United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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April 2, 2020

Contents

The next release is April 9, 2020

WEEKLY HIGHLIGHTS

Shippers Ask FMC To Publish Container Availability Rule

On March 16, a group of 67 trade associations sent a letter asking the Federal Maritime Commission (FMC) chairman to finalize and publish its Proposed Interpretive Rule on Demurrage and Detention. The proposed rule provides guidance on fair and reasonable practices for ocean carriers and marine terminals to assess demurrage and detention fees on shippers. Shippers maintain that detention and demurrage should not be assessed for a failure (outside the shipper's control) to return or pick up containers during the free allowance period. In their letter, the shippers assert that current practices on demurrage and detention fees threaten the competitive edge of U.S. exports globally while making imports more expensive to consumers and manufacturers. Through the proposed rulemaking, FMC aims to clearly define demurrage, detention, and dispute resolution policies and to clarify how ocean carriers and marine terminals should alert shippers when their cargo is available for retrieval.

Agricultural Trade Organizations Call for Increased Truck Weight Limits and Harmonization

On March 30, 62 food and agricultural organizations sent a letter to governors and other State officials requesting States increase truck weight limits to a minimum of 88,000 pounds on U.S. Highways and Federal Interstate Highways for the rest of fiscal year 2020. The request aims to optimize capacity of the U.S. food supply chain if fewer truck drivers are available because of coronavirus disease (COVID-19). Section 22003 of the recently enacted stimulus bill clarifies the U.S. Department of Transportation's authority to allow States to increase truck weight limits on U.S. interstate highways during the COVID-19 emergency. The States already have the authority to raise truck weight limits on their State roads. The request also seeks to ensure minimum weights are "harmonized" across all States—i.e., all States adopt the same minimum—so drivers will have no impediments when crossing State lines.

FMCSA Expands HOS Waiver To Include Feed and Fertilizer

On March 25, the U.S. Department of Transportation's Federal Motor Carrier Safety Administration (FMCSA) updated the frequently asked questions for its COVID-19 emergency declaration to clarify that feed and fertilizer are covered. This means drivers transporting feed and fertilizer are currently exempt from federally mandated hours-of-service (HOS) rules. In response to supply chain disruptions, a group of 53 farm- and food-related associations, including the National Grain and Feed Association, urged FMCSA to include animal food and feed ingredients in its emergency declaration. Earlier in March, after President Trump declared a nationwide emergency, FMCSA temporarily granted exemption from HOS rules to drivers transporting food or livestock to distribution and retail facilities.

Snapshots by Sector

Export Sales

For the week ending March 19, **unshipped balances** of wheat, corn, and soybeans totaled 23.6 million metric tons (mmt). This represented a 27-percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached 1.814 mmt, up significantly from the past week. Net **soybean export sales** were 0.904 mmt, up 43 percent from the previous week. Net weekly **wheat export sales** reached 0.740 mmt, up significantly from the previous week.

Rail

U.S. Class I railroads originated 20,996 **grain carloads** during the week ending March 21. This was a 5-percent increase from the previous week, 5 percent less than last year, and 8 percent lower than the 3-year average.

Average April shuttle **secondary railcar** bids/offers (per car) were $25 above tariff for the week ending March 26. This was $50 less than last week and $316 lower than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending March 28, **barge grain movements** totaled 514,104. This was a 16-percent increase from the previous week and 23 percent less than the same period last year.

For the week ending March 28, 310 grain barges **moved down river**—37 more barges than the previous week. There were 588 grain barges **unloaded in New Orleans**, 5 percent higher the previous week.

Ocean

For the week ending March 26, 32 **oceangoing grain vessels** were loaded in the Gulf—14 percent fewer than the same period last year. Within the next 10 days (starting March 27), 39 vessels were expected to be loaded—7 percent fewer than the same period last year.

As of March 26, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $39.00. This was 5 percent less than the previous week. The rate from the Pacific Northwest to Japan was $20.00 per mt, 6 percent less than the previous week.

Fuel

For the week ending March 30, the U.S. average **diesel fuel price** decreased 7.3 cents from the previous week to $2.586 per gallon, 49.2 cents below the same week last year.

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Feature Article/Calendar

2020 Transportation Research Forum: A Synopsis of USDA's Agricultural Session

Every year, the Transportation Research Forum's (TRF) annual conference convenes transportation practitioners, regulators, and researchers of all modes. These attendees discuss research, practices, and technologies that affect public policy, enhance existing markets, and create new market opportunities. Sessions cover rail, ocean, barge, and truck transportation, as well as port logistics, infrastructure investments, and other areas. Like many recent events, this year's March 12-13 TRF conference was canceled because of coronavirus disease (COVID-19) concerns. Nevertheless, in this article, we summarize the preliminary results from three ongoing projects on agricultural transportation. These three papers were accepted for a special session, sponsored by USDA's Agricultural Marketing Service.

"Port Choice and International Trade in Agricultural Products"

Exports are a key market for U.S. farmers and shippers. According to USDA's Foreign Agricultural Service data, the United States exported almost 211 million metric tons of agricultural goods (worth $154 million) in 2019. Various data on trade flows are available, such as values and volumes by commodity and port. What is less well known is how the U.S. ports are "selected"—that is, what factors explain why an importing country receives its product from one U.S. port versus another (e.g., one in the Gulf versus another in the Great Lakes). In their paper, Tobias Sytsma and Wesley Wilson investigate the factors that influence port choice—why importers draw from one port rather than another.[1]

In the authors' model, importers choose the port based on returns. These returns depend on rates, distance to the destination, and port characteristics (channel depth and berthing length).

After developing their theoretical model, the authors use an empirical procedure to estimate the relationship between port volume shares and prices. They find ports are highly competitive, where a 1-percent increase in price per ton at a particular port leads to a 5-percent reduction in that port's market share. The authors also estimate the effects of port depth and berthing lengths on market share and find that increases in depth and longer berthing lengths lead to greater market share, as expected, but the size of the effects vary significantly across ports. The results could be useful to policymakers looking to assess the effects of port investments across the country.

"Exit Decisions in the Canadian Grain Elevator Industry"

This paper, by Sichao Jiang, James Nolan, and Wesley Wilson, focuses on the Canadian grain elevator industry, an important link in the agricultural supply chain.[2] Over the last few decades, the number of elevators has fallen dramatically. The authors discuss the industry's changing nature and examine the factors leading elevator owners to remain in or exit the market. In general, elevators are larger and built using more modern construction methods than they were 20 years ago.

The authors tailored their statistical analysis to account for each elevator's reasons for exiting or remaining in the market. Because businesses tend not to operate at a loss in the long term, a choice to exit would indicate the business was not profitable. Of the factors tested, rail loading capacity and number of nearby competitors were the most relevant to transportation. More rail loading capacity increased the chances of an elevator remaining in the market. (In the analysis, this was expressed as a negative effect on the likelihood of exiting.) A 1-percent increase in carloading capacity was associated with a 2.7-percent reduced likelihood of exiting the market. This finding supports the assertion that transportation access is

[1] Tobias Sytsma and Wesley Wilson are at the University of Oregon. This paper explores port choice from the perspective of the importing country. In the second part of the project, the authors investigate the earlier portion of the supply chain—the factors that explain how and why ports source their product from the U.S. interior.

[2] Sichao Jiang and Wesley Wilson are at the University of Oregon. James Nolan is at the University of Saskatchewan.

critical to the grain elevator industry's profitability and to agricultural production in general. Large numbers of competitors within a short distance (20-mile radius) negatively affected profitability, as indicated by an increased likelihood of exiting the market. This suggests, over time, farmers within a given area will have access to fewer elevators. While this will increase profitability for the remaining elevator, it can increase trucking transportation cost for the farmers if the closest elevator to their farms closed.

"Costs, Scale Economies, and Differential Pricing in the U.S. Railroad Industry"

In the final paper, John Bitzan and Fecri Karanki of North Dakota State University analyze economies of density in the railroad industry (the extent to which there are cost savings from additional traffic over the existing railroad network). They relate economies of density to ongoing regulatory issues surrounding rate reasonableness and revenue adequacy.

In order to operate, railroads incur large fixed costs.[3] For instance, railroads must pay the costs of laying and maintaining track, regardless of how much volume they run over that track. Moreover, as railroads run more volume of various commodities over that track, the average cost per ton declines, because those fixed costs are spread over more tons. Economies of density in railroading stem from spreading these costs among more traffic over a fixed network and as a result of labor and equipment savings due to longer and more frequent trains.

The same reasoning is used to justify the need to charge different prices to different customers.[4] In charging a single price, railroads would likely go out of business for one of two reasons. Staying in business means earning enough revenue. On the one hand, if the railroads charge a single price that is high enough to cover all their fixed costs, they risk being unable to compete with truck and barge in some markets. In that case, their shipment volumes may not be high enough to earn adequate total revenue. On the other hand, if railroads charge a low enough price to maximize their shipment volumes, they will not earn enough in each individual transaction to recoup their total costs. Therefore, railroads charge different prices to different shippers depending on their willingness to pay (typically based on the shipper's proximity to other transportation options). This price structure enables them both to remain competitive and to earn enough revenues. The concern with differential pricing is that railroads may charge some shippers unreasonably high rates.

The authors argue a better understanding of railroad costs is needed in evaluating the merits of various alternatives to current rate regulation. Some shippers believe the need for differential pricing has diminished over time, contending density economies have declined. However, Bitzan and Karanki argue a statistical model of railroad costs needs to be estimated to see if this is the case. They estimate a cost model to see how economies of density have changed over time and how they relate to the need for differential pricing. Bitzan and Karanki find economies of density in the rail industry persist, continuing to necessitate differential pricing, but they have declined somewhat over time.

If any of our readers would like more information on the working drafts submitted to TRF, please contact us and we will connect you with the original authors.

