



Grain Transportation Report

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

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April 11, 2019

WEEKLY HIGHLIGHTS

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Grain Inspections Up for Third Consecutive Week

For the week ending April 4, total inspections of grain for export from all major U.S. export regions reached 2.52 million metric tons (mmt). This shows a 1 percent increase from the previous week, a 10 percent decrease from last year, and a 5 percent increase from the 3-year average. Inspections of grain were up for the third consecutive week. The increase in inspections was driven by a 19 percent increase in wheat inspections and a 21 percent increase in soybean inspections. Soybean shipments destined to China rebounded, increasing 45 percent from week to week. Inspections of corn, however, were down 18 percent from the past week. Pacific Northwest (PNW) inspections increased 18 percent from the previous week, while Mississippi Gulf inspections decreased 19 percent.

Flooding Continues to Disrupt Barge Traffic

On-going flooding continues to disrupt barge traffic on the major waterways. As of April 11, there are 10 locks on the Upper Mississippi River that are closed due to high water. To ensure safe passage under bridges that span the Mississippi River, barge traffic is restricted to daylight only in several locations on the Lower Mississippi River and in the St. Louis area. American Commercial Barge Line reports river levels at Memphis are receding and 24-hour traffic has resumed. As of April 9, barge operators report a second week of spot grain barge rate declines, as many shippers are not looking to buy barge services for the first half of April. Year-to-date barge grain shipments are 15 percent lower than last year.

Railroads Continue to Recover from Midwest Flooding

BNSF Railway (BNSF) and the Union Pacific Railroad (UP) continue to make significant progress restoring service following record flooding in the Midwest; some outages remain. BNSF reopened the Council Bluffs Subdivision and reported that trains are moving again along two critical segments, the Creston Subdivision (an east/west artery between Lincoln, NE, and Creston, IA) and the St. Joseph Subdivision (between Lincoln, NE, and Kansas City, MO). UP brought multiple subdivisions back online and is nearly complete in restoring service between Council Bluffs, IA, and Kansas City, KS (a rail bridge outage remains). For BNSF, track between Pacific Junction, IA, and Napier, MO, and segments along the Mississippi River remain out of service. UP's corridor between Fremont and Lincoln, NE, remains closed.

Details on STB Hearing on Railroad Demurrage and Accessorial Fees (May 22)

On April 8, 2019, the Surface Transportation Board (STB) provided additional details regarding their May 22 public hearing on railroad demurrage and accessorial charges (Docket No. EP 754). According to the decision, anyone who wishes to speak at the hearing must file a notice of intent to participate with the STB no later than April 24; Class I railroads are required to submit a variety of demurrage and accessorial information by May 1; and written comments, both from those testifying and other interested parties, must be filed by May 8.

Snapshots by Sector

Export Sales

For the week ending March 28, **unshipped balances** of wheat, corn, and soybeans totaled 32.9 mmt. This indicates an 11 percent decrease in outstanding sales, compared to the same time last year. Net weekly **wheat export sales** were .705 mmt, up 48 percent from the previous week. Net **corn export sales** totaled .537 mmt, down 41 percent from the previous week. However, net **soybean export sales** totaled 1.97 mmt, up significantly from the past week.

Rail

U.S. Class I railroads originated 22,565 grain carloads for the week ending March 30. This is a 2 percent increase from the previous week, 6 percent lower than last year, and 2 percent below the 3-year average.

Average April shuttle **secondary railcar** bids/offers (per car) were \$606 above tariff for the week ending April 4. This is up \$266 from last week and \$131 above last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending April 6, barge grain movements totaled 504,987 tons. This is 27 percent lower than the previous week and 20 percent lower than the same period last year.

For the week ending April 6, 330 grain barges moved down river. This is 71 less barges than the previous week. There were 469 grain barges unloaded in New Orleans, 28 percent lower than the previous week.

Ocean

For the week ending April 4, 30 ocean-going grain vessels were loaded in the Gulf. This is 17 percent less than the same period last year. Forty-four vessels are expected to be loaded within the next 10 days, 20 percent less than the same period last year.

For the week ending April 4, the ocean freight rate for shipping bulk grain from the Gulf to Japan was \$42.00 per mt. This is 1 percent more than the previous week. The cost of shipping from the PNW to Japan is unchanged from the previous week, at \$23.75 per mt.

Fue

For the week ending April 8, the U.S. average diesel fuel price increased to \$3.093 per gallon, 1.5 cents above the previous week's average and 5 cents above the same week last year.

