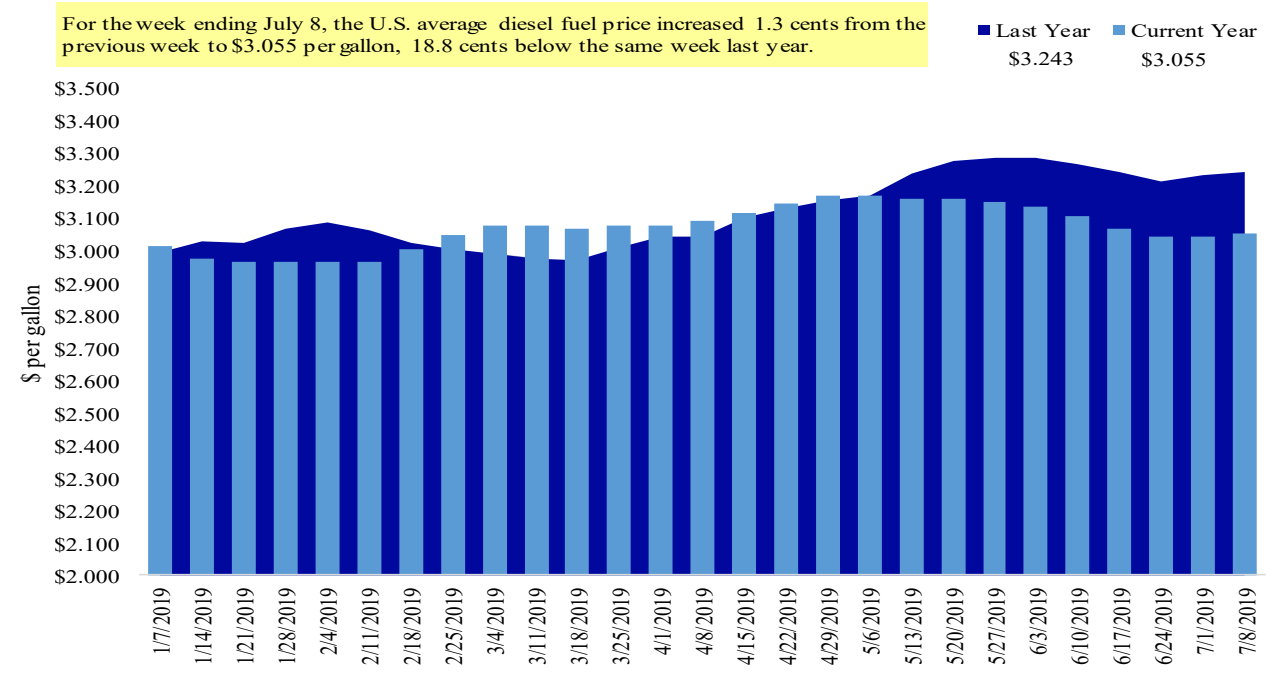
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.081	0.001	-0.157
	New England	3.134	-0.001	-0.145
	Central Atlantic	3.275	0.005	-0.130
	Lower Atlantic	2.940	-0.001	-0.172
II	Midwest	2.968	0.044	-0.208
III	Gulf Coast	2.804	0.001	-0.200
IV	Rocky Mountain	2.980	-0.018	-0.390
V	West Coast	3.624	-0.004	-0.125
	West Coast less California	3.208	0.003	-0.263
	California	3.953	-0.010	-0.017
Total	U.S.	3.055	0.013	-0.188