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[3] Railroads also incur common costs, which are shared among all shipments that occur over a particular line, and therefore cannot be attributed to any individual shipment.

[4] In the Staggers Rail Act of 1980, referred to as differential pricing.

Grain Transportation Indicators

Table 1

Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit train	Shuttle		Gulf	Pacific
04/01/20	174	n/a	226	183	174	142
03/25/20	178	n/a	228	169	184	151

[1]Indicator: Base year 2000 = 100. Weekly updates include truck = diesel ($/gallon); rail = near-month secondary rail market bid and monthly tariff rate with fuel surcharge ($/car); barge = Illinois River barge rate (index = percent of tariff rate); ocean = routes to Japan ($/metric ton); n/a = not available.

Source: USDA, Agricultural Marketing Service.

Table 2

Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	3/27/2020	3/20/2020
Corn	IL–Gulf	-0.68	-0.64
Corn	NE–Gulf	-0.88	-0.79
Soybean	IA–Gulf	-1.07	-1.09
HRW	KS–Gulf	-2.14	-2.13
HRS	ND–Portland	-2.15	-2.23

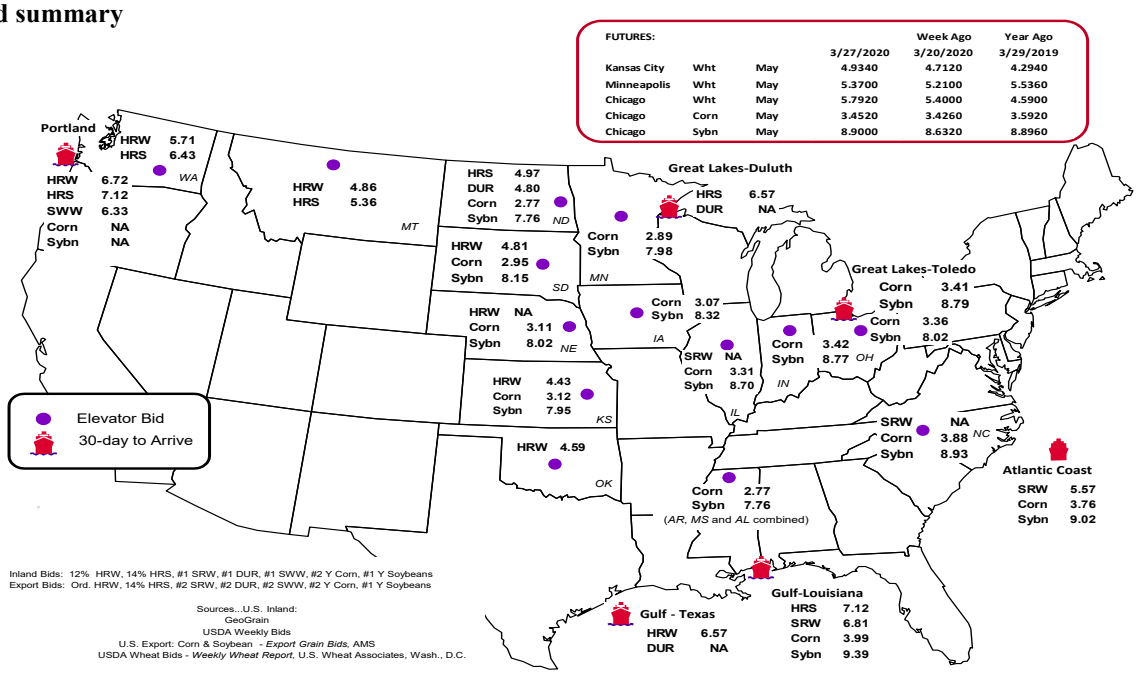
Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

Source: USDA, Agricultural Marketing Service.

The **grain bid summary** illustrates the market relationships for commodities. Positive and negative adjustments in differential between terminal and futures markets, and the relationship to inland market points, are indicators of changes in fundamental market supply and demand. The map may be used to monitor market and time differentials.

Figure 1

Grain bid summary



Rail Transportation

Table 3

Rail deliveries to port (carloads)[1]

For the week ending	Mississippi Gulf	Texas Gulf	Pacific Northwest	Atlantic & East Gulf	Total	Week ending	Cross-border Mexico[3]
3/25/2020[p]	14	676	4,574	216	5,480	3/21/2020	2,240
3/18/2020[r]	244	929	5,019	236	6,428	3/14/2020	2,117
2020 YTD[r]	4,356	8,489	55,055	2,665	70,565	2020 YTD	27,499
2019 YTD[r]	9,588	13,546	70,937	4,876	98,947	2019 YTD	27,145
2020 YTD as % of 2019 YTD	45	63	78	55	71	% change YTD	101
Last 4 weeks as % of 2019[2]	11	94	74	81	68	Last 4wks. % 2019	124
Last 4 weeks as % of 4-year avg.[2]	19	49	71	68	63	Last 4wks. % 4 yr.	124
Total 2019	40,974	51,167	251,181	16,192	359,514	Total 2019	127,622
Total 2018	22,118	46,532	310,449	21,432	400,531	Total 2018	129,674

[1]Data is incomplete as it is voluntarily provided.

[2] Compared with same 4-weeks in 2019 and prior 4-year average.

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

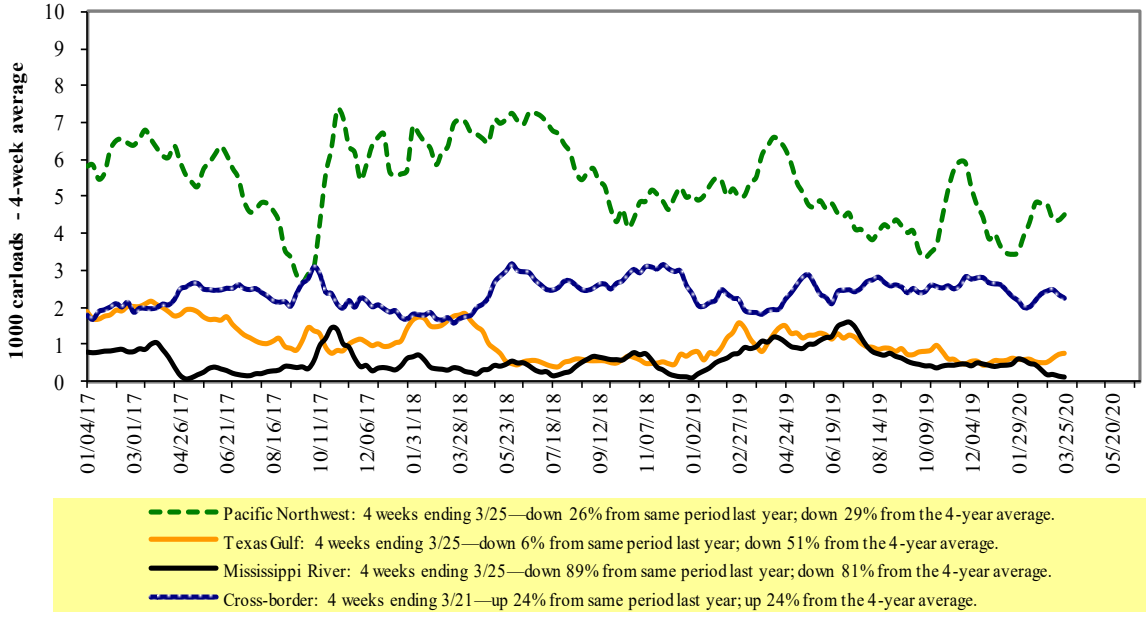
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

Source: USDA, Agricultural Marketing Service.

Railroads originate approximately 24 percent of U.S. grain shipments. Trends in these loadings are indicative of market conditions and expectations.

Figure 2

Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

Table 4

Class I rail carrier grain car bulletin (grain carloads originated)

For the week ending:	East		West			U.S. total	Canada	
3/21/2020	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,838	2,659	10,812	787	4,900	20,996	3,354	4,307
This week last year	2,478	2,845	10,821	1,087	4,786	22,017	4,135	4,459
2020 YTD	20,786	27,232	124,676	12,682	53,398	238,774	39,792	44,421
2019 YTD	23,479	31,896	126,352	13,219	59,987	254,933	46,916	47,239
2020 YTD as % of 2019 YTD	89	85	99	96	89	94	85	94
Last 4 weeks as % of 2019*	87	89	113	93	99	103	86	96
Last 4 weeks as % of 3-yr. avg.**	89	89	98	109	82	93	86	92
Total 2019	91,611	137,179	568,369	58,527	260,269	1,115,955	212,532	235,892

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

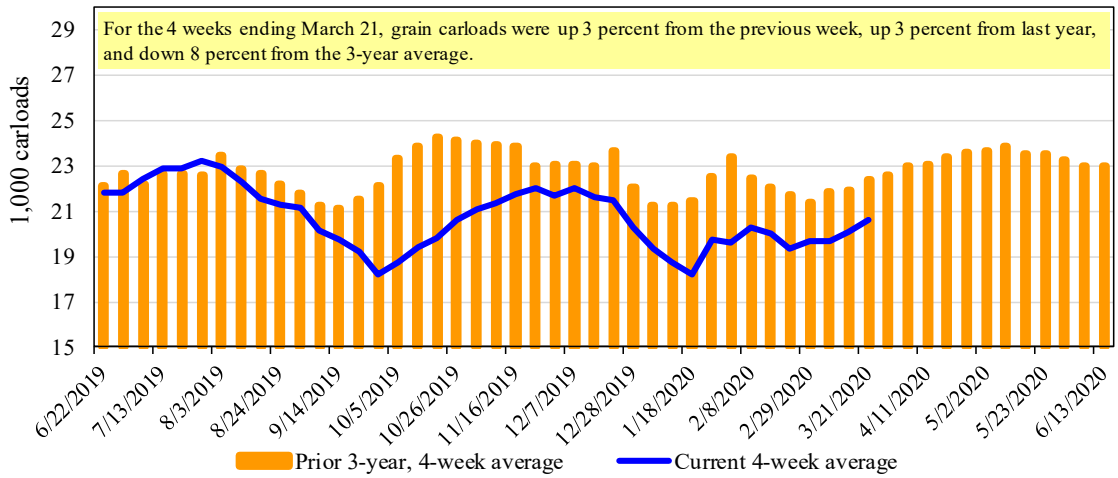
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

Note: NS = Norfolk Southern; KCS = Kansas City Southern; UP = Union Pacific; CN = Canadian National; CP = Canadian Pacific.