Feature Article/Calendar

International Trade Community Braces for New IMO Fuel Standard

The International Maritime Organization (IMO), under Annex VI of the International Convention for the Prevention of Pollution from Ships, mandates ocean-going vessels reduce the amount of sulfur emissions from marine fuel, by January 1, 2020. * The regulation requires vessels to limit sulfur emissions in fuel oil to a maximum of 0.5 percent, by weight, from the current maximum of 3.5 percent. This is the largest single marine fuel standard reduction since the IMO began tightening sulfur oxide emissions standards in 2005. The last mandate, in 2015, decreased sulfur emissions in designated emissions control areas (ECAs), from 1 percent to 0.1 percent.† ECAs were established for major global ports and coastal regions. Some global media sources have called the new IMO 2020 mandate the biggest change in fuel regulations since the elimination of leaded gasoline.

Though the mandate will not be implemented until January 1, 2020, ocean carriers and shippers are uncertain how supply and demand for this new blend of fuel will impact freight costs. The majority of U.S. agricultural trade moves by ocean vessel, leaving much of the agricultural export community vulnerable to the impacts of the new mandate with uncertainty and higher costs. The IMO and the U.S. Department of Energy (DOE) have written several articles and resources detailing the regulations and possible impacts the new mandate could have on the industry. The remainder of this article summarizes their findings and presents the latest impacts on ocean freight costs and contract negotiations.

Options for Compliance

To comply with the new IMO standards, vessel operators have 3 options:

- 1) They can install "scrubbers" that filter sulfur oxides from the ship's engine and broiler exhaust gases, which allows the continued use of marine fuel oils with 3.5 percent sulfur content.
- 2) Operators can use marine fuel refined to a low-sulfur content to meet the new requirements. These fuels include marine distillate fuel and ultra-low sulfur fuel oil blends.
- 3) Ships with compatible engines can use liquefied natural gas or biofuels, which emit emissions well below the new mandate.

Ocean carriers and shippers are concerned each of these options comes with an increase in cost. A small percentage of the global vessel fleet is expected to be retrofitted with scrubbers or engineered to operate on liquefied natural gas or biofuels, leaving most of the fleet to rely on compliant marine fuels. Current heavy marine fuel—used in most ocean-going vessels—is made from what is left of the crude oil after it is refined for other fuel products. In 2020 and beyond, further refining and blending of these products will be required for compliance. Refineries are beginning to test some blended fuels for compliance and compatibility with vessel engines.

Industry Forecasts

Shippers are concerned about sufficient supplies of compliant fuels after January 1, 2020, as well as increases in fuel prices and surcharges in the fourth quarter of 2019 leading up to the implementation

^{*} The International Convention for the Prevention of Pollution from Ships is also known as the Maritime Pollution or MARPOL Convention.

[†] The 0.10 percent limit applies in the four established ECAs: the Baltic Sea area; the North Sea area; the North American area (covering designated coastal areas off the United States and Canada); and the United States Caribbean Sea area (around Puerto Rico and the United States Virgin Islands). http://www.imo.org/en/MediaCentre/HotTopics/Pages/Sulphur-2020.aspx

date. A study commissioned by IMO assessing fuel oil availability concluded the refinery sector has the capability to supply sufficient quantities of marine fuels to meet the new mandate. IMO concluded the capacity is sufficient for marine fuels with: (1) sulfur content of 0.50 percent by weight or less, and (2) sulfur content of 0.10 percent by weight or less. This is in addition to meeting the demand for non-marine fuels.*

According to a recent article from DOE's Energy Information Administration (EIA), the change in sulfur limits has wide-ranging repercussions for the global refining and shipping industries, as well for petroleum supply, demand, trade flows, and prices. The article continues, "...shipping and refining industries have already begun making preparations and investments to varying degrees to accommodate IMO 2020 regulations. As the implementation date for the 0.5 percent sulfur cap approaches, the U.S. Energy Information Administration (EIA) expects that shifts in petroleum product pricing may begin as early as mid-to-late 2019. EIA anticipates that the effects on petroleum prices will be most acute in 2020, and the effects on prices will be moderate after that. However, the regulations will affect petroleum supply, demand, and trade flows on a more long-term basis."