[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]									
6/27/2019	1,825	853	1,387	1,019	174	5,259	6,026	10,620	21,905
This week year ago	1,117	546	1,489	1,234	126	4,511	12,527	7,740	24,778
Cumulative exports-marketing year[2]									
2018/19 YTD	1,071	161	407	272	55	1,966	42,890	37,906	82,761
2017/18 YTD	351	201	442	484	3	1,481	45,166	49,552	96,199
YTD 2018/19 as % of 2017/18	305	80	92	56	2,096	133	95	76	86
Last 4 wks as % of same period 2017/18	191	163	92	81	142	123	52	141	92
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 6/27/2019	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	1,956	15,233	14,563	5	13,691
Japan	600	11,941	11,004	9	11,247
Korea	0	3,695	5,296	(30)	4,754
Colombia	24	4,584	4,437	3	4,678
Peru	0	1,992	3,065	(35)	2,975
Top 5 Importers	**2,580**	**37,445**	**38,365**	**(2)**	**37,344**
Total US corn export sales	**3,335**	**48,916**	**57,693**	**(15)**	**53,184**
% of Projected	6%	87%	93%		
Change from prior week[2]	**1,156**	**176**	**441**		
Top 5 importers' share of U.S. corn export sales	77%	77%	66%		70%
USDA forecast, June 2019	**54,707**	**55,980**	**62,036**	**(10)**	
Corn Use for Ethanol USDA forecast, June 2019	**139,700**	**138,430**	**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 6/27/2019	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	126	14,324	28,126	(49)	31,228
Mexico	597	4,896	4,295	14	3,716
Indonesia	12	2,135	2,366	(10)	2,250
Japan	110	2,425	2,251	8	2,145
Netherlands	0	2,054	2,098	(2)	2,209
Top 5 importers	**845**	**25,834**	**39,135**	**(34)**	**41,549**
Total US soybean export sales	**2,476**	**48,526**	**57,292**	**(15)**	**55,113**
% of Projected	5%	105%	99%		
Change from prior week[2]	**162**	**868**	**562**		
Top 5 importers' share of U.S. soybean export sales	34%	53%	68%		**75%**
USDA forecast, June 2019	**53,134**	**46,322**	**58,011**	**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 6/27/2019	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	901	571	58	2,781
Japan	647	821	(21)	2,649
Philippines	893	726	23	2,441
Korea	304	581	(48)	1,257
Nigeria	570	143	299	1,254
Indonesia	261	109	139	1,076
Taiwan	363	279	30	1,066
China	0	0	n/a	944
Colombia	26	256	(90)	714
Thailand	200	318	(37)	618
Top 10 importers	**4,163**	**3,804**	9	**14,800**
Total US wheat export sales	**7,224**	**5,992**	**21**	**22,869**
% of Projected	28%	24%		
Change from prior week[2]	**276**	**440**		
Top 10 importers' share of U.S. wheat export sales	58%	63%		65%
USDA forecast, June 2019	**25,886**	**24,550**	**5**	

(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 07/04/19	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	298	254	117	7,183	6,345	113	105	95	13,315
Corn	284	0	n/a	6,495	11,970	54	25	35	20,024
Soybeans	0	207	0	4,956	5,314	93	118	241	7,719
Total	**582**	**461**	**126**	**18,634**	**23,628**	**79**	**59**	**75**	**41,058**
Mississippi Gulf									
Wheat	69	161	43	2,732	2,151	127	113	87	3,896
Corn	260	95	273	12,904	18,511	70	32	35	33,735
Soybeans	504	369	137	12,315	12,084	102	100	148	28,124
Total	**834**	**625**	**133**	**27,951**	**32,746**	**85**	**58**	**68**	**65,755**
Texas Gulf									
Wheat	209	249	84	3,930	1,899	207	828	149	3,198
Corn	31	0	n/a	393	406	97	200	98	730
Soybeans	0	0	n/a	0	67	0	0	0	69
Total	**240**	**250**	**96**	**4,323**	**2,372**	**182**	**479**	**139**	**3,997**
Interior									
Wheat	43	46	94	894	769	116	219	143	1,614
Corn	116	184	63	3,868	4,479	86	87	90	8,650
Soybeans	148	159	93	3,457	3,417	101	107	136	6,729
Total	**307**	**389**	**79**	**8,219**	**8,665**	**95**	**102**	**110**	**16,993**
Great Lakes									
Wheat	22	23	98	477	263	181	395	112	894
Corn	0	0	n/a	0	236	0	0	0	404
Soybeans	52	20	257	241	227	106	78	180	1,192
Total	**74**	**43**	**173**	**718**	**726**	**99**	**81**	**97**	**2,491**
Atlantic									
Wheat	0	0	n/a	32	65	50	0	0	69
Corn	0	0	n/a	85	67	126	n/a	n/a	138
Soybeans	60	4	n/a	716	1,204	60	55	122	2,047
Total	**60**	**4**	**n/a**	**833**	**1,336**	**62**	**59**	**130**	**2,253**
U.S. total from ports*									
Wheat	642	733	88	15,249	11,492	133	159	109	22,986
Corn	691	280	247	23,744	35,669	67	37	43	63,682
Soybeans	764	759	101	21,685	22,312	97	99	155	45,879
Total	**2,096**	**1,771**	**118**	**60,678**	**69,473**	**87**	**71**	**81**	**132,547**