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 5

Railcar auction offerings[1] ($/car)[2]

For the week ending:		Delivery period							
3/26/2020		Apr-20	Apr-19	May-20	May-19	Jun-20	Jun-19	Jul-20	Jul-19
BNSF[3]	COT grain units	14	n/a	0	n/a	0	n/a	no bids	n/a
	COT grain single-car	0	n/a	0	n/a	no bids	n/a	no bids	n/a
UP[4]	GCAS/Region 1	no offer	no offer	no bid	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	10	no offer	no bid	no offer	no bid	no offer	n/a	n/a

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

[2]Average premium/discount to tariff, last auction. n/a = not available.

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

[4]UP - GCAS = Union Pacific Railroad Grain Car Allocation System.

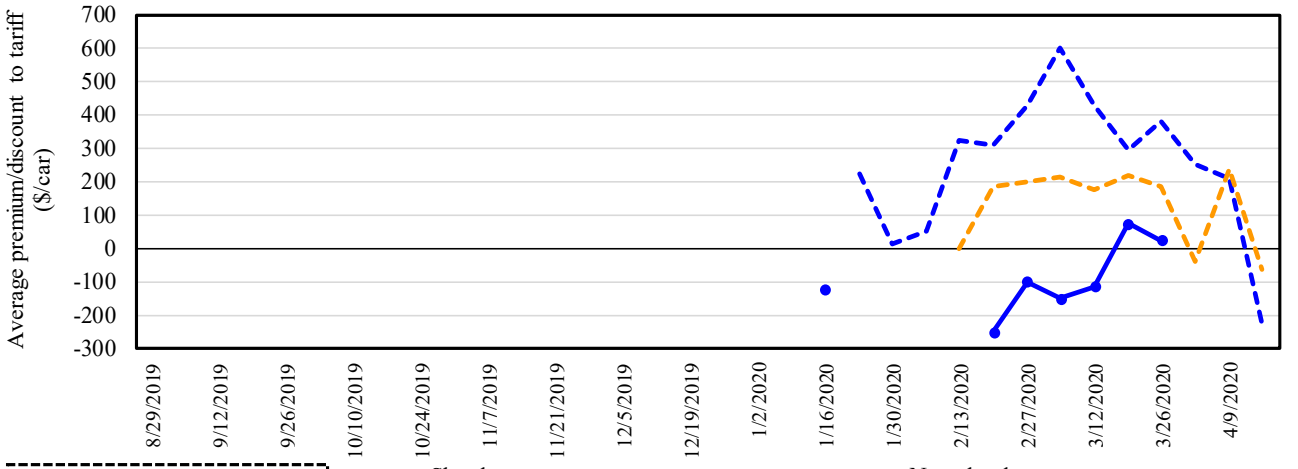
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

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

Source: USDA, Agricultural Marketing Service.

The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/ supply.

Figure 4
Bids/offers for railcars to be delivered in April 2020, secondary market

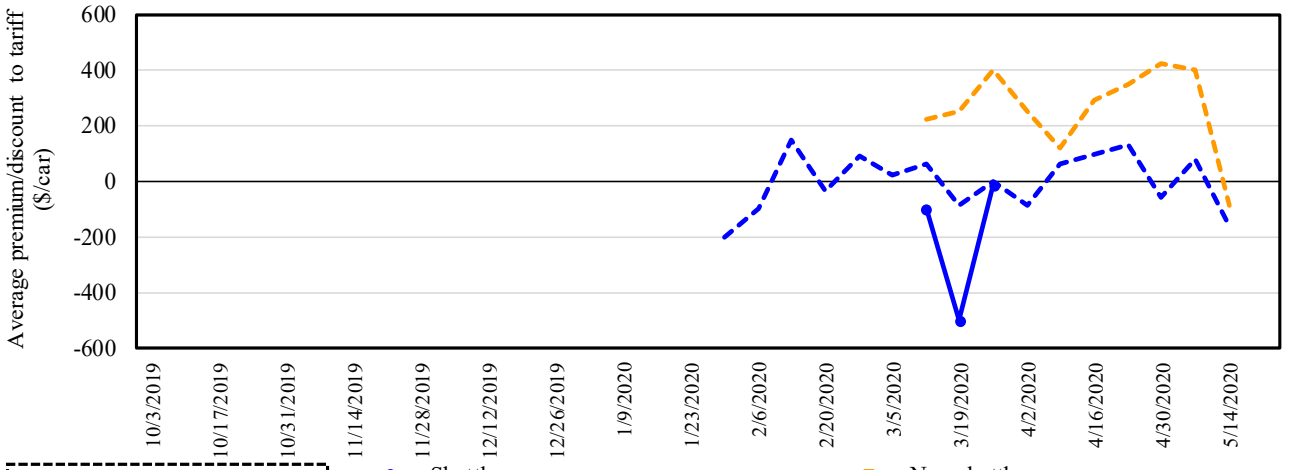


3/26/2020	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$25	$75

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $50 this week and are $50 below the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
Source: USDA, Agricultural Marketing Service.

Figure 5
Bids/offers for railcars to be delivered in May 2020, secondary market



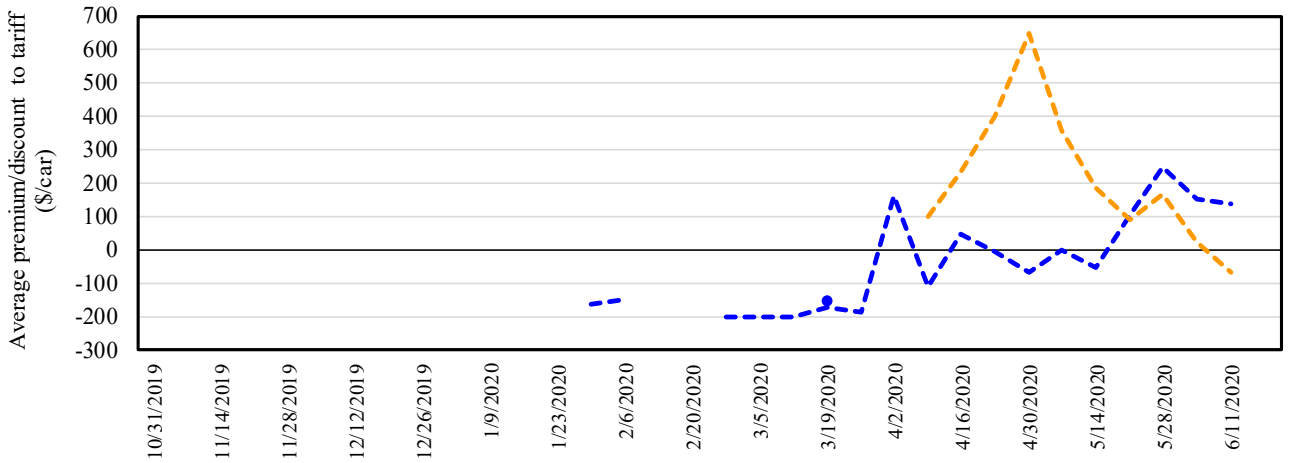
3/26/2020	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	-$13

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers rose $488 this week and are at the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
Source: USDA, Agricultural Marketing Service.

Figure 6

Bids/offers for railcars to be delivered in June 2020, secondary market



3/26/2020	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	n/a

There were no non-shuttle bids/offers this week.
There were no shuttle bids/offers this week.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
Source: USDA, Agricultural Marketing Service.

Table 6

Weekly secondary railcar market ($/car)[1]

For the week ending: 3/26/2020		Delivery period					
		Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
Non-shuttle	**BNSF-GF**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2019	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 2019	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**(25)**	**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 2019	(531)	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**75**	**(13)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	0	488	n/a	n/a	n/a	n/a
	Change from same week 2019	(100)	38	n/a	n/a	n/a	n/a

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

Note: Bids listed are market indicators only and are not guaranteed prices. n/a = not available; GF = guaranteed freight; Pool = guaranteed pool; BNSF = BNSF Railway; UP = Union Pacific Railroad.

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

Source: USDA, Agricultural Marketing Service.

The **tariff rail rate** is the base price of freight rail service. Together with **fuel surcharges** and any **auction and secondary rail** values, the tariff rail rate constitutes 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. However, during times of high rail demand or short supply, high auction and secondary rail values can exceed the cost of the tariff rate plus fuel surcharge.

