United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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February 16, 2017

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WEEKLY HIGHLIGHTS

Flooding Leading to Continued Service Disruptions on the Western Railroads

Union Pacific (UP) and BNSF both reported ongoing service disruptions due to flooding conditions, along with rerouting to minimize the impact. On February 13, UP reported that "traffic moving between Oregon, Washington, and southern California will experience delays due to the threat of the Oroville Dam situation." Additionally, UP reported track outages on certain routes in northern California, Nevada, and Utah due to washed out track, with possible delays of between 48 and 72 hours. On February 10, BNSF cited mudslides and water as causes of congestion and "indefinite" service outages in the Pacific Northwest (PNW) and northern California. Blizzards and multiple avalanches caused outages and delays in Montana, but service on the route has since been restored. Both railroads have reported a string of weather-related disruptions this winter, which have likely impacted grain shippers. For the two railroads, average outstanding grain car orders (backlog) in January were up 53 percent from January 2016, but still down 75 percent from January 2015, while average January shuttle rates in the secondary auction markets were $735 above last year.

Grain Inspections Fall Despite Increase in Corn Inspections

For the week ending February 9, **total inspections of grain** (corn, wheat, and soybeans) for export from major U.S. export regions reached 2.7 million metric tons (mmt), down 24 percent from the previous week, down 6 percent from last year, and 7 percent above the 3-year average. Total wheat and soybean inspections dropped 55 and 34 percent, respectively, from the previous week. Inspections of corn, however, increased 12 percent from the past week, due mainly to increased shipments to Asia. Mississippi Gulf inspections decreased 21 percent from the previous week, and Pacific Northwest grain inspections dropped 32 percent for the same period. Outstanding export sales (unshipped) are down for corn, wheat, and soybeans.

Grain Barge Movements were Stable despite Severe Weather in Southern Louisiana

Despite multiple tornados hitting southern Louisiana February 7, two of the grain barge movement indicators (numbers of down-bound barges and barge unloaded) indicate the grain barge shipments in the lower Mississippi and the Gulf were stable (**GTR Figure 12**). The number of barges moving down the Mississippi River generally increase in summer and peak in early December, then decline in the winter and early spring. For the week ending February 11, the number of down-bound barges (416) followed a declining trend, but were still 25 percent higher than the 3-year average for February. The number of barges unloaded in the New Orleans port region usually increases in July and peaks in November/December, then declines afterwards until April/May. Last week's grain barge unloaded number (941) was slightly lower (6) than the week before, but still 36 percent higher than the 3-year average.

Snapshots by Sector

Export Sales

For the week ending February 2 **unshipped balances** of wheat, corn, and soybeans totaled 37.7 mmt, up 59 percent from the same time last year. Net weekly **wheat export sales** were .527 mmt, up 17 percent from the previous week. Net **corn export sales** were .972 mmt, down 15 percent from the previous week, and net **soybean export sales** were .536 mmt, down 14 percent from the past week.

Rail

U.S. Class I railroads originated 25,741 **grain carloads** for the week ending February 4, up 13 percent from the previous week, up 16 percent from last year, and up 20 percent from the 3-year average.

Average February shuttle **secondary railcar bids/offers** per car were $1,900 above tariff for the week ending February 9, up $783 from last week, and $1,919 higher than last year. There were no non-shuttle secondary railcar bids/offers this week.

Barge

For the week ending February 11, **barge grain movements** totaled 678,040 tons, 9 percent lower than the last week, and down 9 percent from the same period last year.

For the week ending February 11, 416 grain barges **moved down river**, down 9 percent from last week, 941 grain barges were **unloaded in New Orleans**, down 1 percent from the previous week.

Ocean

For the week ending February 9, 54 **ocean-going grain vessels** were loaded in the Gulf, 69 percent more than the same period last year. Sixty-five vessels are expected to be loaded within the next 10 days, 5 percent more than the same period last year.

For the week ending February 9, the ocean freight rate for shipping bulk grain from the Gulf to Japan was $35.75 per metric ton, 1 percent more than the previous week. The cost of shipping from the PNW to Japan was $18.25 per metric ton, 3 percent more than the previous week.

Fuel

During the week ending February 13, U.S. average **diesel fuel prices** increased 1 cent from the previous week at $2.57 per gallon, 59 cents higher than the same week last year.

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Feature Article/Calendar

Fourth Quarter Transportation Costs Mixed; Mexico Imported More Corn and Wheat

The fourth quarter of 2016 showed mixed transportation costs of shipping grains from the United States to Mexico. However, Mexico imported more corn, soybeans, and wheat during the quarter, as well as for the calendar year 2016, compared to the same period a year earlier. The transportation costs of waterborne corn and soybeans each decreased 10 percent compared to the previous quarter. During the quarter, it cost 2 and 3 percent more, respectively, to ship wheat to Mexico via the waterborne and land routes. The cost of shipping corn by land also increased 2 percent during the quarter (see table below). The costs of shipping corn and soybeans by the water route decreased mainly due to a 22 percent decline in barge rates, compared to the previous quarter. For waterborne wheat, rail tariff and ocean rates remained relatively stable, but the truck rate increased during the quarter, moving the transportation cost up slightly.