The Trade Industry Prepares for Increasing Costs

Ocean carriers are preparing for increased fuel costs, starting in the fourth quarter of 2019. The full picture of how much the new fuel will cost and how long it will take to stabilize supplies and logistics, is unknown. According to top ocean container carriers, the new mandate could cost the industry an extra \$10-15 billion annually. Because of this, carriers are insisting on a separate fuel surcharge calculation included in recent contract negotiations. Transpacific annual service contracts, between ocean container carriers and importers and exporters, run from May 1 to April 30. This means shippers and carriers must make critical decisions about the new mandate now. According to a recent article in the Journal of Commerce, carriers are holding firm to the fuel surcharges being included in the service contracts, and shippers are reluctantly accepting them. In some cases, carriers are including a floating surcharge to be adjusted in the fourth quarter when prices are expected to rise as the January 1 deadline approaches. An additional \$150 fuel surcharge, per container, could increase U.S. average export container freight rates by 20-30 percent.

According to data provided by Ship & Bunker, average bunker fuel prices at the top 20 global fueling ports have increased 15 percent since early January. However, prices are 14 percent below the record set in October 2018. As the year progresses and demand for the low sulfur fuel increases, prices could rise. Shippers and carriers should continue to monitor the situation closely.

*April.Taylor@usda.gov**

^{*} ibid

^{† &}quot;The Effects of Changes to Marine Fuel Sulfur Limits in 2020 on Energy Markets", U.S. Energy Information Administration, https://www.eia.gov/outlooks/studies/imo/

^{* &}quot;Carriers gaining confidence in low-sulfur fuel negotiations", The Journal of Commerce, https://www.joc.com/regulation-policy/transportation-regulations/carriers-gaining-confidence-low-sulfur-fuel-negotiations_20190402.html

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
04/10/19	208	280	246	224	188	168
04/03/19	207	302	234	250	186	168

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)

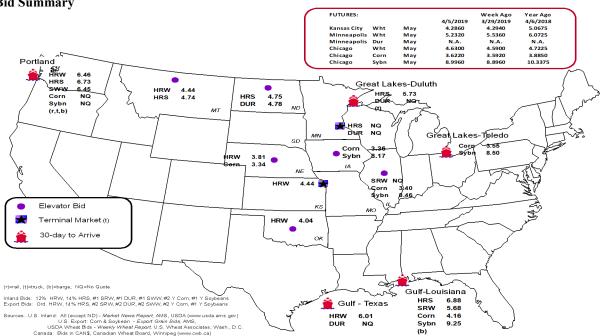
Commodity	OriginDestination	4/5/2019	3/29/2019
Corn	ILGulf	-0.76	-0.77
Corn	NEGulf	-0.82	-0.84
Soybean	IAGulf	-1.08	n/a
HRW	KSGulf	-1.57	-1.65
HRS	NDPortland	-1.98	-2.04

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
4/03/2019 ^p	1,254	1,796	6,363	307	9,720	3/30/2019	1,995
3/27/2019 ^r	1,349	1,030	6,862	336	9,577	3/23/2019	1,884
2019 YTD ^r	10,842	15,342	77,300	5,183	108,667	2019 YTD	29,140
2018 YTD ^r	5,895	22,939	89,755	4,335	122,924	2018 YTD	24,428
2019 YTD as % of 2018 YTD	184	67	86	120	88	% change YTD	119
Last 4 weeks as % of 2018 ²	391	57	91	81	92	Last 4wks % 2018	109
Last 4 weeks as % of 4-year avg. ²	268	59	104	78	101	Last 4wks % 4 yr	100
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

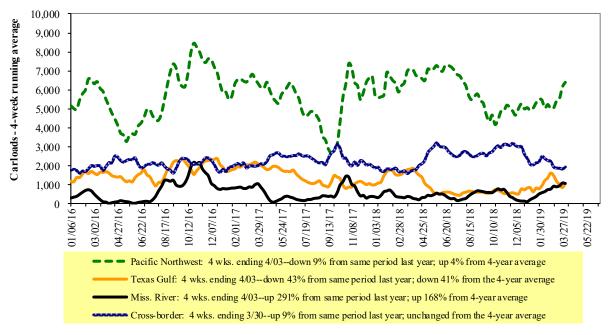
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

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)

