



Grain Transportation Report

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

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April 25, 2019

WEEKLY HIGHLIGHTS

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Wheat Drives Increase in Total Grain Inspections

For the week ending April 18, total inspections of grain (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.59 million metric tons (mmt). This denotes a 16 percent increase from the previous week, an 11 percent decrease from last year, and an 8 percent increase from the 3-year average. A 53 percent jump in wheat inspections drove the increase in total inspections. Weekly wheat inspections, destined primarily to Latin America and Africa, were the highest since late September 2016. Corn inspections increased 14 percent from week-to-week, but soybean inspections dropped 20 percent. Pacific Northwest (PNW) grain inspections increased 11 percent from the previous week while inspections in the Mississippi Gulf increased 9 percent.

Flooding Continues to Impact River Traffic

Much of the Mississippi River remains impacted by this year's on-going flooding. According to the U.S. Army Corps of Engineers, river levels are receding in some areas, however, recent precipitation may prevent water levels from receding further. Forecasts indicate the second snow melt of the season may have less impact than the first. While a fluctuating number of locks are closed on the Upper Mississippi River, barge traffic is stopped between Locks 22 and 24 due to highwater preventing barge passage under a bridge near Louisiana, MO. Industry sources report the Louisiana Bridge may be open for a few days later in April, but will likely close again in May due to more rain being forecasted. Barge traffic is restricted to daylight only through St. Louis Harbor and at bridges in Vicksburg, MS, and Baton Rouge, LA. There are tow size restrictions throughout the system.

Diesel Fuel Prices Rise for Third Consecutive Week

For the week ending April 22, the average diesel fuel price in the U.S. increased to \$3.147 per gallon, 2.9 cents above the previous week's average and 1.4 cents above the same week last year. Prices have increased nearly 7 cents per gallon over the past 3 weeks. A similar increase in crude oil prices is putting pressure on diesel fuel prices. The Energy Information Administration expects demand for diesel fuel this summer to be strong again this year, due to continued economic growth, industrial output, international trade activity, and oil and natural gas drilling activity. All of these factors contribute to more trucking activity.

Snapshots by Sector

Export Sales

For the week ending April 11, **unshipped balances** of wheat, corn, and soybeans totaled 31 mmt. This indicates a 15 percent decrease in outstanding sales, compared to the same time last year. Net weekly **wheat export sales** were .318 mmt, up 16 percent from the previous week. Net **corn export sales** totaled .948 mmt, up 73 percent from the previous week. Net **soybean export sales** totaled .382 mmt, up 41 percent from the past week.

Rail

U.S. Class I railroads originated 21,639 grain carloads for the week ending April 13. This is down 1 percent from the previous week, 4 percent lower than last year, and unchanged from the 3-year average.

Average May shuttle **secondary railcar** bids/offers (per car) were \$125 below tariff for the week ending April 18. This is down \$154 from last week and \$817 below last year. Average non-shuttle secondary railcar bids/offers were \$650 above tariff, up \$313 from last week. There were no non-shuttle bids/offers this week last year.

Barge

For the week ending April 13, **barge grain movements** totaled 428,581 tons. This is 15 percent lower than the previous week and 31 percent lower than the same period last year.

For the week ending April 13, 265 grain barges **moved down river.** This is 65 less barges than the previous week. There were 524 grain barges **unloaded in New Orleans**, 12 percent higher than the previous week.

Ocean

For the week ending April 18, 32 ocean-going grain vessels were loaded in the Gulf. This was is 14 percent less than the same period last year. Fifty-four vessels are expected to be loaded within the next 10 days. This is 8 percent more than the same period last year.

As of April 18, 2019, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$42.00, unchanged from the previous week. The rate for the Pacific Northwest to Japan was \$23.00 per mt. This is 2 percent lower than the previous week.

Feature Article/Calendar

Bulk Ocean Freight Rates Remain Relatively Low

During the first quarter of 2019, ocean freight rates for shipping bulk commodities, including grains, remained relatively low compared to the previous quarter and the same time last year. However, the rates are higher than the 4-year average. The rates from the U.S. Gulf to Japan averaged \$40.86 per metric ton (mt) during the quarter. This represents a 16 percent decrease from the previous quarter, an 8 percent decrease from a year ago, and is 24 percent higher than the 4-year average. The Pacific Northwest (PNW) to Japan rates averaged \$22.98 per mt, 14 percent below the previous quarter, 5 percent below the same time last year, and 26 percent above the 4-year average. It cost \$16.73 to ship a metric ton of grain from the U.S. Gulf to Rotterdam during the first quarter. This indicates a 20 percent decrease from the previous quarter, a 1 percent decrease from last year, and is 17 percent higher than the 4-year average.