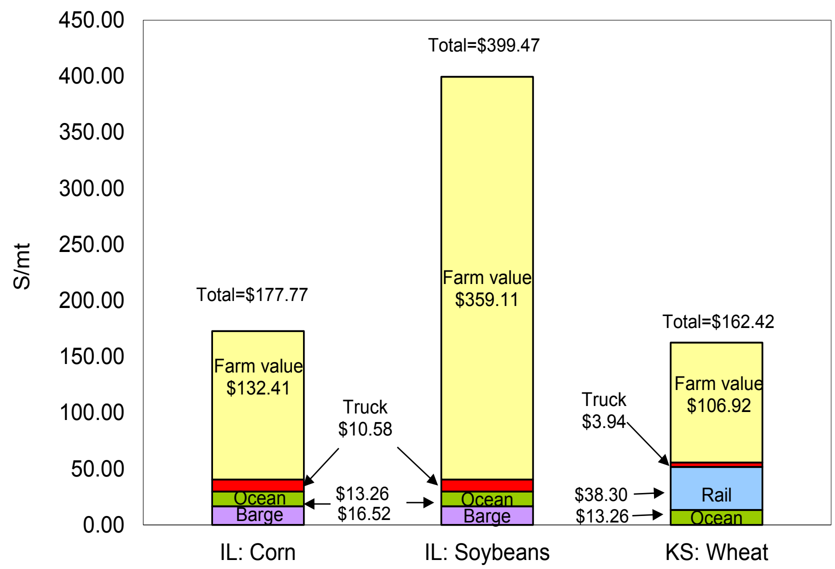
Quarterly costs of transporting U.S. grain to Veracruz and Guadalajara, Mexico

	Water route (to Veracruz) $/metric ton					Land route (to Guadalajara) $/metric ton				
	2015 4th qtr.	2016 3rd qtr.	2016 4th qtr.	Percent change Yr. to Yr.	Percent change Qtr. to Qtr.	2015 4th qtr.	2016 3rd qtr.	2016 4th qtr.	Percent change Yr. to Yr.	Percent change Qtr. to Qtr.
Corn										
Origin			IL					IA		
Truck[1]	8.38	10.58	10.58	26.3	0.0	3.35	3.14	3.94	17.6	25.5
Rail [2]						87.40	84.04	84.85	-2.9	1.0
Ocean[3]	12.12	13.20	13.26	9.4	0.5					
Barge	18.62	21.12	16.52	-11.3	-21.8					
Total transportation cost[4]	39.12	44.90	40.36	3.2	-10.1	90.75	87.18	88.79	-2.2	1.8
Farm Value[5]	146.84	132.15	132.41	-9.8	0.2	139.63	127.16	128.21	-8.2	0.8
Landed Cost[6]	185.96	177.05	172.77	-7.1	-2.4	230.38	214.34	217.00	-5.8	1.2
Transport % of landed cost	21	25	23			39	41	41		
Soybeans										
Origin			IL					NE		
Truck	8.38	10.58	10.58	26.3	0.0	3.35	3.14	3.94	17.6	25.5
Rail						94.53	94.36	92.64	-2.0	-1.8
Ocean	12.12	13.20	13.26	9.4	0.5					
Barge	18.62	21.12	16.52	-11.3	-21.8					
Total transportation cost	39.12	44.90	40.36	3.2	-10.1	97.88	97.50	96.58	-1.3	-0.9
Farm Value	329.59	372.34	359.11	9.0	-3.6	310.61	353.84	338.29	8.9	-4.4
Landed Cost	368.71	417.24	399.47	8.3	-4.3	408.49	451.34	434.87	6.5	-3.6
Transport % of landed cost	11	11	10			24	22	22		
Wheat										
Origin			KS					KS		
Truck	3.35	3.14	3.94	17.6	25.5	3.35	3.14	3.94	17.6	25.5
Rail	39.03	38.28	38.30	-1.9	0.1	72.85	72.41	73.69	1.2	1.8
Ocean	12.12	13.20	13.26	9.4	0.5					
Total transportation cost	54.50	54.62	55.50	1.8	1.6	76.20	75.55	77.63	1.9	2.8
Farm Value	156.65	111.09	106.92	-31.7	-3.8	156.65	111.09	106.92	-31.7	-3.8
Landed Cost	211.15	165.71	162.42	-23.1	-2.0	232.85	186.64	184.55	-20.7	-1.1
Transport % of landed cost	26	33	34				40	42		