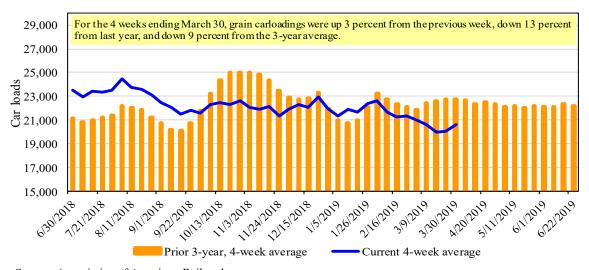
For the week ending:	East			West		U.S. total	Ca	nada
3/30/2019	CSXT NS		BNSF	BNS F KCS UP			CN	CP
This week	2,314	2,823	10,997	1,609	4,822	22,565	4,786	4,567
This week last year	2,309	1,875	14,085	708	5,075	24,052	3,703	4,913
2019 YTD	25,793	34,730	137,349	14,828	64,809	277,509	51,853	51,806
2018 YTD	24,124	31,102	156,250	11,920	66,909	290,305	44,986	56,201
2019 YTD as % of 2018 YTD	107	112	88	124	97	96	115	92
Last 4 weeks as % of 2018*	105	120	73	167	91	87	107	86
Last 4 weeks as % of 3-yr avg.**	114	104	83	156	84	91	110	90
Total 2018	98,978	133,087	635,458	48,638	267,713	1,183,874	211,841	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	or the week ending:		<u>Delivery period</u>							
	4/4/2019	Apr-19	Apr-18	May-19	May-18	Jun-19	Jun-18	Jul-19	Jul-18	
BNSF ³	COT grain units	n/a	0	n/a	0	n/a	no bids	n/a	no bids	
	COT grain single-car ⁵	n/a	2	n/a	1	n/a	0	n/a	0	
UP ⁴	GCAS/Region 1	no offer	no offer	no offer	no offer	10	no bids	n/a	n/a	
	GCAS/Region 2	no offer	no offer	no offer	no offer	10	no offer	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.

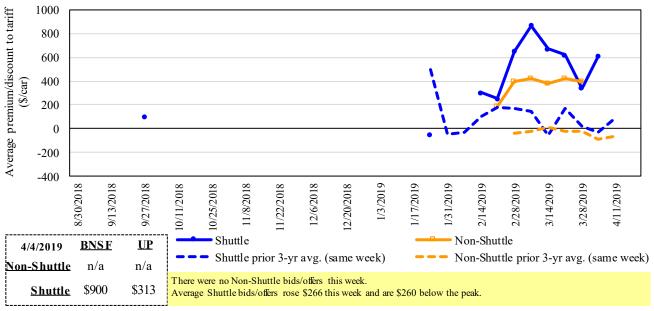
²Average premium/discount to tariff, last auction

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.

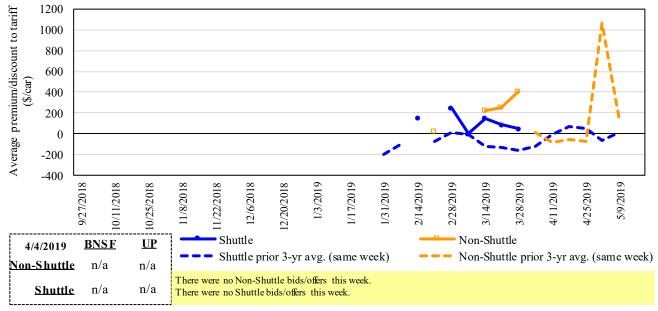
Figure 4
Bids/Offers for Railcars to be Delivered in April 2019, Secondary Market



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

Source: Transportation & Marketing Program/AMS/USDA

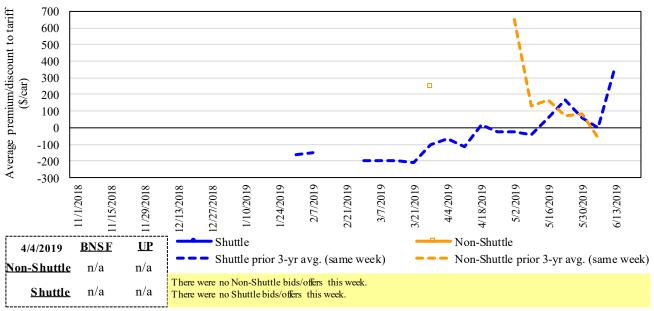
Figure 5
Bids/Offers for Railcars to be Delivered in May 2019, Secondary Market