Ocean freight rates for grain routes during the first quarter 2019								
Route	Jan.	Feb.	Mar.	1st quarter	C			
Kouic	Jan.	1.60.	iviai.	2019	4th qtr '18	1st qtr '18	4-yr avg	
	\$/mt			\$/mt	Percent			
U.S. Gulf to Japan	43.00	38.94	40.63	40.86	-16	-8	24	
PNW to Japan	23.50	22.13	23.31	22.98	-14	-5	26	
Spread*	19.50	16.81	17.32	17.88	-18	-11	21	
U.S. Gulf to Europe	18.25	16.06	15.88	16.73	-20	-1	17	

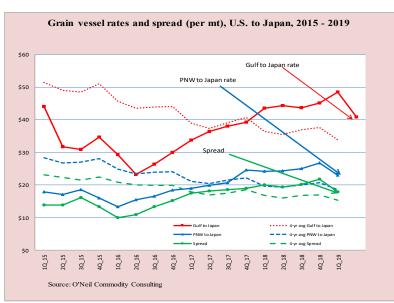
Source: O'Neil Commodity Consulting

*Spread is the difference between ocean freight rates for shipping grain from the U.S. Gulf to Japan and PNW to Japan

The year began with declining rates, as the Baltic Panamax Index, which tracks the cost of shipping bulk items in a Panamax vessel, fell to 574 points. There was a slowdown in trade activity due to New Year holidays around the world. Coal trade also slowed down because coal inventories at Chinese ports were

high. According to Drewry
Maritime Research (Drewry),
Chinese customs officials delayed
clearance for coal shipments in
November and December 2018.
This led to a buildup of inventories
at the Chinese ports, thereby
slowing coal imports.

Ocean freight rates continued to fall during February as the collapsed dam and consequent closure of mines in Brazil disrupted the supply of iron ore. The disruption of iron ore supplies further reduced the employment of Panamax vessels. According to Drewry, manufacturing contracted



in China for the second consecutive month in January. The Purchasing Manager Index fell below 50, in December 2018 and January 2019. An outbreak of swine fever in China also affected feed consumption and, consequently, the demand for soybeans. China's pork production fell by 0.9 percent in 2018.

In addition, the Chinese New Year celebration kicked in from February 5 to 19, slowing overall trade and manufacturing activities in China.

Ocean freight rates increased slightly in March, as the market was still feeling the effects of low iron ore supply from Australia and Brazil. In addition to mine closures in Brazil, severe cyclone halted operations in some major iron ore exporting ports in Australia. At the same time, Australian coal shippers were still experiencing delays in receiving customs clearance in China. These combined effects have slowed down the rate increase.

Current Market Situation and Outlook

As of April 18, 2019, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$42 The rate for the Pacific Northwest to Japan was \$23 per mt. The U.S. Gulf and PNW rates were 11 and 8 percent lower than the beginning of the year, and 5 and 4 percent below the same period a year ago, respectively. It may take a while before the market experiences a significant increase in ocean freight rates. The market is still reeling from the effects of mine closures in Brazil and the reduced exports of iron ore from Australia from the cyclone, which are both impacting iron ore supply. Coal imports in China and other northern hemisphere countries are generally low during April because of the off-peak consumption season. According to Drewry, China plans to reduce its coal imports in 2019 by 10 million tons, which will affect the demand for Panamax vessels. However, there may be a temporary increase in the demand for coal during the month of May. The potential increase is due to the onset of peak summer season in China, driven by electricity consumption for cooling.

The International Maritime Organization's mandate to reduce sulfur emissions from ocean-going vessels, as of January 1, 2020, could impact both newly-built vessels and vessel demolition activities (see October 25, 2018 and February 14, 2019 GTR). Until the full impact of the new standard is realized, vessel owners will likely be cautious moving forward with newly-built vessels, as they weigh the options of using emission scrubbers or ultra-low sulfur fuel. Demolition activities could increase as well, as vessel owners prepare and balance the fleet under the new standard. The onset of summer peak season in China, slow addition of newbuilding and increased demolition of older vessels may put an upward pressure on ocean freight rates.

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Grain Transportation Indicators

Table 1 **Grain Transport Cost Indicators**

1

	Truck	Ra	il	Barge	0	cean
For the week ending		Unit Train	Shuttle		Gulf	Pacific
04/24/19	211	316	225	210	188	163
04/17/19	209	313	230	211	188	167

¹Indicator: 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) Source: Transportation & Marketing Program/AMS/USDA

Table 2
Market Update: U.S. Origins to Export Position Price Spreads (\$/bushel)

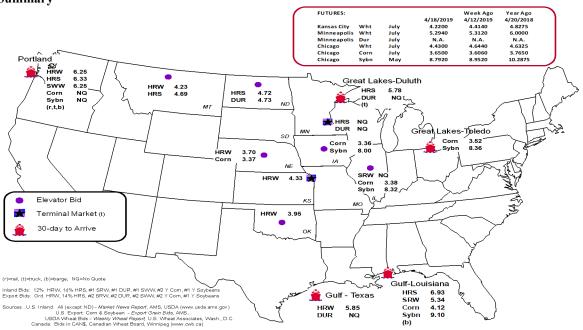
Commodity	OriginDestination	4/18/2019	4/12/2019
Corn	ILGulf	-0.74	-0.74
Corn	NEGulf	-0.75	-0.76
Soybean	IAGulf	-1.10	-1.06
HRW	KSGulf	-1.52	-1.62
HRS	NDPortland	-1.61	-1.95

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

Esuab a Wash Ending	Mississippi	Tamas Culf	Pacific	Atlantic &	Total	We show it as	Cross-Border Mexico ³
For the Week Ending	Gulf	Texas Gulf	Northwest	East Gulf	Total	Week ending	Mexico
4/17/2019 ^p	1,028	1,601	6,007	421	9,057	4/13/2019	2,059
4/10/2019 ^r	1,070	1,476	6,785	330	9,661	4/6/2019	1,999
2019 YTD ^r	12,940	18,419	90,092	5,934	127,385	2019 YTD	33,198
2018 YTD ^r	6,415	25,139	102,687	5,933	140,174	2018 YTD	28,847
2019 YTD as % of 2018 YTD	202	73	88	100	91	% change YTD	115
Last 4 weeks as % of 2018 ²	573	99	97	56	105	Last 4wks % 2018	98
Last 4 weeks as % of 4-year avg. ²	494	91	111	84	117	Last 4wks % 4 yr	94
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