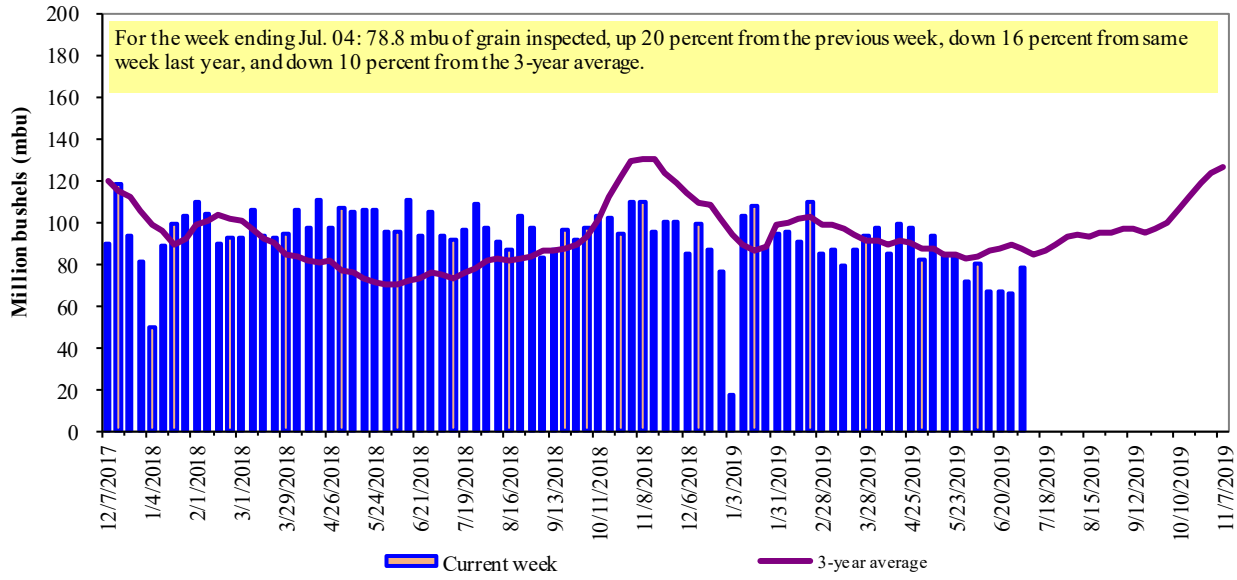
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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

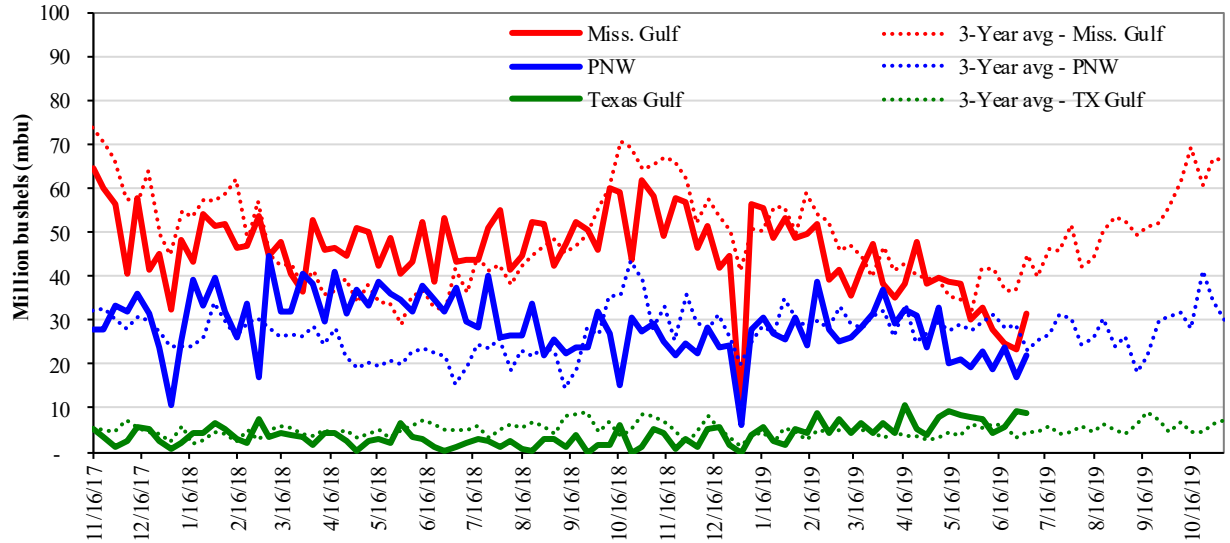
U.S. grain inspected for export (wheat, corn, and soybeans)