Table 7

Tariff rail rates for unit and shuttle train shipments[1]

March 2020	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	$86	$40.41	$1.10	0
	Grand Forks, ND	Duluth-Superior, MN	$4,333	$0	$43.03	$1.17	2
	Wichita, KS	Los Angeles, CA	$7,240	$0	$71.90	$1.96	1
	Wichita, KS	New Orleans, LA	$4,525	$151	$46.44	$1.26	-1
	Sioux Falls, SD	Galveston-Houston, TX	$6,976	$0	$69.28	$1.89	1
	Colby, KS	Galveston-Houston, TX	$4,801	$166	$49.32	$1.34	0
	Amarillo, TX	Los Angeles, CA	$5,121	$231	$53.14	$1.45	0
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,900	$171	$40.43	$1.03	-3
	Toledo, OH	Raleigh, NC	$6,816	$0	$67.69	$1.72	4
	Des Moines, IA	Davenport, IA	$2,415	$36	$24.34	$0.62	7
	Indianapolis, IN	Atlanta, GA	$5,818	$0	$57.78	$1.47	3
	Indianapolis, IN	Knoxville, TN	$4,874	$0	$48.40	$1.23	4
	Des Moines, IA	Little Rock, AR	$3,800	$106	$38.79	$0.99	-2
	Des Moines, IA	Los Angeles, CA	$5,680	$310	$59.48	$1.51	-1
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$186	$37.91	$1.03	-11
	Toledo, OH	Huntsville, AL	$5,630	$0	$55.91	$1.52	3
	Indianapolis, IN	Raleigh, NC	$6,932	$0	$68.84	$1.87	3
	Indianapolis, IN	Huntsville, AL	$5,107	$0	$50.71	$1.38	3
	Champaign-Urbana, IL	New Orleans, LA	$4,645	$171	$47.83	$1.30	-2
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,143	$0	$41.14	$1.12	2
	Wichita, KS	Galveston-Houston, TX	$4,361	$0	$43.31	$1.18	2
	Chicago, IL	Albany, NY	$7,074	$0	$70.25	$1.91	20
	Grand Forks, ND	Portland, OR	$5,801	$0	$57.61	$1.57	1
	Grand Forks, ND	Galveston-Houston, TX	$6,121	$0	$60.78	$1.65	1
	Colby, KS	Portland, OR	$6,012	$272	$62.40	$1.70	1
Corn	Minneapolis, MN	Portland, OR	$5,180	$0	$51.44	$1.31	0
	Sioux Falls, SD	Tacoma, WA	$5,140	$0	$51.04	$1.30	0
	Champaign-Urbana, IL	New Orleans, LA	$3,820	$171	$39.63	$1.01	0
	Lincoln, NE	Galveston-Houston, TX	$3,880	$0	$38.53	$0.98	0
	Des Moines, IA	Amarillo, TX	$4,220	$134	$43.24	$1.10	4
	Minneapolis, MN	Tacoma, WA	$5,180	$0	$51.44	$1.31	0
	Council Bluffs, IA	Stockton, CA	$5,000	$0	$49.65	$1.26	0
Soybeans	Sioux Falls, SD	Tacoma, WA	$5,850	$0	$58.09	$1.58	2
	Minneapolis, MN	Portland, OR	$5,900	$0	$58.59	$1.59	2
	Fargo, ND	Tacoma, WA	$5,750	$0	$57.10	$1.55	2
	Council Bluffs, IA	New Orleans, LA	$4,875	$197	$50.37	$1.37	2
	Toledo, OH	Huntsville, AL	$4,805	$0	$47.72	$1.30	4
	Grand Island, NE	Portland, OR	$5,860	$278	$60.96	$1.66	2

[1]A unit train refers to shipments of at least 25 cars. Shuttle train rates are generally available for qualified shipments of 75-120 cars that meet railroad efficiency requirements.

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

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

[4]Percentage change year over year (Y/Y) calculated using tariff rate plus fuel surcharge.

Source: BNSF Railway, Canadian National Railway, CSX Transportation, and Union Pacific Railroad.

Table 8

Tariff rail rates for U.S. bulk grain shipments to Mexico

Date: March 2020							
Commodity	Origin state	Destination region	Tariff rate per car[1]	Fuel surcharge per car[2]	Tariff rate plus fuel surcharge per: metric ton[3]	bushel[3]	Percent change[4] Y/Y
Wheat	MT	Chihuahua, CI	$7,509	$0	$76.72	$2.09	3
	OK	Cuautitlan, EM	$6,775	$118	$70.44	$1.92	0
	KS	Guadalajara, JA	$7,534	$576	$82.86	$2.25	4
	TX	Salinas Victoria, NL	$4,329	$75	$44.99	$1.22	0
Corn	IA	Guadalajara, JA	$8,902	$488	$95.94	$2.43	5
	SD	Celaya, GJ	$8,140	$0	$83.17	$2.11	3
	NE	Queretaro, QA	$8,278	$265	$87.30	$2.22	1
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,643	$259	$80.74	$2.05	1
	SD	Torreon, CU	$7,690	$0	$78.57	$1.99	3
Soybeans	MO	Bojay (Tula), HG	$8,547	$456	$91.99	$2.50	4
	NE	Guadalajara, JA	$9,172	$476	$98.57	$2.68	5
	IA	El Castillo, JA	$9,490	$0	$96.97	$2.64	4
	KS	Torreon, CU	$7,964	$327	$84.71	$2.30	4
Sorghum	NE	Celaya, GJ	$7,772	$430	$83.81	$2.13	4
	KS	Queretaro, QA	$8,108	$148	$84.35	$2.14	1
	NE	Salinas Victoria, NL	$6,713	$119	$69.80	$1.77	1
	NE	Torreon, CU	$7,157	$302	$76.22	$1.93	3

[1]Rates are based upon published tariff rates for high-capacity shuttle trains. Shuttle trains are available for qualified shipments of 75-110 cars that meet railroad efficiency requirements.

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

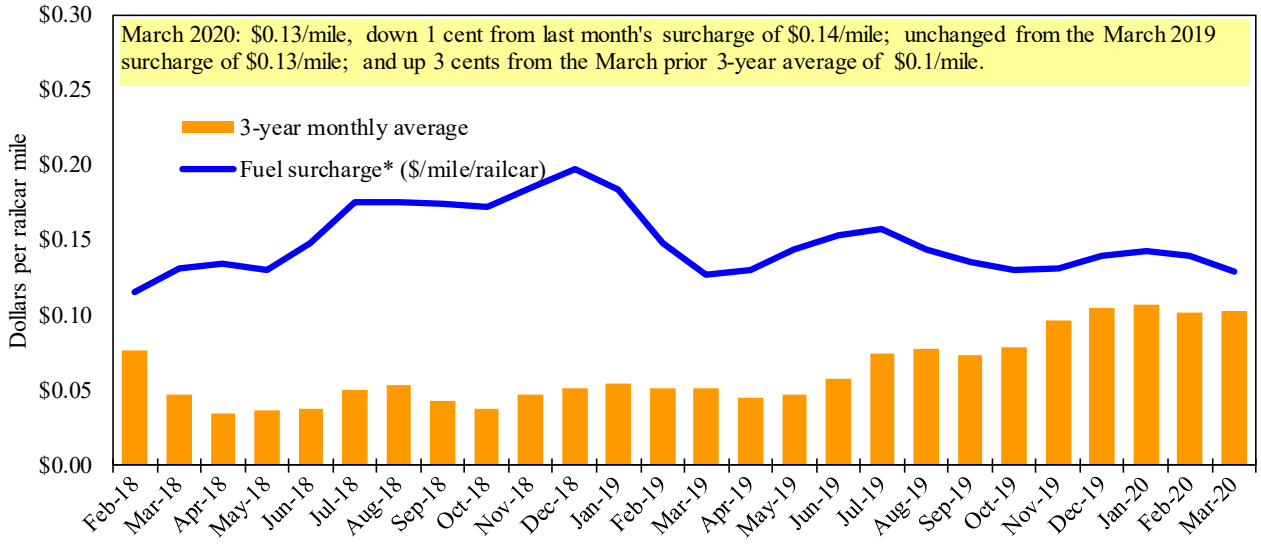
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

[4]Percentage change calculated using tariff rate plus fuel surchage; Y/Y = year over year.

Sources: BNSF Railway, Union Pacific Railroad, Kansas City Southern.

Figure 7

Railroad fuel surcharges, North American weighted average[1]



[1] Weighted by each Class I railroad's proportion of grain traffic for the prior year.

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

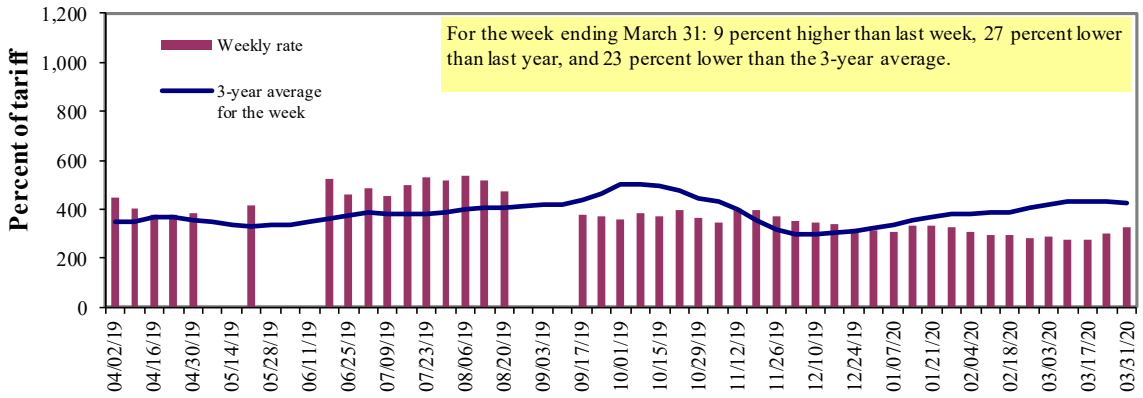
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

Sources: BNSF Railway, Canadian National Railway, CSX Transportation, Canadian Pacific Railway, Union Pacific Railroad, Kansas City Southern Railway, Norfolk Southern Corporation.

Barge Transportation

Figure 8

Illinois River barge freight rate[1,2]



[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average of the 3-year average.

Source: USDA, Agricultural Marketing Service.