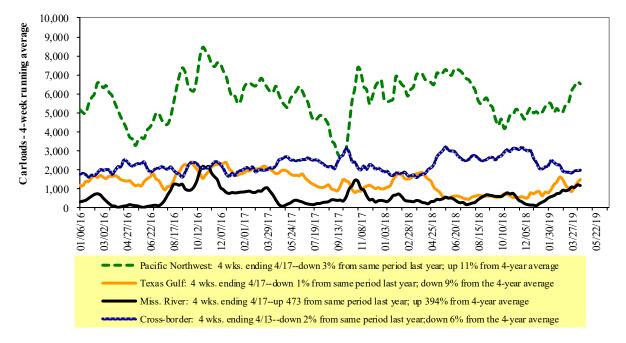
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

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

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.

Table 4

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

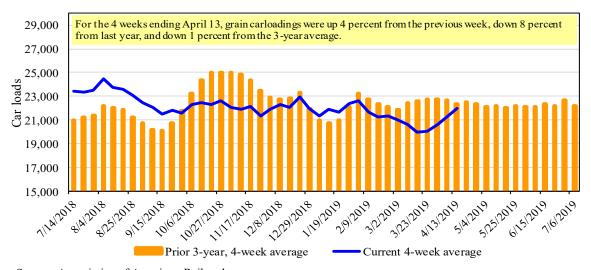
For the week ending:	E	ast		West		U.S. total	Canada	
4/13/2019	CSXT	NS	BNSF	KCS	UP	U.S. total	CN	CP
This week	1,490	2,879	10,019	1,227	6,024	21,639	6,126	5,318
This week last year	2,100	2,791	12,234	761	4,760	22,646	3,939	5,199
2019 YTD	29,704	40,389	157,620	17,308	75,942	320,963	63,680	62,713
2018 YTD	28,060	36,391	181,961	13,798	78,081	338,291	53,698	65,521
2019 YTD as % of 2018 YTD	106	111	87	125	97	95	119	96
Last 4 weeks as % of 2018*	109	118	79	146	97	92	124	104
Last 4 weeks as % of 3-yr avg.**	123	107	91	151	95	99	129	107
Total 2018	98,978	133,174	635,458	48,638	267,713	1,183,961	211,839	244,697

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

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

Fo	r the week ending:		<u>Delivery period</u>							
	4/18/2019	May-19	May-18	Jun-19	Jun-18	Jul-19	Jul-18	Aug-19	Aug-18	
BNSF ³	COT grain units COT grain single-car ⁵	no offer no offer	no bids	23 422	0	1 295	0	48 245	0 0	
UP ⁴	GCAS/Region 1 GCAS/Region 2	no offer no offer	no offer no offer	no offer no offer	no bids no offer	no offer no offer	no bids no offer	n/a n/a	n/a n/a	

¹Auction offerings are for single-car and unit train shipments only.

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

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

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

Source: Transportation & Marketing Program/AMS/USDA.

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

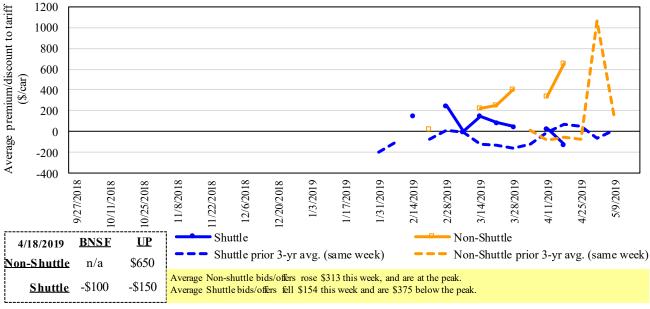
²Average premium/discount to tariff, last auction

³BNSF - COT = Certificate of Transportation; north grain and south grain bids were combined effective the week ending 6/24/06.

⁴UP - GCAS = Grain Car Allocation System

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.

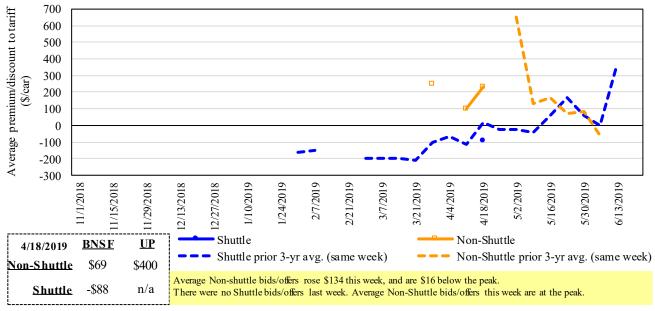
Figure 4
Bids/Offers for Railcars to be Delivered in May 2019, Secondary Market



Non-shuttle bids include unit-train and single-car bids. n/a = not available.