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

Source: Transportation & Marketing Program/AMS/USDA

Figure 6 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

Table 6 Weekly Secondary Railcar Market (\$/car)1

	For the week ending:			Del	ivery period		
	4/4/2019	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19
	BNSF-GF	n/a	n/a	n/a	n/a	n/a	n/a
e	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
Non-shuttle	Change from same week 2018	n/a	n/a	n/a	n/a	n/a	n/a
n-sl	UP-Pool	n/a	n/a	n/a	n/a	n/a	n/a
ž	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
	BNSF-GF	900	n/a	n/a	n/a	n/a	n/a
	Change from last week	394	n/a	n/a	n/a	n/a	n/a
ttle	Change from same week 2018	300	n/a	n/a	n/a	n/a	n/a
Shuttle	UP-Pool	313	n/a	n/a	n/a	n/a	n/a
	Change from last week	138	n/a	n/a	n/a	n/a	n/a
	Change from same week 2018	(38)	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; P o o l = guaranteed po o l

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

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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

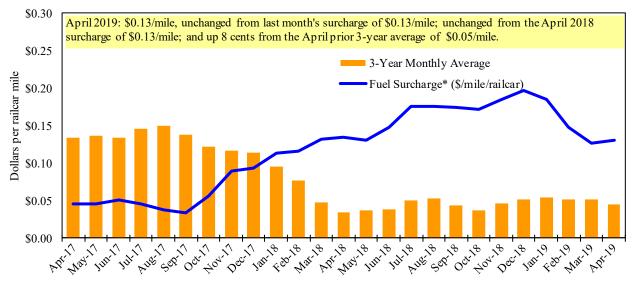
Date	: April, 2019)		Fuel			Percent
	Origin		Tariff	surcharge	Tariff plus surc	harge per:	change ⁴
Commodity	state	Destination region	rate/car ¹	per car ²	metric ton ³	bushel ³	Y/Y
Wheat	MT	Chihuahua, CI	\$7,284	\$0	\$74.43	\$2.02	-2
	OK	Cuautitlan, EM	\$6,743	\$125	\$70.18	\$1.91	2
	KS	Guadalajara, 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

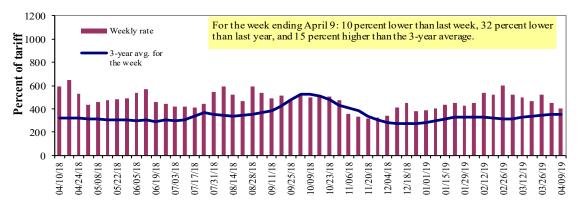
^{*} Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

^{**}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

	., <i>-</i> ,gog	Twin	Mid-	Lower Illinois			Lower	Cairo-
		Cities	Mississippi	River	St. Louis	Cincinnati	Ohio	Memphis
Rate ¹	4/9/2019	-	-	403	305	375	383	292
	4/2/2019	-	-	450	350	413	422	348
\$/ton	4/9/2019	-	-	18.70	12.17	17.59	15.47	9.17
	4/2/2019	-	-	20.88	13.97	19.37	17.05	10.93
Curren	t week % change	from the sa	me week:					
	Last year	-	-	-32	-38	-30	-31	-36
	3-year avg. ²	-	-	15	12	23	25	18
Rate ¹	May	475	415	403	300	353	353	283
	July	463	412	398	300	338	338	280

 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:

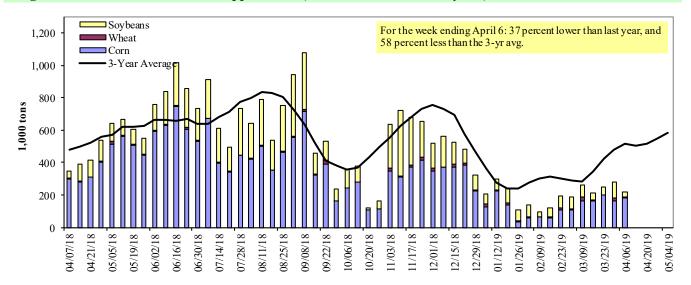
(Rate * 1976 tariff benchmark rate per ton)/100

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 04/06/2019	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)	135	13	22	0	169
Granite City, IL (L27)	179	11	28	2	220
Illinois River (L8)	101	8	17	0	126
Ohio River (OLMSTED)	129	13	77	0	219
Arkansas River (L1)	1	25	39	0	66
Weekly total - 2019	309	49	145	2	505
Weekly total - 2018	423	46	159	2	629
2019 YTD ¹	3,207	638	2,755	40	6,640
2018 YTD ¹	4,448	419	2,916	47	7,830
2019 as % of 2018 YTD	72	152	94	84	85
Last 4 weeks as % of 2018 ²	63	145	117	63	81
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.