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 07/04/19 inspections (mbu):	
Mississippi Gulf:	31.3
PNW:	22.1
Texas Gulf:	8.9

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last Week:	up 35	down 3	up 24	up 31
Last Year (same week):	down 28	up 617	down 10	down 40
3-yr avg. (4-wk. mov. Avg):	down 22	up 76	down 11	down 20

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

Table 17

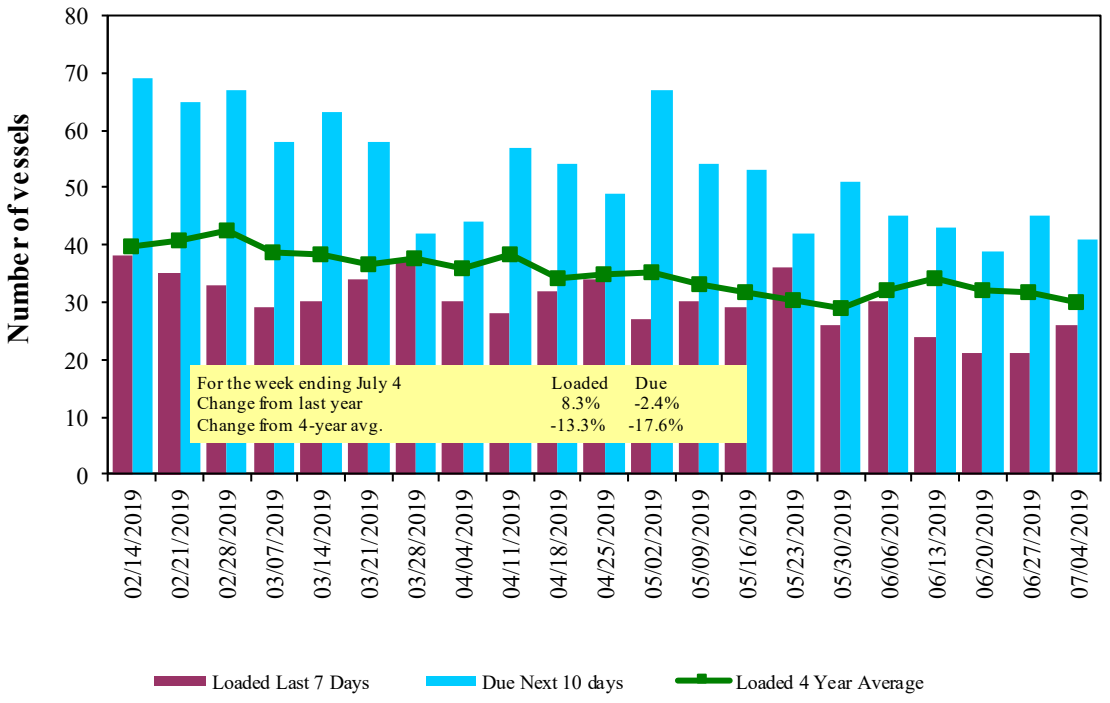
Weekly Port Region Grain Ocean Vessel Activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
7/4/2019	61	26	41	9
6/27/2019	56	21	45	14
2018 range	(23..88)	(24..41)	(38..67)	(4..30)
2018 avg.	40	34	54	17