[1]Truck rates for the second quarter were revised from the previous estimates.
[2]Rail rates include U.S. and Mexico portions of the movement. Mexico rail rates are estimated based on actual quoted market rates. BNSF and Union Pacific quoted rail tariff rates are through rates for shuttle trains.
Rail rates include fuel surcharges, but do not include the cost of purchasing empty rail cars in the secondary market, which could exceed the rail tariff rate plus fuel surcharge shown in the table. Origins are modified from past tables. Rail rates for the water route were revised from previous estim
[3]Source: O'Neil Commodity Consulting
[4]Transportation costs for Kansas wheat transported via water route were revised from previous estimates
[5]Source: USDA/NASS
[6]Landed cost is total transportation cost plus farm value

Truck and rail tariff rates increased the transportation costs for corn and wheat transported via the land route. However, the reduction in rail tariff rates for soybeans was more than enough to offset the increase in truck rates, which caused the transportation cost for soybeans transported through the land route to fall slightly. During the quarter, the landed cost for corn shipped by the land route was up 1 percent, while the landed cost for this route for soybeans and wheat was down by 4 and 1 percent, respectively. However, the landed cost for all three commodities for the water route were down. During the quarter for the water route, the farm value for Illinois corn remained unchanged but lower transportation costs pushed down the landed costs. Year-to-year transportation costs increased for waterborne corn and soybeans, and generally for wheat. However, year-to-year landed costs decreased for both corn and wheat as their farm values fell significantly compared to last year, while soybean farm values improved over last year. The landed costs for the water route ranged from $162 to $399 per metric ton (mt) (see table and figure 1), and $185/mt to $435/mt for the land route (see table and figure 2). The transportation share of the landed costs ranged from 10 to 34 percent for the water route (see table and figure 1), and 22 to 42 percent for the land route (see table and figure 2). Only the wheat transportation share of the landed costs increased from quarter to quarter.

Figure 1. Water route shipment costs ($/mt) to Veracruz, Mexico

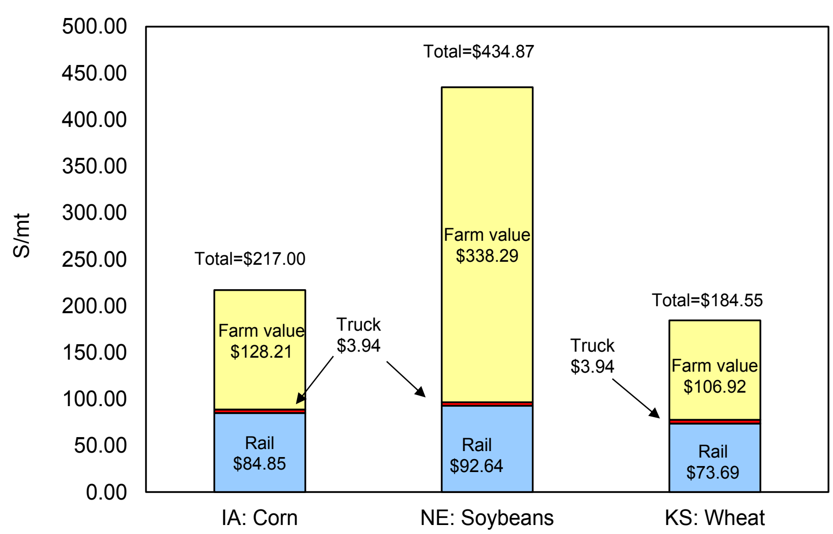


Source: USDA, Agricultural Marketing Service

Market Analysis and Outlook

In 2016, Mexico imported 3.16 million metric tons (mmt) of corn from the United States during the fourth quarter of 2016—12 percent more than the same period a year ago (FAS, GATS Data). The total value of corn imports was $57.3 million. During 2016, Mexico imported 13.92 mmt of corn, 18 percent more than 2015. During the fourth quarter, Mexico also imported 0.81 and 1.10 mmt of wheat and soybeans, respectively. The quantity of wheat imported was 71 percent more than the same period a year earlier, while the quantity of soybeans increased by 13 percent. In 2016, Mexico imported 2.76 and 3.64 mmt of wheat and soybeans, respectively. The quantity of wheat imported was 6 percent more than the same period a year earlier, while the quantity of soybeans increased by 2 percent. According to USDA's Foreign Agricultural Service (FAS), Mexican corn imports for marketing year (MY) 2016/17 are estimated at 12.5 mmt, and wheat imports at 4.3 mmt (FAS, *GAIN Report #: MX6023*). Mexico's soybean imports for MY 2016/17 are forecasted at 4 mmt (FAS, *GAIN Report #: MX6014*).