Table 9

Weekly barge freight rates: Southbound only

		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	3/31/2020	388	343	330	226	224	224	207
	3/24/2020	-	-	304	207	200	200	187
$/ton	3/31/2020	24.02	18.25	15.31	9.02	10.51	9.05	6.50
	3/24/2020	-	-	14.11	8.26	9.38	8.08	5.87
Current week % change from the same week:								
	Last year	-	-	-27	-35	-46	-47	-41
	3-year avg. [2]	-	-	-23	-33	-43	-43	-33
Rate[1]	April	382	340	330	226	222	222	206
	June	374	338	334	225	222	222	206

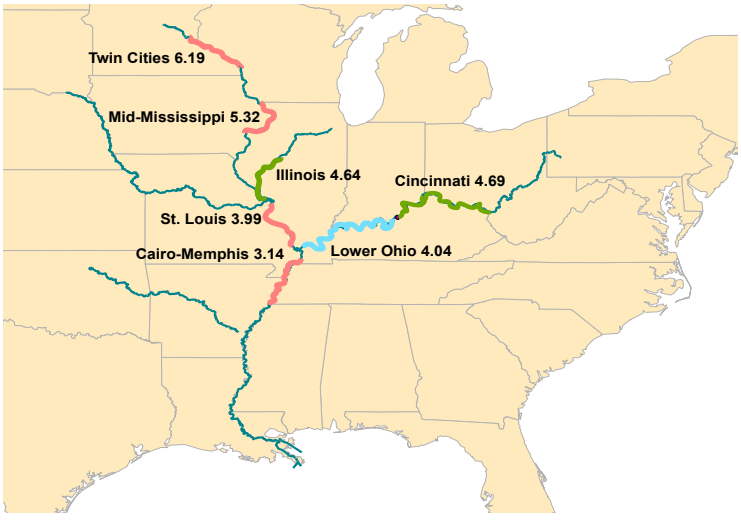
[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; "-" not available due to closure.

Source: USDA, Agricultural Marketing Service.

Figure 9
Benchmark tariff rates

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

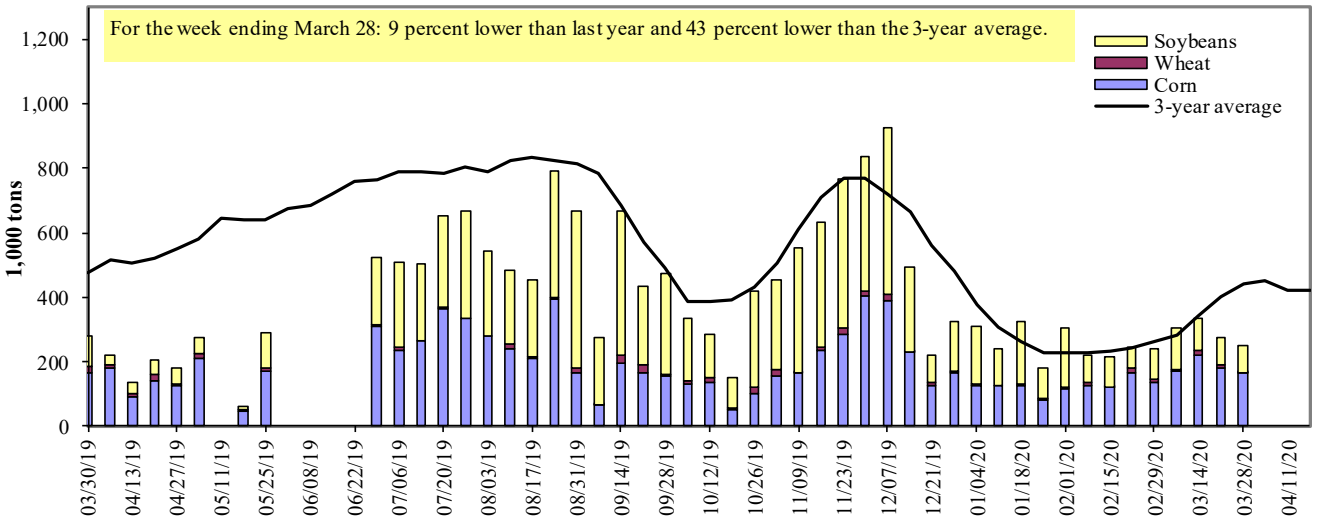
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 10

Barge movements on the Mississippi River[1] (Locks 27 - Granite City, IL)



[1] The 3-year average is a 4-week moving average.

Source: U.S. Army Corps of Engineers.

Table 10

Barge grain movements (1,000 tons)

For the week ending 03/28/2020	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)	187	2	85	0	274
Granite City, IL (L27)	166	2	84	0	252
Illinois River (La Grange)	138	6	87	0	231
Ohio River (Olmsted)	153	4	74	2	232
Arkansas River (L1)	0	15	15	0	31
Weekly total - 2020	319	21	173	2	514
Weekly total - 2019	333	70	264	4	671
2020 YTD[1]	3,314	396	2,778	13	6,501
2019 YTD[1]	2,897	589	2,610	38	6,135
2020 as % of 2019 YTD	114	67	106	35	106
Last 4 weeks as % of 2019[2]	102	51	74	6	86
Total 2019	12,780	1,631	14,683	154	29,247

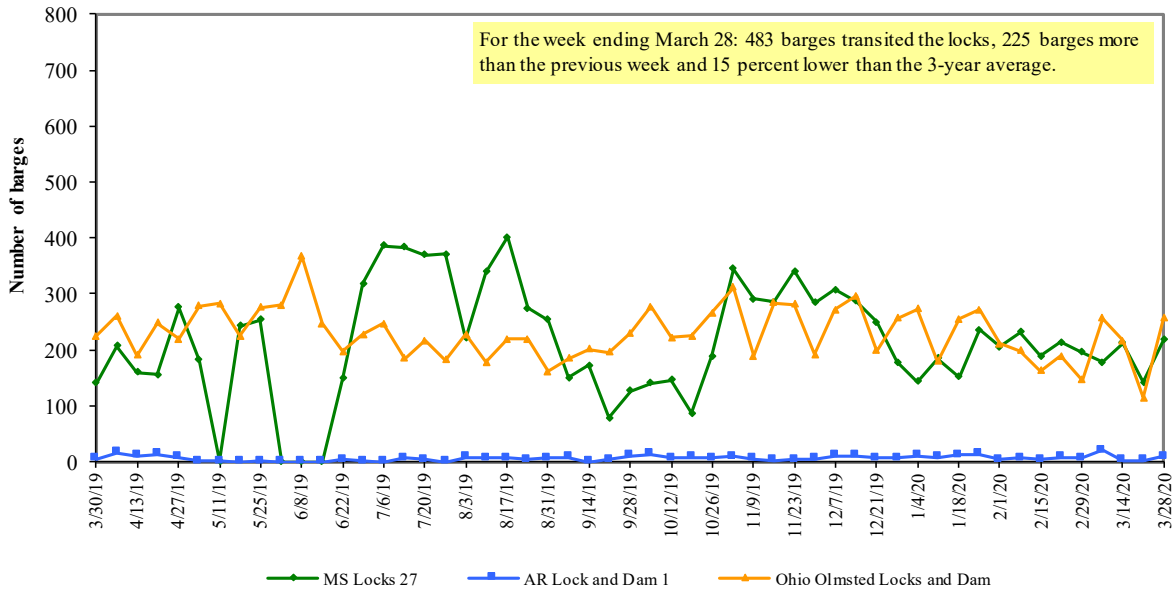
[1] Weekly total, YTD (year-to-date), and calendar year total include MS/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye. L (as in "L15") refers to a lock or lock and dam facility. Olmsted = Olmsted Locks and Dam. La Grange = La Grange Lock and Dam.

[2] As a percent of same period in 2019.

Note: Total may not add exactly because of rounding. Starting from 11/24/2018, weekly movement through Ohio 52 is replaced by Olmsted.
Source: U.S. Army Corps of Engineers.

Figure 11

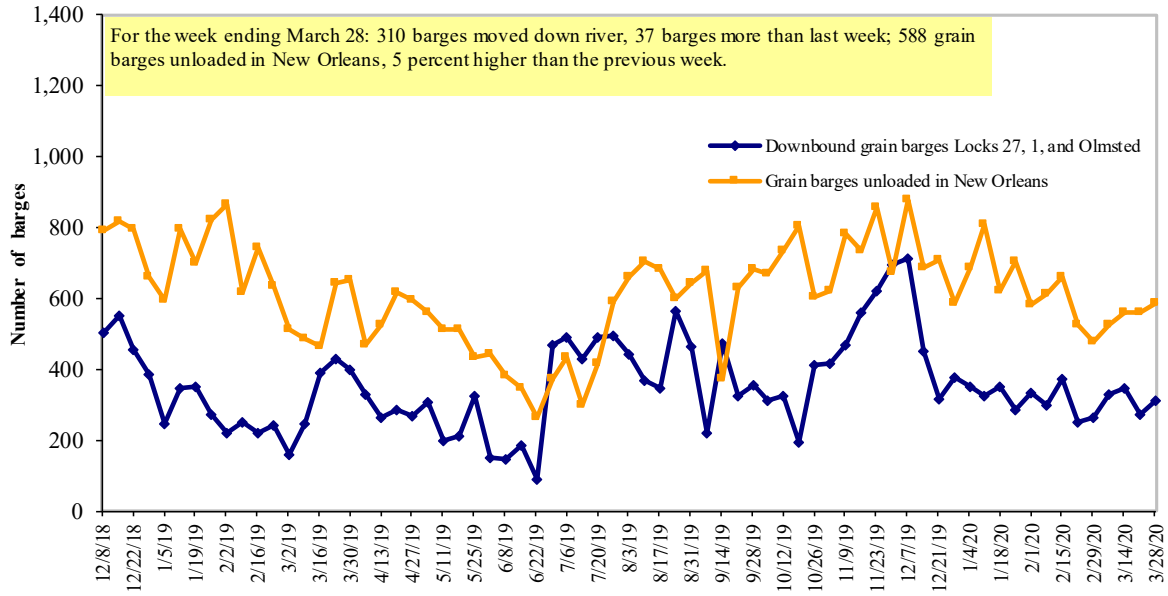
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



Source: U.S. Army Corps of Engineers.