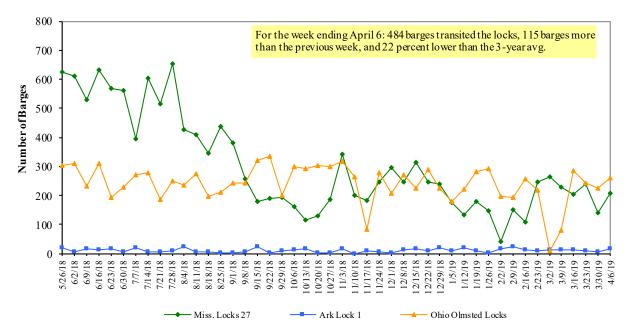
Note: 1. Total may not add exactly, due to rounding.

Source: U.S. Army Corps of Engineers

² As a percent of same period in 2018.

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

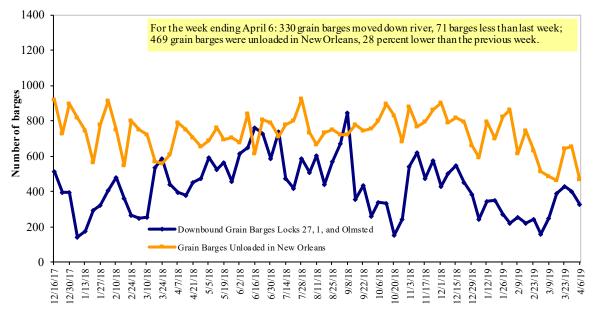
Figure 11
Upbound Empty Barges Transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



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.

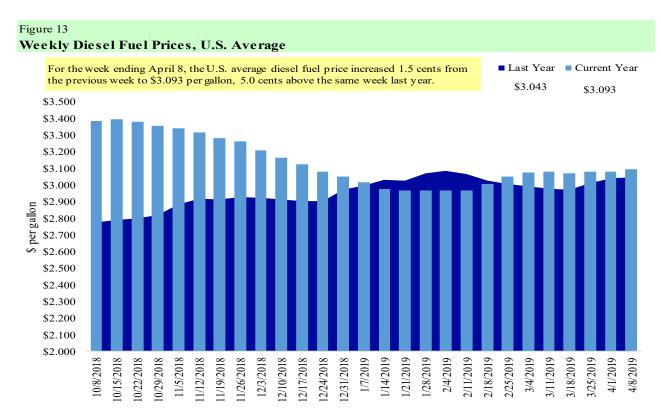
Table 11

Retail on-Highway Diesel Prices, Week Ending 4/8/2019 (US \$/gallon)

	,		Chang	
Region	Location	Price	Week ago	Year ago
I	East Coast	3.137	0.010	0.071
	New England	3.193	-0.003	0.076
	Central Atlantic	3.324	0.015	0.092
	Lower Atlantic	2.998	0.007	0.059
II	Midwest	2.993	0.009	0.036
III	Gulf Coast	2.879	0.007	0.035
IV	Rocky Mountain	3.028	0.021	-0.058
V	West Coast	3.591	0.050	0.091
	West Coast less California	3.189	0.036	-0.037
	California	3.910	0.061	0.193
Total	U.S.	3.093	0.015	0.050

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)