Source: Transportation & Marketing Program/AMS/USDA

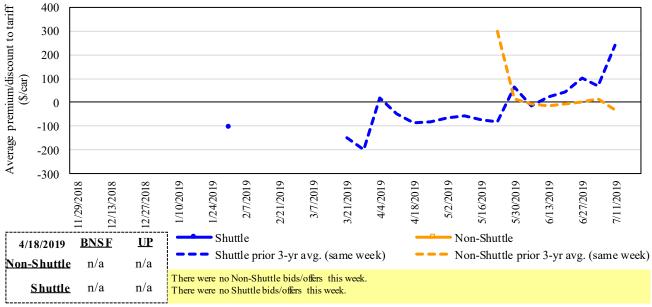
Figure 5
Bids/Offers for Railcars to be Delivered in June 2019, Secondary Market



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 July 2019, Secondary Market



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:	(,	Del	livery period		
	4/18/2019	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19
	BNSF-GF	n/a	69	n/a	n/a	n/a	n/a
e	Change from last week	n/a	(31)	n/a	n/a	n/a	n/a
nuttl	Change from same week 2018	n/a	n/a	n/a	n/a	n/a	n/a
Non-shuttle	UP-Pool	650	400	n/a	n/a	n/a	n/a
ž	Change from last week	100	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
	BNSF-GF	(100)	(88)	n/a	n/a	n/a	n/a
	Change from last week	(125)	n/a	n/a	n/a	n/a	n/a
ttle	Change from same week 2018	(1300)	(988)	n/a	n/a	n/a	n/a
Shuttle	UP-Pool	(150)	n/a	n/a	n/a	n/a	n/a
	Change from last week	(183)	n/a	n/a	n/a	n/a	n/a
	Change from same week 2018	(333)	n/a	n/a	n/a	n/a	n/a

 $^{^{1}}Average\ premium/dis\,count\ to\ tariff,\$/car-las\,t\ week$

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

				Fuel			Percent
			Tariff	surcharge_	Tariff plus surc		change
April, 2019	Origin region ³	Destination region ³	rate/car	per car	metric ton	bushel ²	Y/Y ⁴
<u>Unit train</u>							
Wheat	Wichita, KS	St. Louis, MO	\$3,983	\$91	\$40.46	\$1.10	2
	Grand Forks, ND	Duluth-Superior, MN	\$4,268	\$0	\$42.38	\$1.15	3
	Wichita, KS	Los Angeles, CA	\$7,175	\$0	\$71.25	\$1.94	2
	Wichita, KS	New Orleans, LA	\$4,540	\$160	\$46.68	\$1.27	0
	Sioux Falls, SD	Galveston-Houston, TX	\$6,911	\$0	\$68.63	\$1.87	2
	Northwest KS	Galveston-Houston, TX	\$4,816	\$176	\$49.57	\$1.35	0
	Amarillo, TX	Los Angeles, CA	\$5,121	\$244	\$53.28	\$1.45	2
Corn	Champaign-Urbana, IL	New Orleans, LA	\$4,000	\$181	\$41.52	\$1.05	1
	Toledo, OH	Raleigh, NC	\$6,581	\$0	\$65.35	\$1.66	4
	Des Moines, IA	Davenport, IA	\$2,258	\$38	\$22.80	\$0.58	0
	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	\$3,609	\$113	\$36.96	\$0.94	0
	Des Moines, IA	Los Angeles, CA	\$5,327	\$328	\$56.16	\$1.43	0
Soybeans	Minneapolis, MN	New Orleans, LA	\$4,131	\$179	\$42.80	\$1.16	0
	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	\$4,745	\$181	\$48.92	\$1.33	0
Shuttle Train							
Wheat	Great Falls, MT	Portland, OR	\$4,078	\$0	\$40.50	\$1.10	3
	Wichita, KS	Galveston-Houston, TX	\$4,296	\$0	\$42.66	\$1.16	3
	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	\$5,912	\$288	\$61.57	\$1.68	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	\$3,800	\$181	\$39.53	\$1.00	2
	Lincoln, NE	Galveston-Houston, TX	\$3,880	\$0	\$38.53	\$0.98	5
	Des Moines, IA	Amarillo, TX	\$4,060	\$142	\$41.72	\$1.06	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	\$209	\$49.49	\$1.35	0
	Toledo, OH	Huntsville, AL	\$4,634	\$0	\$46.02	\$1.25	6
	Grand Island, NE	Portland, OR	\$5,710	\$295	\$59.63	\$1.62	0

¹A 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.

²Approximate load per car = 111 short tons (100.7 metric tons): corn 56 lbs./bu., wheat and soybeans 60 lbs./bu.

³Regional economic areas are defined by the Bureau of Economic Analysis (BEA)