Source: Transportation & Marketing Programs/AMS/USDA

Figure 16

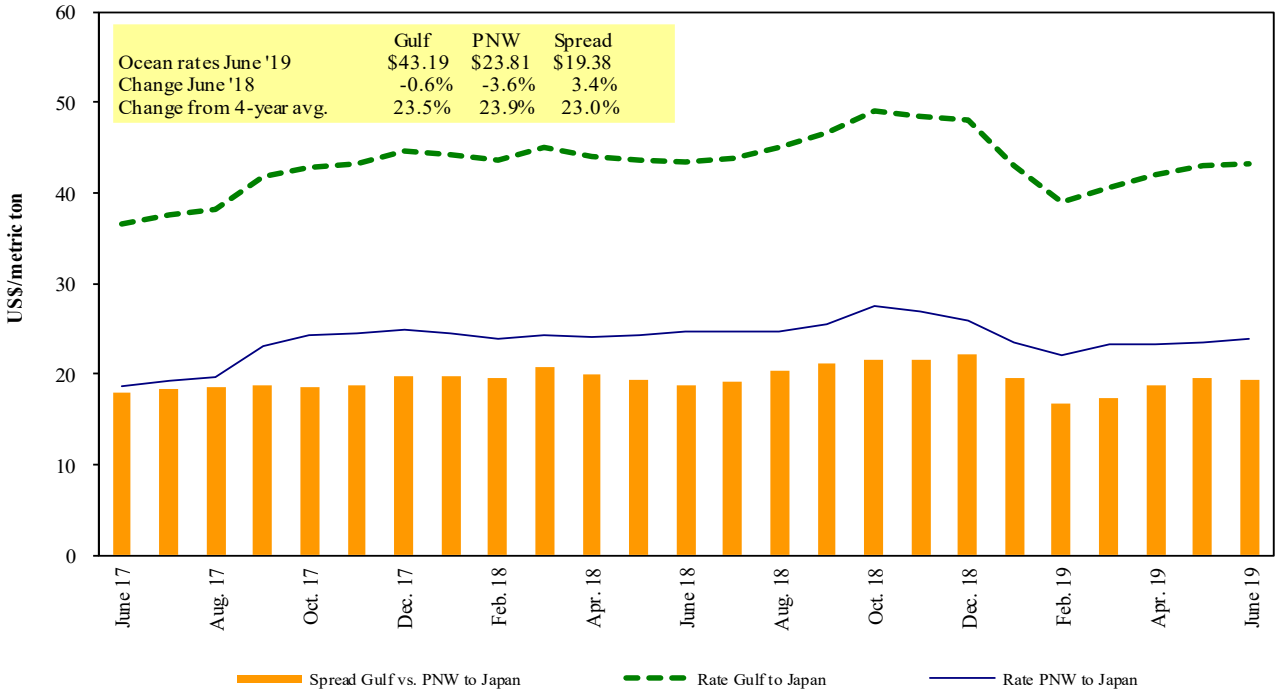
U.S. Gulf Vessel Loading Activity



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 07/06/2019

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	China	Heavy Grain	Mar 15/Apr 15	63,000	40.00
U.S. Gulf	Durban	Sorghum	Jul 19/29	11,000	145.22*
PNW	China	Heavy Grain	Mar 2/18	60,000	27.50
PNW	Yemen	Wheat	Jul 16/26	29,200	71.00*
Brazil	China	Heavy Grain	Jun 10/20	65,000	33.00
Brazil	China	Heavy Grain	Apr 20/May 5	63,000	33.00
Brazil	China	Heavy Grain	Apr 15/30	63,000	32.50
Brazil	China	Heavy Grain	Mar 3/11	63,000	27.50
River Plate	China	Heavy Grain	Apr 21/30	65,000	37.85

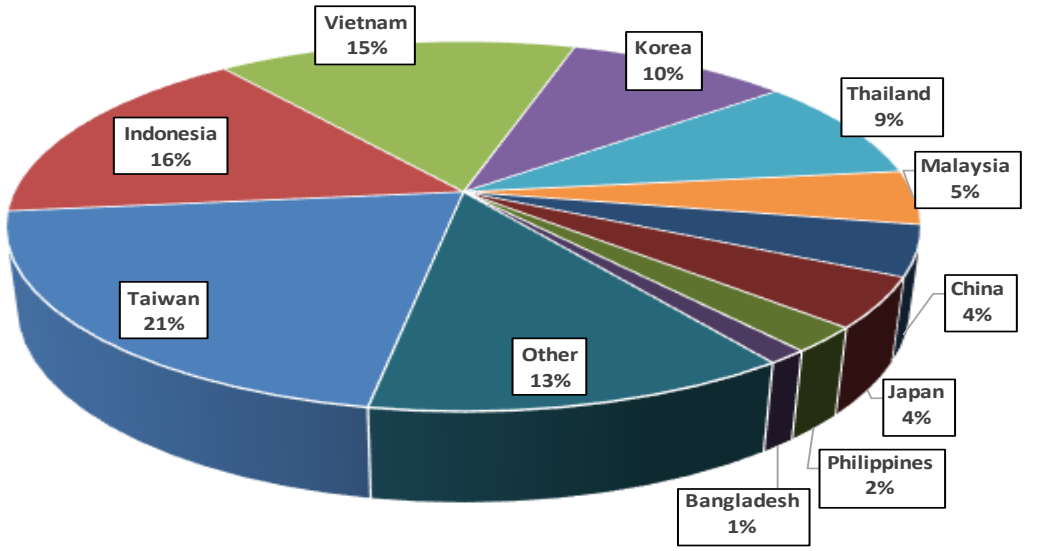
Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), F.O.B., except where otherwise indicated; op = option

*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 2017, containers were used to transport 7 percent of total U.S. waterborne grain exports. Approximately 62 percent of U.S. waterborne grain exports in 2017 went to Asia, of which 10 percent were moved in containers. Approximately 93 percent of U.S. waterborne containerized grain exports were destined for Asia.