Figure 12

Grain barges for export in New Orleans region



Note: Olmsted = Olmsted Locks and Dam.

Source: U.S. Army Corps of Engineers and USDA, Agricultural Marketing Service.

Truck Transportation

The **weekly diesel price** provides a proxy for trends in U.S. truck rates as diesel fuel is a significant expense for truck grain movements.

Table 11

Retail on-highway diesel prices, week ending 3/30/2020 (U.S. $/gallon)

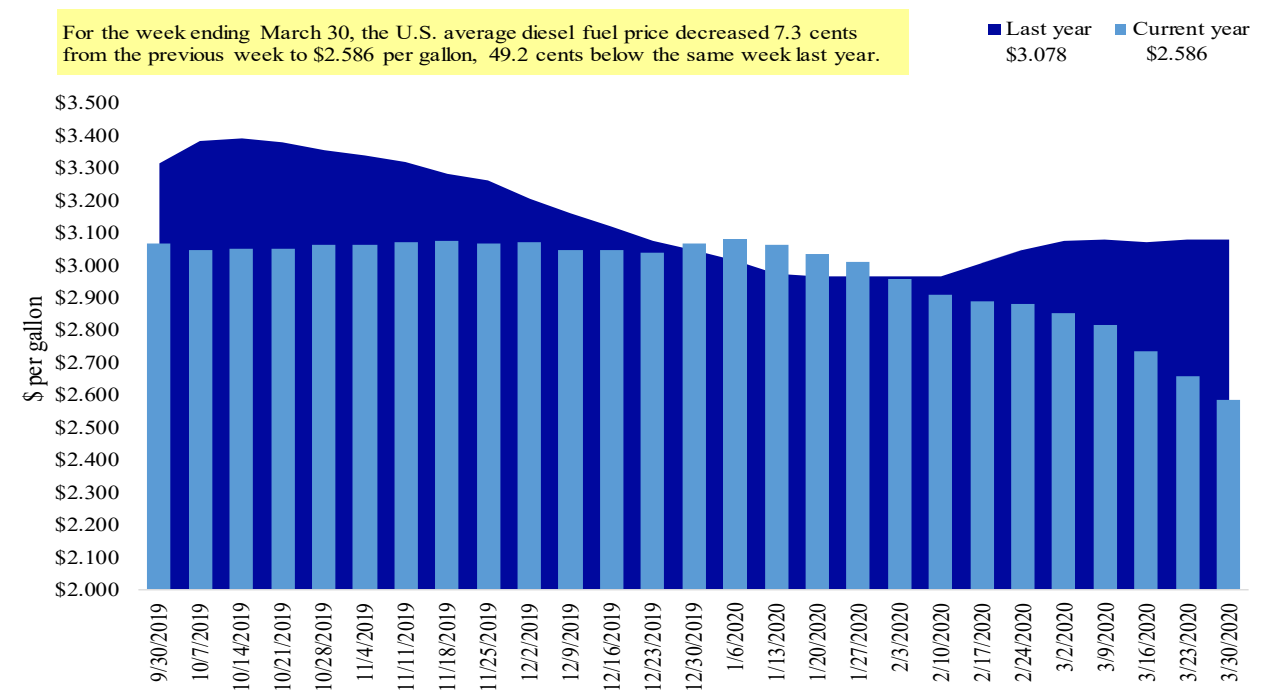
Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	2.671	-0.053	-0.456
	New England	2.793	-0.056	-0.403
	Central Atlantic	2.866	-0.045	-0.443
	Lower Atlantic	2.514	-0.059	-0.477
II	Midwest	2.432	-0.067	-0.552
III	Gulf Coast	2.363	-0.075	-0.509
IV	Rocky Mountain	2.592	-0.088	-0.415
V	West Coast	3.126	-0.122	-0.415
	West Coast less California	2.798	-0.081	-0.355
	California	3.395	-0.157	-0.454
Total	United States	2.586	-0.073	-0.492

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

Source: U.S. Department of Energy, Energy Information Administration.

Figure 13

Weekly diesel fuel prices, U.S. average



Source: U.S. Department of Energy, Energy Information Administration, Retail On-Highway Diesel Prices.

Grain Exports

Table 12

U.S. export balances and cumulative exports (1,000 metric tons)

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
3/19/2020	1,928	290	1,640	1,120	230	5,208	13,784	4,613	23,605
This week year ago	2,463	854	1,322	1,062	121	5,821	13,879	12,430	32,129
Cumulative exports-marketing year[2]									
2019/20 YTD	7,322	2,044	5,632	3,821	682	19,502	17,048	31,291	67,841
2018/19 YTD	5,907	2,231	5,199	4,101	360	17,798	28,779	29,175	75,753
YTD 2019/20 as % of 2018/19	124	92	108	93	189	110	59	107	90
Last 4 wks. as % of same period 2018/19*	73	38	122	101	140	86	93	35	69
Total 2018/19	8,591	3,204	6,776	5,164	479	24,214	48,924	46,189	119,327
Total 2017/18	9,150	2,343	5,689	4,854	384	22,419	57,209	56,214	135,842

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

[2] Shipped export sales to date; new marketing year now in effect for wheat, corn, and soybeans.

Note: marketing year: wheat = 6/01-5/31, corn and soybeans = 9/01-8/31. YTD = year-to-date; wks. = weeks; HRW= hard red winter; SRW = soft red winter; HRS= hard red spring; SWW= soft white wheat; DUR= durum.

Source: USDA, Foreign Agricultural Service.

Table 13

Top 5 importers[1] of U.S. corn

For the week ending 3/19/2020	Total commitments[2]		% change	Exports[3]
	2019/20 current MY	2018/19 last MY*	current MY from last MY	3-yr. avg. 2016-18
	- 1,000 mt -			
Mexico	11,336	13,648	(17)	14,659
Japan	6,610	9,089	(27)	11,955
Korea	1,273	3,406	(63)	4,977
Colombia	2,977	3,340	(11)	4,692
Peru	15	1,873	(99)	2,808
Top 5 importers	**22,211**	**31,356**	**(29)**	**39,091**
Total U.S. corn export sales	**30,832**	**42,658**	**(28)**	**54,024**
% of projected exports	70%	81%		
Change from prior week[2]	**1,814**	**905**		
Top 5 importers' share of U.S. corn export sales	72%	74%		72%
USDA forecast March 2020	**43,893**	**52,545**	**(16)**	
Corn use for ethanol USDA forecast, March 2020	**137,795**	**136,601**	**1**	

[1] Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; marketing year (MY) = Sep 1 - Aug 31.

[2] Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

[3] FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 14

Top 5 importers[1] of U.S. soybeans

For the week ending 3/19/2020	Total commitments[2] 2019/20 current MY	Total commitments[2] 2018/19 last MY*	% change current MY from last MY	Exports[3] 3-yr. avg. 2016-18
	- 1,000 mt -			- 1,000 mt -
China	12,343	11,222	10	25,733
Mexico	3,583	4,575	(22)	4,271
Indonesia	1,429	1,602	(11)	2,386
Japan	1,965	1,984	(1)	2,243
Egypt	2,186	2,249	(3)	1,983
Top 5 importers	**21,506**	**21,633**	**(1)**	**36,616**
Total U.S. soybean export sales	**35,904**	**41,605**	**(14)**	**53,746**
% of projected exports	72%	87%		
change from prior week[2]	**904**	**182**		
Top 5 importers' share of U.S. soybean export sales	60%	52%		**68%**
USDA forecast, March 2020	**49,728**	**47,629**	**104**	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; marketing year (MY) = Sep 1 - Aug 31.
[2]Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales and/or accumulated sales.
[3]FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.
Note: A red number in parentheses indicates a negative number; mt = metric ton.
Source: USDA, Foreign Agricultural Service.

Table 15

Top 10 importers[1] of all U.S. wheat

For the week ending 3/19/2020	Total commitments[2] 2019/20 current MY	Total commitments[2] 2018/19 last MY*	% change current MY from last MY	Exports[3] 3-yr. avg. 2016-18
	- 1,000 mt -			- 1,000 mt -
Philippines	3,146	2,930	7	3,047
Mexico	3,459	2,911	19	3,034
Japan	2,679	2,656	1	2,695
Nigeria	1,497	1,429	5	1,564
Indonesia	1,062	1,199	(11)	1,381
Korea	1,568	1,554	1	1,355
Taiwan	1,165	1,100	6	1,164
Egypt	101	692	(85)	821
Thailand	854	742	15	747
Iraq	262	416	(37)	574
Top 10 importers	**15,793**	**15,630**	1	**16,382**
Total U.S. wheat export sales	**24,710**	**23,619**	**5**	**24,388**
% of projected exports	91%	93%		
change from prior week[2]	**740**	**476**		
Top 10 importers' share of U.S. wheat export sales	64%	66%		67%
USDA forecast, March 2020	**27,248**	**25,504**	**7**	

[1] Based on USDA, Foreign Agricultural Service(FAS) marketing year ranking reports for 2018/19; Marketing year (MY) = Jun 1 - May 31.
[2] Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from the previous week's outstanding and/or accumulated sales.
[3] FAS marketing year final reports (carryover plus accumulated export); yr. = year; avg. = average.
Note: A red number in parentheses indicates a negative number.
Source: USDA, Foreign Agricultural Service.