⁴Percentage 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**

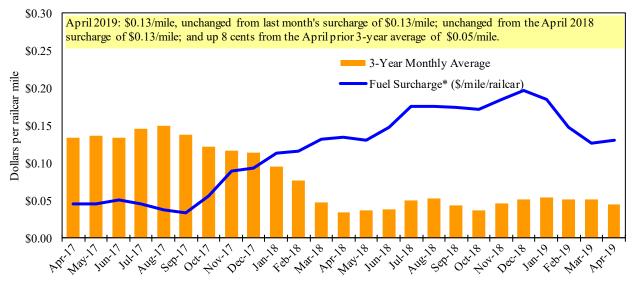
	: April, 201	9		Fuel			Percent
	Origin		Tariff	surcharge	Tariff plus surc	harge per:	change ⁴
Commodity	state	Destination region	rate/car ¹	per car ²	metric ton ³	bushel ³	Y/Y
Wheat	MT	Chihuahua, CI	\$7,284	\$0	\$74.43	\$2.02	-2
	OK	Cuautitlan, EM	\$6,743	\$125	\$70.18	\$1.91	2
	KS	Guadalajara, JA	\$7,371	\$431	\$79.72	\$2.17	2
	TX	Salinas Victoria, NL	\$4,329	\$77	\$45.02	\$1.22	1
Corn	IA	Guadalajara, JA	\$8,528	\$370	\$90.92	\$2.31	3
	SD	Celaya, GJ	\$7,880	\$0	\$80.51	\$2.04	2
	NE	Queretaro, QA	\$8,207	\$265	\$86.56	\$2.20	2
	SD	Salinas Victoria, NL	\$6,905	\$0	\$70.55	\$1.79	2
	MO	Tlalnepantla, EM	\$7,573	\$258	\$80.02	\$2.03	2
	SD	Torreon, CU	\$7,480	\$0	\$76.43	\$1.94	2
Soybeans	MO	Bojay (Tula), HG	\$8,284	\$344	\$88.16	\$2.40	3
	NE	Guadalajara, JA	\$8,842	\$370	\$94.12	\$2.56	2
	IA	El Castillo, JA	\$9,110	\$0	\$93.08	\$2.53	2
	KS	Torreon, CU	\$7,714	\$265	\$81.52	\$2.22	4
Sorghum	NE	Celaya, GJ	\$7,527	\$335	\$80.33	\$2.04	3
	KS	Queretaro, QA	\$8,000	\$157	\$83.34	\$2.11	2
	NE	Salinas Victoria, NL	\$6,633	\$126	\$69.05	\$1.75	3
	NE	Torreon, CU	\$6,962	\$247	\$73.66	\$1.87	3

¹Rates 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.

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.

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

²Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009

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

⁴Percentage change calculated using tariff rate plus fuel surchage

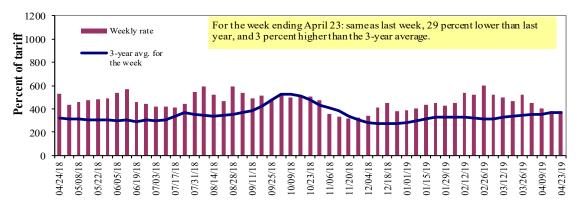
^{*} Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

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

Barge Transportation

Figure 8

Illinois River Barge Freight Rate^{1,2}



¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average. Source: Transportation & Marketing Program/AMS/USDA

Table 9
Weekly Barge Freight Rates: Southbound Only

	<u>.,gog</u>	Twin	Mid-	Lower Illinois			Lower	Cairo-
		Cities	Mississippi	River	St. Louis	Cincinnati	Ohio	Memphis
Rate ¹	4/23/2019	-	-	378	278	293	293	275
	4/16/2019	-	-	380	283	318	320	275
\$/ton	4/23/2019	-	-	17.54	11.09	13.74	11.84	8.64
	4/16/2019	-	-	17.63	11.29	14.91	12.93	8.64
Curren	t week % change f	from the sa	me week:					
	Last year	-	-	-29	-34	-38	-38	-27
	3-year avg. ²	-	-	3	-4	-4	-5	6
Rate ¹	May	453	397	385	282	297	297	270
	July	440	397	385	282	297	297	270

 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 Source: Transportation & Marketing Programs/AMS/USDA

Figure 9 Benchmark tariff rates

Calculating barge rate per ton:

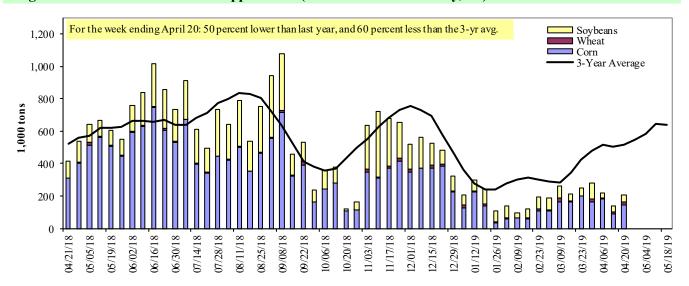
(Rate * 1976 tariff benchmark rate per ton)/100

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 River¹ (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 04/20/2019	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	0	0	0	0	0
Alton, IL (L26)	143	19	59	5	226
Granite City, IL (L27)	143	19	59	5	226
Illinois River (L8)	108	19	45	0	172
Ohio River (OLMS TED)	146	9	64	0	219
Arkansas River (L1)	0	13	13	0	25
Weekly total - 2019	289	40	136	5	470
Weekly total - 2018	424	30	201	0	655
2019 YTD ¹	3,743	730	3,019	46	7,538
2018 YTD ¹	5,271	473	3,312	47	9,103
2019 as % of 2018 YTD	71	154	91	99	83
Last 4 weeks as % of 2018 ²	66	197	94	247	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.