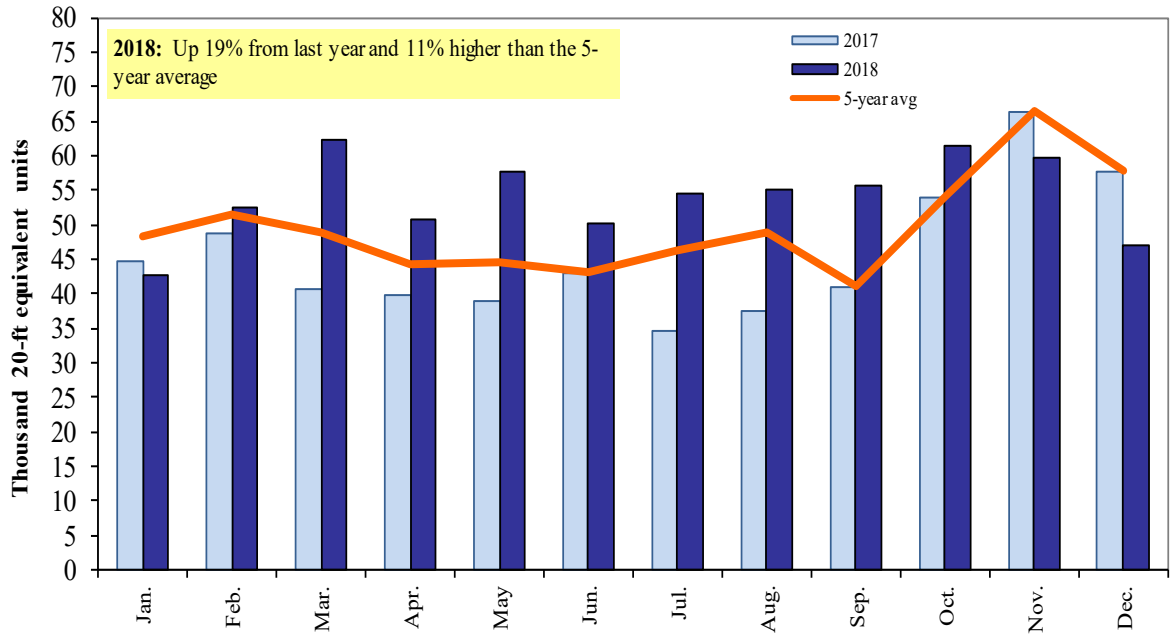
Figure 18
Top 10 Destination Markets for U.S. Containerized Grain Exports, 2018



Service (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.

Contacts and Links

Coordinators		
Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
Kuo-Liang (Matt) Chang	matt.chang@usda.gov	(202) 720 - 0299
Weekly Highlight Editors		
Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Nicholas Marathon	nick.marathon@usda.gov	(202) 690 - 4430
Grain Transportation Indicators		
Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
Rail Transportation		
Johnny Hill	johnny.hill@usda.gov	(202) 690 - 3295
Jesse Gastelle	jesse.gastelle@usda.gov	(202) 690 - 1144
Peter Caffarelli	petera.caffarelli@usda.gov	(202) 690 - 3244
Barge Transportation		
Nicholas Marathon	nick.marathon@usda.gov	(202) 690 - 4430
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Kuo-Liang (Matt) Chang	matt.chang@usda.gov	(202) 720 - 0299
Truck Transportation		
April Taylor	april.taylor@usda.gov	(202) 720 - 7880
Grain Exports		
Johnny Hill	johnny.hill@usda.gov	(202) 690 - 3295
Ocean Transportation		
Surajudeen (Deen) Olowolayemo (Freight rates and vessels)	surajudeen.olowolayemo@usda.gov	(202) 720 - 0119
April Taylor (Container movements)	april.taylor@usda.gov	(202) 720 - 7880

Subscription Information: Send relevant information to **GTRContactUs@usda.gov** for an electronic copy *(printed copies are also available upon request)*.

Preferred citation: U.S. Dept. of Agriculture, Agricultural Marketing Service. *Grain Transportation Report.* July 11, 2019. Web: **http://dx.doi.org/10.9752/TS056.07-11-2019**