		(00 1110 011	, , ,					
	Wheat								Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export Balances ¹									
3/28/2019	2,563	923	1,403	1,103	117	6,110	13,154	13,636	32,900
This week year ago	979	534	1,442	1,006	66	4,026	23,124	9,906	37,056
Cumulative exports-marketing year ²									
2018/19 YTD	6,073	2,320	5,314	4,142	364	18,214	30,041	30,004	78,259
2017/18 YTD	8,002	1,871	4,554	4,156	308	18,891	24,229	41,579	84,699
YTD 2018/19 as % of 2017/18	76	124	117	100	118	96	124	72	92
Last 4 wks as % of same period 2017/18	252	165	94	105	178	146	59	134	89
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 3/28/2019	Total Commitments 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	13,648	11,897	15	13,691
Japan	9,089	8,375	9	11,247
Korea	3,406	3,646	(7)	4,754
Colombia	3,455	3,167	9	4,678
Peru	1,967	2,439	(19)	2,975
Top 5 Importers	31,564	29,523	7	37,344
Total US corn export sales	43,195	47,353	(9)	53,184
% of Projected	74%	76%		
Change from prior week ²	537	898		
Top 5 importers' share of U.S. corn				
export sales	73%	62%		70%
USDA forecast, April 2019	58,524	62,036	(6)	
Corn Use for Ethanol USDA forecast,	120 500	142.267		
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 3/28/2019	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	12,923	28,675	(55)	31,228
Mexico	4,581	3,609	27	3,716
Indonesia	1,693	1,622	4	2,250
Japan	1,995	1,729	15	2,145
Netherlands	1,762	1,185	49	2,209
Top 5 importers	22,953	36,820	(38)	41,549
Total US soybean export sales	43,640	51,484	(15)	55,113
% of Projected	85%	89%		
Change from prior week ²	1,972	1,133		
Top 5 importers' share of U.S.				
soybean export sales	53%	72%		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 3/28/2019	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	2,974	2,797	6	2,781
Japan	2,658	2,772	(4)	2,649
Philippines	3,000	2,511	20	2,441
Korea	1,554	1,420	9	1,257
Nigeria	1,434	1,186	21	1,254
Indonesia	1,314	1,214	8	1,076
Taiwan	1,100	1,107	(1)	1,066
China	42	891	(95)	944
Colombia	592	322	84	714
Thailand	742	687	8	618
Top 10 importers	15,409	14,905	3	14,800
Total US wheat export sales	24,324	22,918	6	22,869
% of Projected	94%	93%		
Change from prior week ²	705	109		
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.

Based 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

 $^{^3\} FAS\ Marketing\ Year\ Final\ Reports\ -\ www.fas.us\ da.go\ v/export-s\ ales/myfi_rpt.htm.\ (Carryo\ ver\ plus\ Accumulated\ Exports)$

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)

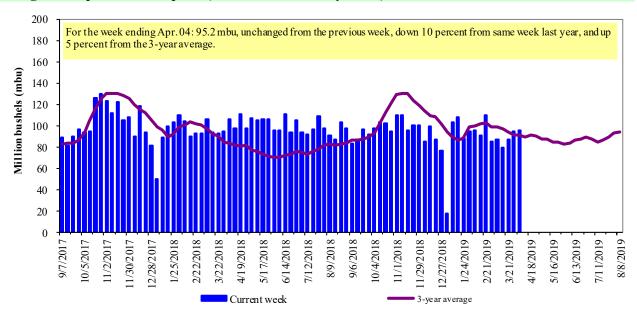
	For the Week Ending	Previous	Current Week			2019 YTD as	Last 4-we	eks as % of:	
Port Regions	04/04/19	Week*	as % of Previous	2019 YTD*	2018 YTD*	% of 2018 YTD	Last Year	Prior 3-yr. avg.	2018 Total*
Pacific Northwest									
Wheat	269	215	125	3,370	3,029	111	85	76	13,315
Com	302	343	88	3,058	5,024	61	51	73	20,024
Soybeans	415	279	149	3,880	3,661	106	234	238	7,719
Total	986	838	118	10,308	11,713	88	88	103	41,058
Mississippi Gulf				,	,				,
Wheat	93	129	72	1,364	1,225	111	87	112	3,896
Com	575	761	76	7,182	8,190	88	74	77	33,735
Soybeans	325	339	96	7,664	7,712	99	149	122	28,124
Total	993	1,229	81	16,210	17,127	95	92	92	65,755
Texas Gulf		-)>	VI	10,=10	,	,,,	/ -	/ -	00,.00
Wheat	177	124	143	1,655	1,258	132	192	133	3,198
Com	0	0	n/a	146	163	90	82	68	730
Soybeans	0	0	n/a	0	0	n/a	n/a	n/a	69
Total	177	124	143	1,801	1,420	127	172	123	3,997
Interior				,	,				,
Wheat	28	10	277	399	385	104	214	101	1,614
Com	140	126	111	1,775	1,928	92	82	88	8,650
Soybeans	129	120	108	1,697	1,581	107	93	123	6,729
Total	297	256	116	3,871	3,893	99	92	101	16,993
Great Lakes									
Wheat	0	0	n/a	30	19	157	n/a	61	894
Com	0	0	n/a	0	0	n/a	n/a	n/a	404
Soybeans	0	0	n/a	16	0	n/a	n/a	0	1,192
Total	0	0	n/a	47	19	242	n/a	36	2,491
Atlantic									
Wheat	0	0	n/a	1	64	1	0	0	69
Corn	0	7	0	42	0	n/a	n/a	469	138
Soybeans	66	32	205	439	660	66	90	134	2,047
Total	66	39	167	481	723	67	83	123	2,253
U.S. total from ports	*								
Wheat	567	478	119	6,820	5,978	114	105	95	22,986
Com	1,017	1,237	82	12,203	15,305	80	67	77	63,682
Soybeans	935	770	121	13,697	13,613	101	153	150	45,879
Total	2,519	2,485	101	32,719	34,896	94	93	99	132,547