Table 16

Grain inspections for export by U.S. port region (1,000 metric tons)

Port regions	For the week ending 03/26/20	Previous week*	Current week as % of previous	2020 YTD*	2019 YTD*	2020 YTD as % of 2019 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2019 total*
Pacific Northwest									
Wheat	179	218	82	3,731	3,101	120	109	93	13,961
Corn	437	180	243	1,461	2,756	53	88	56	7,047
Soybeans	0	153	0	2,133	3,465	62	27	35	11,969
Total	**617**	**551**	**112**	**7,325**	**9,323**	**79**	**71**	**61**	**32,977**
Mississippi Gulf									
Wheat	72	41	177	951	1,272	75	71	78	4,448
Corn	616	570	108	6,427	6,606	97	106	82	20,763
Soybeans	315	356	88	7,079	7,339	96	78	81	31,398
Total	**1,003**	**967**	**104**	**14,458**	**15,217**	**95**	**92**	**81**	**56,609**
Texas Gulf									
Wheat	39	83	47	918	1,478	62	57	60	6,009
Corn	0	9	0	138	146	94	48	68	640
Soybeans	0	0	n/a	7	0	n/a	n/a	n/a	2
Total	**40**	**92**	**43**	**1,063**	**1,624**	**65**	**56**	**61**	**6,650**
Interior									
Wheat	92	31	299	594	372	160	177	171	1,987
Corn	193	84	229	1,808	1,635	111	122	112	7,857
Soybeans	104	98	106	1,831	1,569	117	96	101	7,043
Total	**389**	**213**	**183**	**4,234**	**3,576**	**118**	**116**	**113**	**16,887**
Great Lakes									
Wheat	0	0	n/a	1	30	3	0	0	1,339
Corn	0	0	n/a	0	0	n/a	n/a	n/a	11
Soybeans	0	0	n/a	0	16	0	n/a	n/a	493
Total	**0**	**0**	**n/a**	**1**	**47**	**2**	**0**	**0**	**1,844**
Atlantic									
Wheat	0	0	n/a	0	1	n/a	n/a	0	37
Corn	0	0	n/a	0	42	0	0	0	99
Soybeans	17	11	155	285	352	81	63	57	1,353
Total	**17**	**11**	**155**	**285**	**395**	**72**	**56**	**47**	**1,489**
U.S. total from ports*									
Wheat	383	373	103	6,196	6,253	99	89	85	27,781
Corn	1,247	843	148	9,834	11,187	88	102	77	36,417
Soybeans	436	618	70	11,335	12,742	89	64	70	52,258
Total	**2,065**	**1,834**	**113**	**27,365**	**30,181**	**91**	**85**	**76**	**116,457**

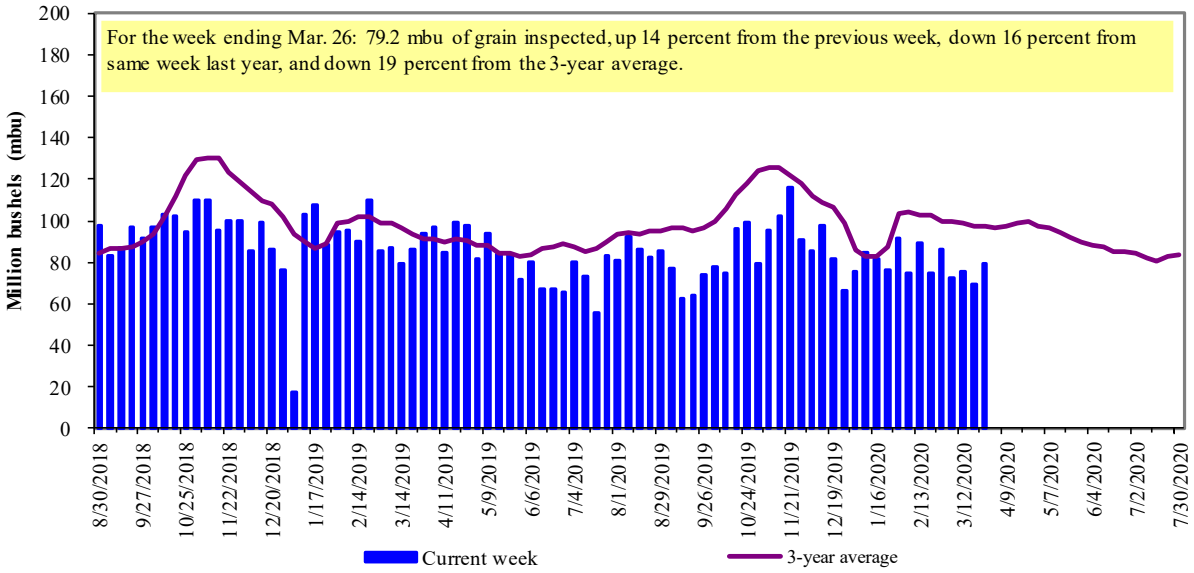
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: USDA, Federal Grain Inspection Service; YTD= year-to-date; n/a = not applicable or no change.

The United States exports approximately one-quarter of the grain it produces. On average, this includes nearly 45 percent of U.S.-grown wheat, 50 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 55 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2019.

Figure 14

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

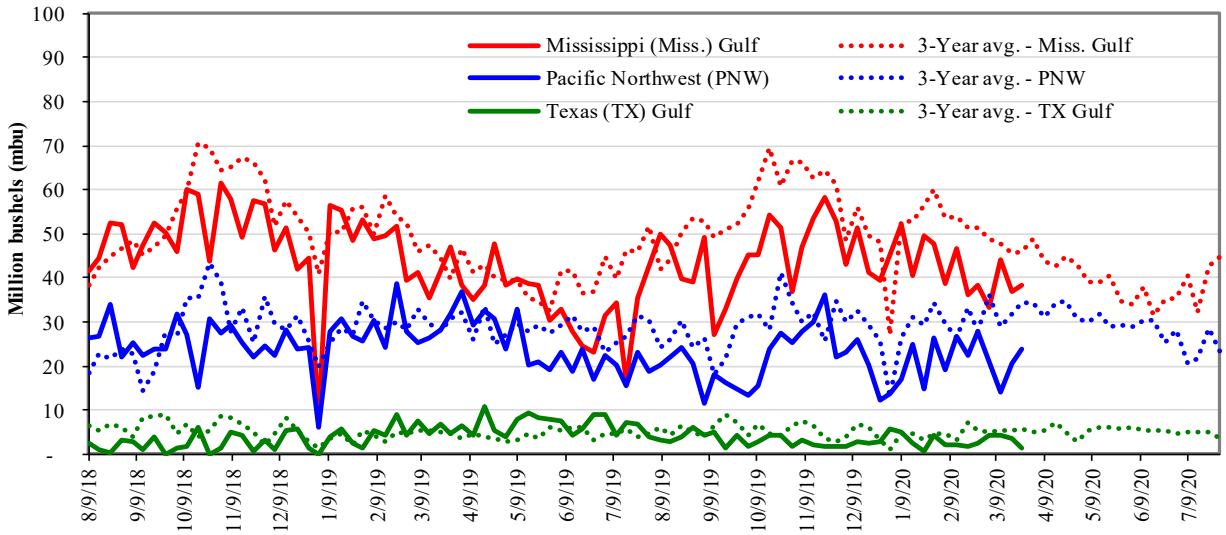


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 15

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



Week ending 03/26/20 inspections (mbu):	
MS Gulf:	38.5
PNW:	23.8
TX Gulf:	1.5

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last wk:	up 4	down 57	down 1	up 15
Last Year (same wk):	down 18	down 68	down 23	down 25
3-yr avg. (4-wk. mov. Avg):	down 18	down 73	down 24	down 27

Source: USDA, Federal Grain Inspection Service.

Table 17

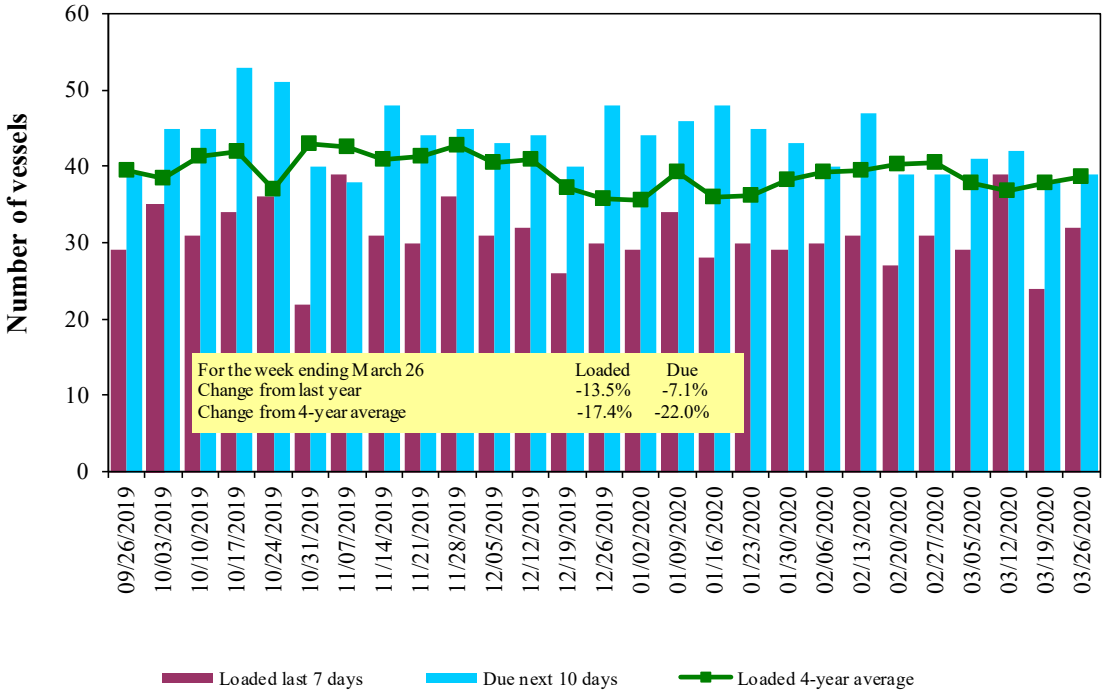
Weekly port region grain ocean vessel activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
3/26/2020	25	32	39	13
3/19/2020	28	24	38	11
2019 range	(26…61)	(18...44)	(33...69)	(8...33)
2019 average	40	31	49	17

Source: USDA, Agricultural Marketing Service.