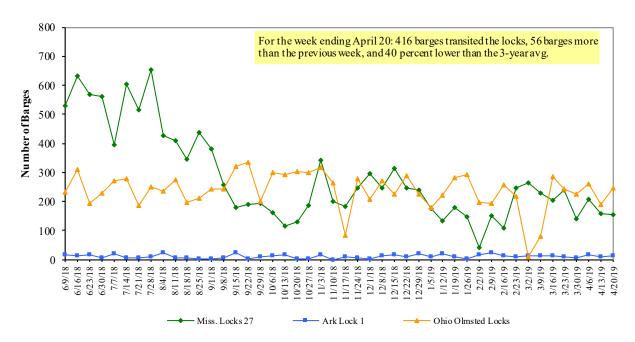
Note: 1. Total may not add exactly, due to rounding.

2. Starting from 11/24/2018, weekly movement through Ohio 52 is replaced by Olmsted.

Source: U.S. Army Corps of Engineers

² As a percent of same period in 2018.

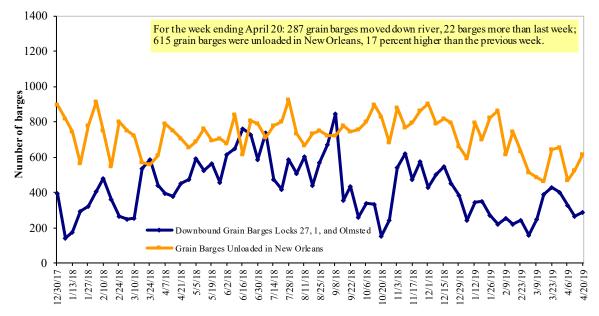
Figure 11
Upbound Empty Barges Transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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.

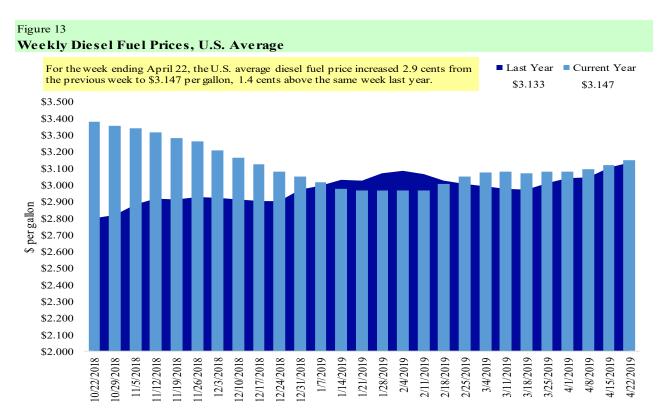
Table 11

Retail on-Highway Diesel Prices, Week Ending 4/22/2019 (US \$/gallon)

			Change	e from
Region	Location	Price	Week ago	Year ago
I	East Coast	3.174	0.021	0.032
	New England	3.217	0.012	0.046
	Central Atlantic	3.370	0.028	0.075
	Lower Atlantic	3.033	0.018	0.005
II	Midwest	3.042	0.032	-0.005
III	Gulf Coast	2.917	0.018	-0.019
IV	Rocky Mountain	3.143	0.061	-0.038
V	West Coast	3.696	0.045	0.080
	West Coast less California	3.309	0.057	-0.057
	California	4.003	0.036	0.188
Total	U.S.	3.147	0.029	0.014

¹Diesel 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)



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)

		(, , , ,					
			Who	eat			Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export Balances ¹									
4/11/2019	2,521	819	1,248	942	84	5,613	12,443	12,928	30,984
This week year ago	770	462	1,117	778	65	3,192	21,550	11,635	36,376
Cumulative exports-marketing year ²									
2018/19 YTD	6,421	2,477	5,631	4,374	399	19,301	32,248	31,364	82,914
2017/18 YTD	8,315	1,978	4,827	4,351	309	19,780	27,735	42,348	89,862
YTD 2018/19 as % of 2017/18	77	125	117	101	129	98	116	74	92
Last 4 wks as % of same period 2017/18	324	189	119	133	156	183	61	112	88
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

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

Table 13 **Top 5 Importers**¹ **of U.S. Corn**

For the week ending 4/11/2019	Total Commitme	nts ²	% change	Exports ³
	2018/19	2017/18	current MY	3-year avg
	Current MY	Last MY	from last MY	2015-2017
	-	1,000 mt -		
Mexico	14,264	12,349	16	13,691
Japan	9,720	8,966	8	11,247
Korea	3,615	4,040	(11)	4,754
Colombia	3,781	3,462	9	4,678
Peru	1,965	2,498	(21)	2,975
Top 5 Importers	33,345	31,316	6	37,344
Total US corn export sales	44,691	49,285	(9)	53,184
% of Projected	76%	79%		
Change from prior week ²	948	1,092		
Top 5 importers' share of U.S. corn				
export sales	75%	64%		70%
USDA forecast, April 2019	58,524	62,036	(6)	
Corn Use for Ethanol USDA forecast,				
April 2019	139,700	142,367	(2)	

⁽n) indicates negative number.

 $^{^2}$ Shipped export sales to date; new marketing year now in effect for corn, soybeans, and wheat Note: YTD = year-to-date. Marketing Year: wheat = 6/01-5/31, corn & soybeans = 9/01-8/31

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

²Cumulative 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.