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

Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov); 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)

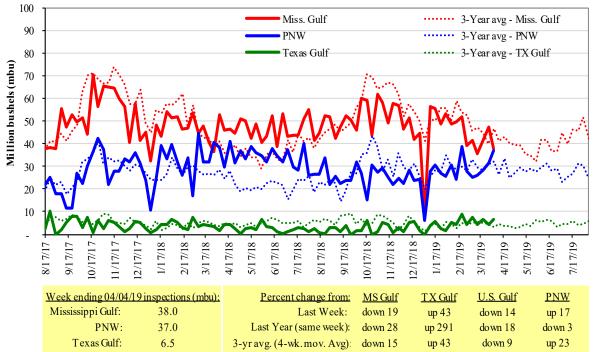


Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov)

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: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov)

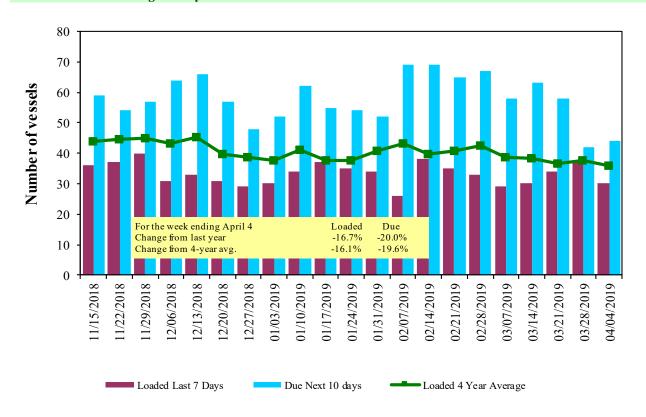
Ocean Transportation

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

				Pacific
		Gulf		Northwest
		Loaded	Due next	
Date	In port	7-days	10-days	In port
4/4/2019	35	30	44	31
3/28/2019	47	37	42	31
2018 range	(2388)	(2441)	(3867)	(430)
2018 avg.	40	34	54	17

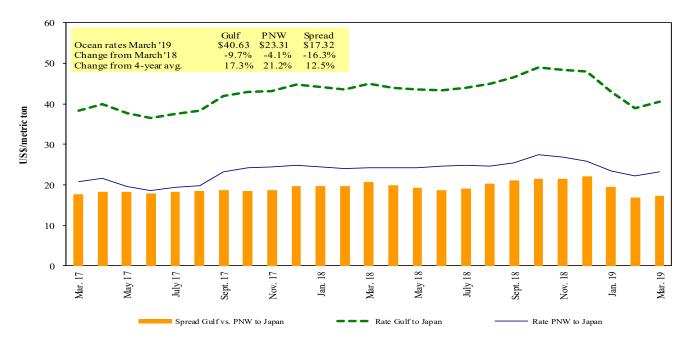
Source: Transportation & Marketing Programs/AMS/USDA

Figure 16
U.S. Gulf Vessel Loading Activity



Source: Transportation & Marketing Program/AMS/USDA $^{\rm l}U.S.$ Gulfincludes 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 04/06/2019

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

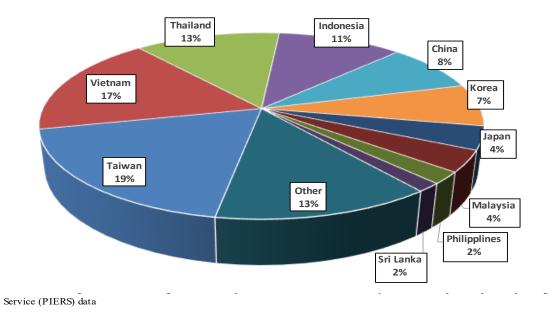
Source: Maritime Research Inc. (www.maritime-research.com)

^{*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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