Figure 16

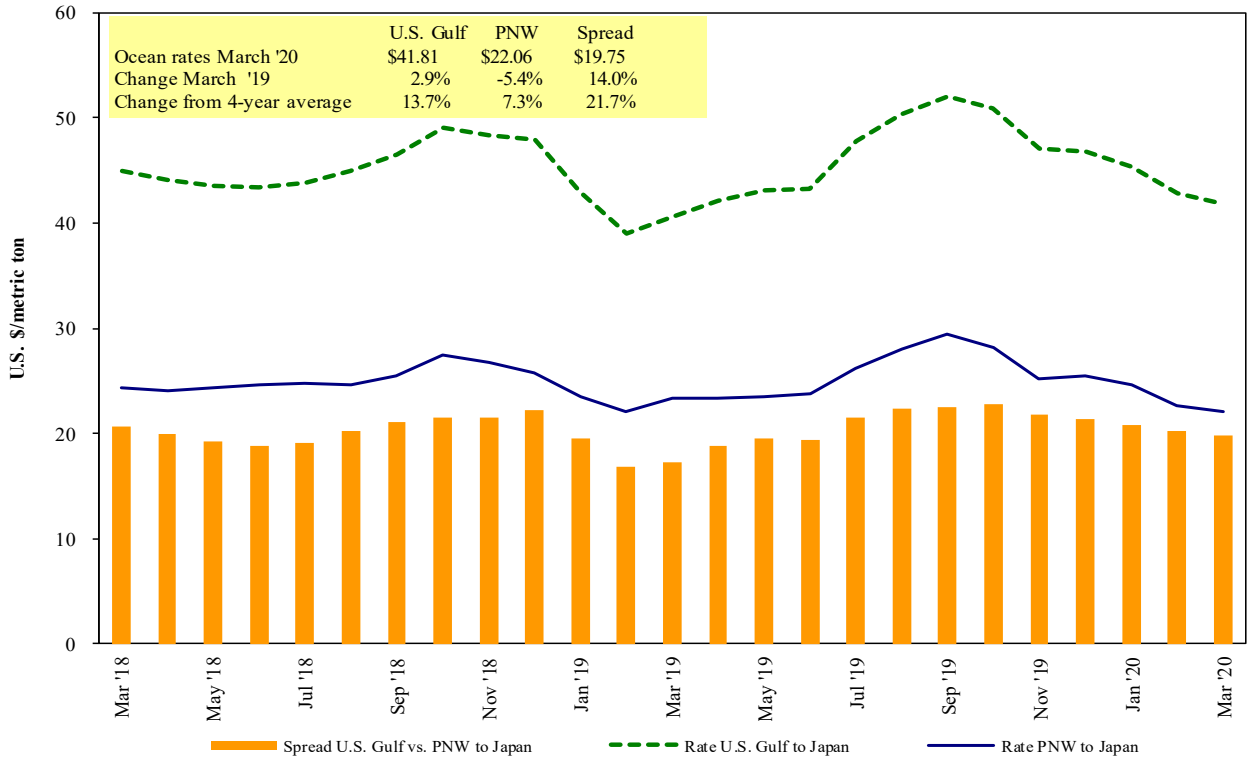
U.S. Gulf[1] vessel loading activity



[1]U.S. Gulf includes Mississippi, Texas, and East Gulf.
Source:USDA, Agricultural Marketing Service.

Figure 17

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 18

Ocean freight rates for selected shipments, week ending 03/28/2020

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	China	Heavy grain	Jan 25/30	65,000	46.50
U.S. Gulf	Rotterdam	Heavy grain	Feb 5/11	55,000	19.50
PNW	Yemen	Wheat	Mar 26/Apr 6	35,000	51.84*
PNW	Taiwan	Wheat	Apr 27/May 11	50,700	29.40
PNW	China	Heavy grain	Jan 22/26	63,000	23.00
Brazil	China	Heavy grain	May 1/31	60,000	33.25 op 33.00
Brazil	China	Heavy grain	Apr 2/16	66,000	30.75
Brazil	China	Heavy grain	Mar 1/10	65,000	32.00
Brazil	China	Heavy grain	Feb 12/21	65,000	34.50
Brazil	China	Heavy grain	Feb 18/27	60,000	34.00

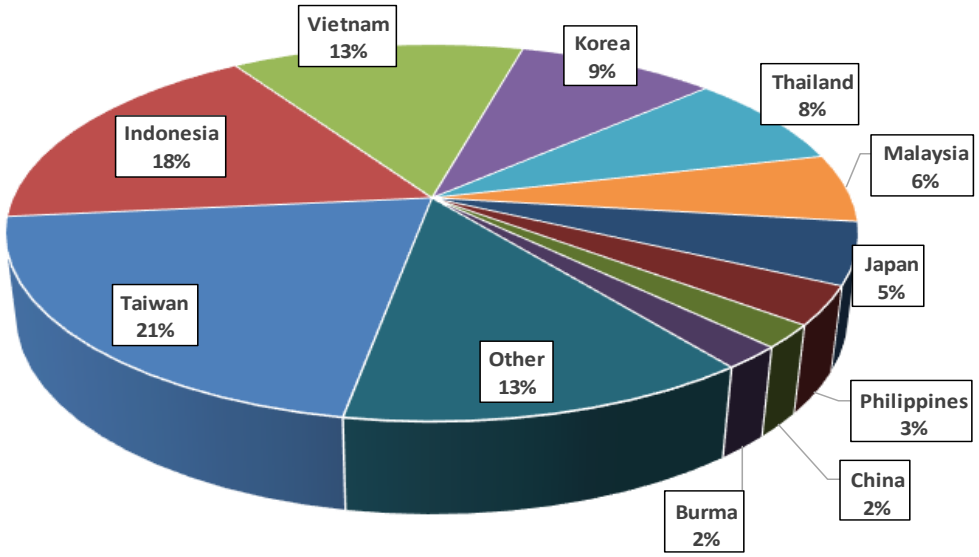
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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

Source: Maritime Research, Inc.

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

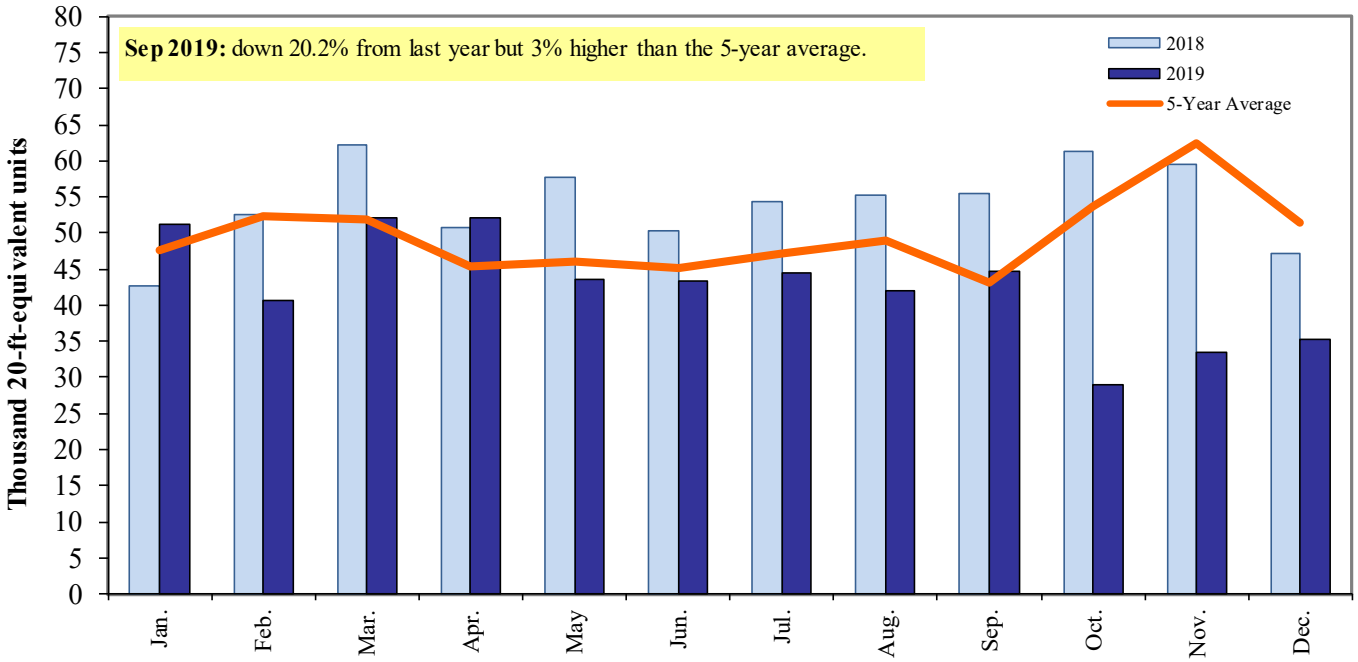
Figure 18
Top 10 destination markets for U.S. containerized grain exports, 2019



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 1001, 100190, 1002, 1003 100300, 1004, 100400, 1005, 100590, 1007, 100700, 1102, 110100, 230310, 110220, 110290, 1201, 120100, 230210, 230990, 230330, and 120810.

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

Figure 19
Monthly shipments of containerized grain to Asia



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 110220, 110290, 1201, 120100, 120190, 120810, 230210, 230310, 230330, and 230990.

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

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