³FAS 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 4/11/2019	Total (Commitments ²	% change	Exports ³
	2018/19	2017/18	current MY	3-yr avg.
	Current MY	Last MY	from last MY	2015-2017
		- 1,000 mt -		- 1,000 mt -
China	12,922	28,877	(55)	31,228
Mexico	4,659	3,870	20	3,716
Indonesia	1,813	1,773	2	2,250
Japan	2,090	1,816	15	2,145
Netherlands	1,828	1,185	54	2,209
Top 5 importers	23,311	37,521	(38)	41,549
Total US soybean export sales	44,292	53,983	(18)	55,113
% of Projected	87%	93%		
Change from prior week ²	382	1,041		
Top 5 importers' share of U.S.	_	_		
s oybean export sales	53%	70%		75%
USDA forecast, April 2019	51,090	58,011	88	

⁽n) indicates negative number.

Table 15 **Top 10 Importers** of All U.S. Wheat

For the week ending 4/11/2019	Total Co	ommitments ²	% change	Exports ³	
	2018/19	2017/18	current MY	3-yr avg	
	Current MY	Last MY	from last MY	2015-2017	
	- 1,000	mt -		- 1,000 mt -	
Mexico	3,060	2,857	7	2,781	
Japan	2,738	2,742	(0)	2,649	
Philippines	3,050	2,560	19	2,441	
Korea	1,554	1,421	9	1,257	
Nigeria	1,510	1,186	27	1,254	
Indonesia	1,318	1,130	17	1,076	
Taiwan	1,108	1,106	0	1,066	
China	42	894	(95)	944	
Colombia	600	347	73	714	
Thailand	744	660	13	618	
Top 10 importers	15,723	14,903	5	14,800	
Total US wheat export sales	24,914	22,971	8	22,869	
% of Projected	97%	94%			
Change from prior week ²	318	(67)			
Top 10 importers' share of U.S.	•				
wheat export sales	63%	65%		65%	
USDA forecast, April 2019	25,749	24,550	5		

(n) indicates negative number.

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

²Cumulative 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)

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)

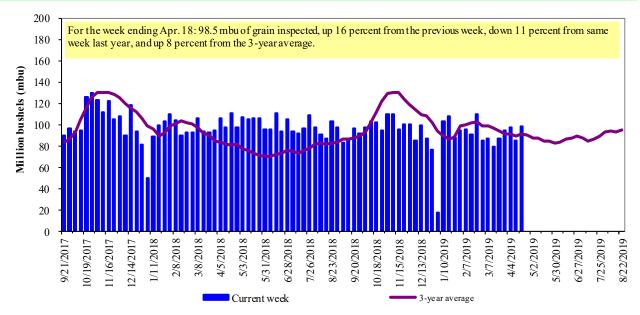
	For the Week Ending	Previous	Current Week			2019 YTD as	Last 4-we	eks as % of:	
Port Regions	04/18/19	Week*	as % of Previous	2019 YTD*	2018 YTD*	% of 2018 YTD	Last Year	Prior 3-yr. avg.	2018 Total*
Pacific Northwest									
Wheat	412	341	121	4,124	3,682	112	101	102	13,315
Corn	377	363	104	3,797	6,138	62	59	83	20,024
Soybeans	71	67	105	4,018	3,732	108	236	246	7,719
Total	860	771	111	11,940	13,552	88	89	107	41,058
Mississippi Gulf	000	771	111	11,7 10	10,002	00	0)	107	11,000
Wheat	117	62	187	1,543	1,445	107	94	107	3,896
Corn	745	606	123	8,540	9,846	87	79	89	33,735
Soybeans	132	241	55	8,038	8,227	98	119	100	28,124
Total	994	910	109	18,121	19,518	93	88	93	65,755
Texas Gulf	//!	710	107	10,121	17,010	,,	00	,,	00,100
Wheat	223	85	264	1,963	1,469	134	196	164	3,198
Corn	33	31	107	211	194	109	102	96	730
Soybeans	0	0	n/a	0	0	n/a	n/a	n/a	69
Total	256	116	222	2,173	1,663	131	180	153	3,997
Interior				, -	,				- , -
Wheat	80	25	323	522	474	110	141	127	1,614
Com	167	163	103	2,125	2,329	91	83	91	8,650
Soybeans	189	159	119	2,047	1,871	109	116	140	6,729
Total	436	347	126	4,693	4,674	100	101	112	16,993
Great Lakes									
Wheat	22	12	184	64	57	112	89	72	894
Corn	0	0	n/a	0	23	0	0	0	404
Soybeans	0	26	0	43	0	n/a	n/a	150	1,192
Total	22	38	57	107	80	134	99	76	2,491
Atlantic									
Wheat	0	32	0	32	64	51	n/a	335	69
Corn	7	0	n/a	49	31	160	46	121	138
Soybeans	10	7	141	456	749	61	47	82	2,047
Total	17	39	44	537	844	64	59	100	2,253
U.S. total from ports	*								
Wheat	854	557	153	8,249	7,191	115	117	115	22,986
Com	1,329	1,163	114	14,722	18,561	79	73	88	63,682
Soybeans	402	501	80	14,601	14,580	100	132	133	45,879
Total	2,585	2,220	116	37,572	40,331	93	92	103	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.

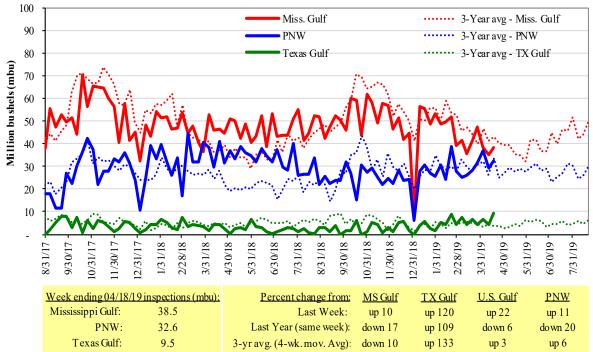
Figure 14
U.S. grain inspected for export (wheat, corn, and soybeans)



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 PNW¹ (wheat, corn, and soybeans)



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

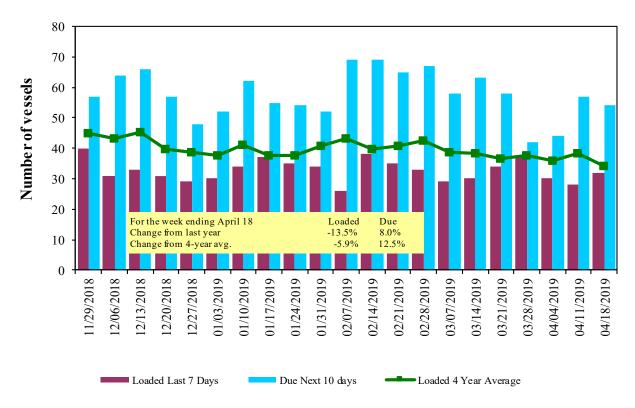
Ocean Transportation

Table 17
Weekly Port Region Grain Ocean Vessel Activity (number of vessels)

, B				Pacific
		Gulf		Northwest
		Loaded	Due next	
Date	In port	7-days	10-days	In port
4/18/2019	31	32	54	24
4/11/2019	29	28	57	30
2018 range	(2388)	(2441)	(3867)	(430)
2018 avg.	40	34	54	17

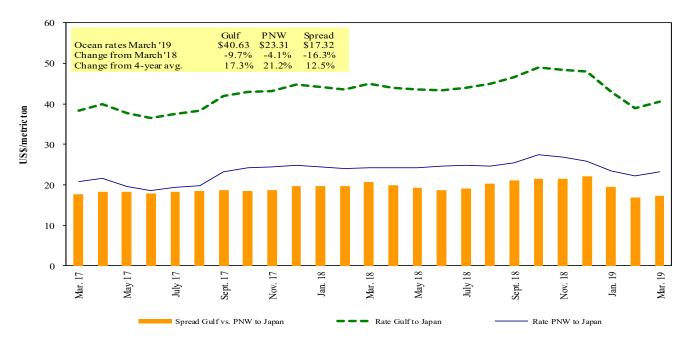
Source: Transportation & Marketing Programs/AMS/USDA

Figure 16
U.S. Gulf Vessel Loading Activity



Source: Transportation & Marketing Program/AMS/USDA ¹U.S. Gulfineludes 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 04/20/2019

Export	Import	Grain	Loading	Volume loads	Freight rate
region	region	types	date	(metric tons)	(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
PNW	China	Heavy Grain	Mar 2/18	60,000	27.50
PNW	Oman	Wheat	Feb 18/28	25,000	69.94*
PNW	Taiwan	Heavy Grain	Sep 15/Oct 31	63,000	25.00
Brazil	China	Heavy Grain	Apr 15/30	63,000	32.50
Brazil	China	Heavy Grain	Mar 20/30	66,000	13.30
Brazil	China	Heavy Grain	Mar 3/11	63,000	27.50
Brazil	China	Heavy Grain	Feb 26/M ar 4	66,000	24.75
Brazil	China	Heavy Grain	Feb 20/25	65,000	26.00
Brazil	China	Heavy Grain	Feb 13/26	60,000	26.75
Brazil	China	Heavy Grain	Jan 22/30	60,000	29.50
Brazil	China	Heavy Grain	Dec 15/20	60,000	37.50
Brazil	China	Heavy Grain	Dec 1/10	60,000	36.25
Brazil	China	Heavy Grain	Nov 20/30	60,000	38.00
Brazil	China	Heavy Grain	Nov 1/10	60,000	34.00
Brazil	S.Korea	Heavy Grain	Nov 5/10	66,000	43.00
River Plate	China	Heavy Grain	Apr 21/30	65,000	37.85

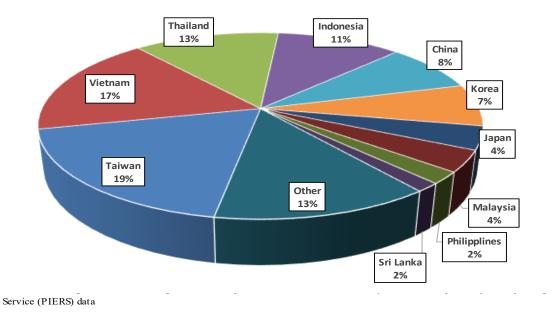
Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), F.O.B., except where otherwise indicated; op = option

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

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

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, January-May 2018



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 230310, 110220, 110290, 120100, 230210, 230990, 230330, and 120810.

Figure 19 Monthly Shipments of Containerized Grain to Asia 80 2017 75 May 2018: Down 63% from last year and 68% lower than 2018 the 5-year average 70 5-year avg 65 Thousand 20-ft equivalent units 60 55 50 45 40 35 30 25 20 15 10 5 0 May Mar. Apr. Nov. Jun. Dec. Feb. Jul. Jan.

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*. April 25, 2019. Web: http://dx.doi.org/10.9752/TS056.04-25-2019

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