Figure 2. Land route shipment costs ($/mt) to Guadalajara, Mexico



Source: USDA, Agricultural Marketing Service

According to FAS, production, supply and distribution data, Mexico corn production in 2016 at 24.5 mmt is lower than 2015 at 25.8 mmt. Reduced Mexican domestic production could boost imports from the United States. In addition, the United States' proximity to Mexico is a major advantage to the U.S. suppliers of soybeans to Mexico, making their prices very competitive.

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Grain Transportation Indicators

Table 1

Grain Transport Cost Indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit Train	Shuttle		Gulf	Pacific
02/15/17	172	262	291	175	160	129
02/08/17	172	276	257	192	158	126

[1]Indicator: Base year 2000 = 100; Weekly updates include truck = diesel ($/gallon); rail = near-month secondary rail market bid and monthly tariff rate with fuel surcharge ($/car); barge = Illinois River barge rate (index = percent of tariff rate); and ocean = routes to Japan ($/metric ton)

Source: Transportation & Marketing Programs/AMS/USDA

Table 2

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

Commodity	Origin--Destination	2/10/2017	2/3/2017
Corn	IL--Gulf	-0.62	-0.62
Corn	NE--Gulf	-0.86	-0.88
Soybean	IA--Gulf	-1.18	-1.15
HRW	KS--Gulf	-1.90	-2.00
HRS	ND--Portland	-2.86	-2.87

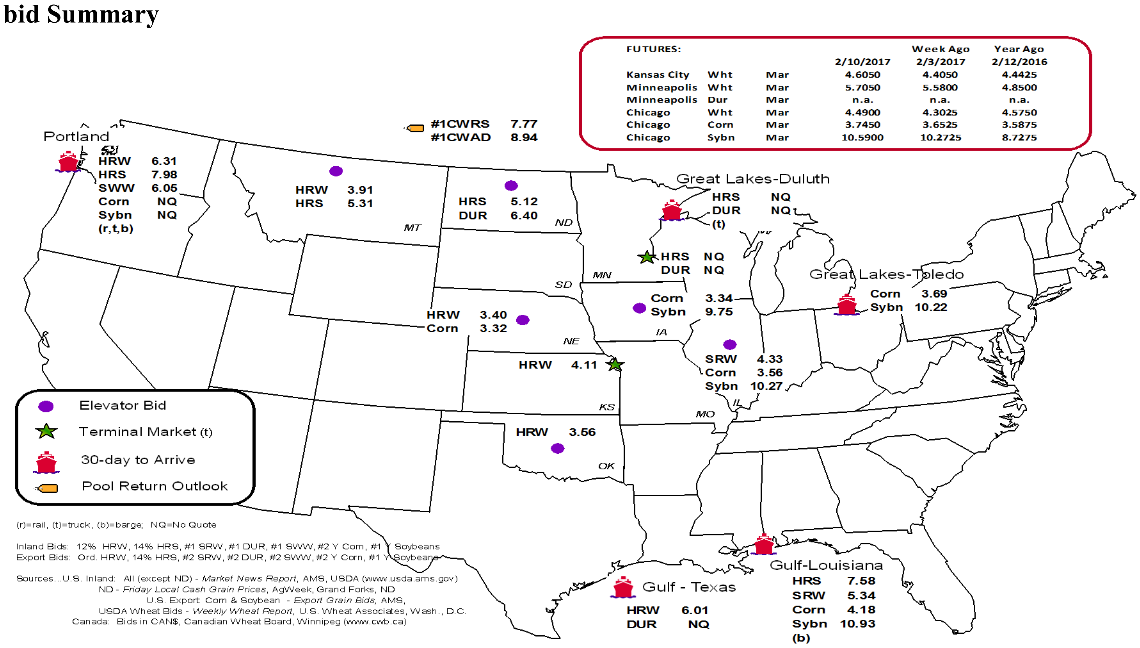
Note: nq = no quote; n/a = not available

Source: Transportation & Marketing Programs/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]
02/08/2017[p]	844	2,103	6,898	782	10,627	2/4/2017	1,492
02/01/2017[r]	926	2,103	7,818	636	11,483	1/28/2017	2,814
2017 YTD[r]	5,071	11,338	37,258	4,834	58,501	2017 YTD	9,633
2016 YTD[r]	3,659	8,977	34,938	4,346	51,920	2016 YTD	10,111
2017 YTD as % of 2016 YTD	139	126	107	111	113	% change YTD	95
Last 4 weeks as % of 2016[2]	123	116	109	106	111	Last 4wks % 2016	124
Last 4 weeks as % of 4-year avg.[2]	86	162	119	99	120	Last 4wks % 4 yr	134
Total 2016	36,925	86,992	299,932	28,728	452,577	Total 2016	92,982
Total 2015	29,054	60,819	239,029	26,730	355,632	Total 2015	97,736

[1] Data is incomplete as it is voluntarily provided

[2] Compared with same 4-weeks in 2016 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 FerroMex.

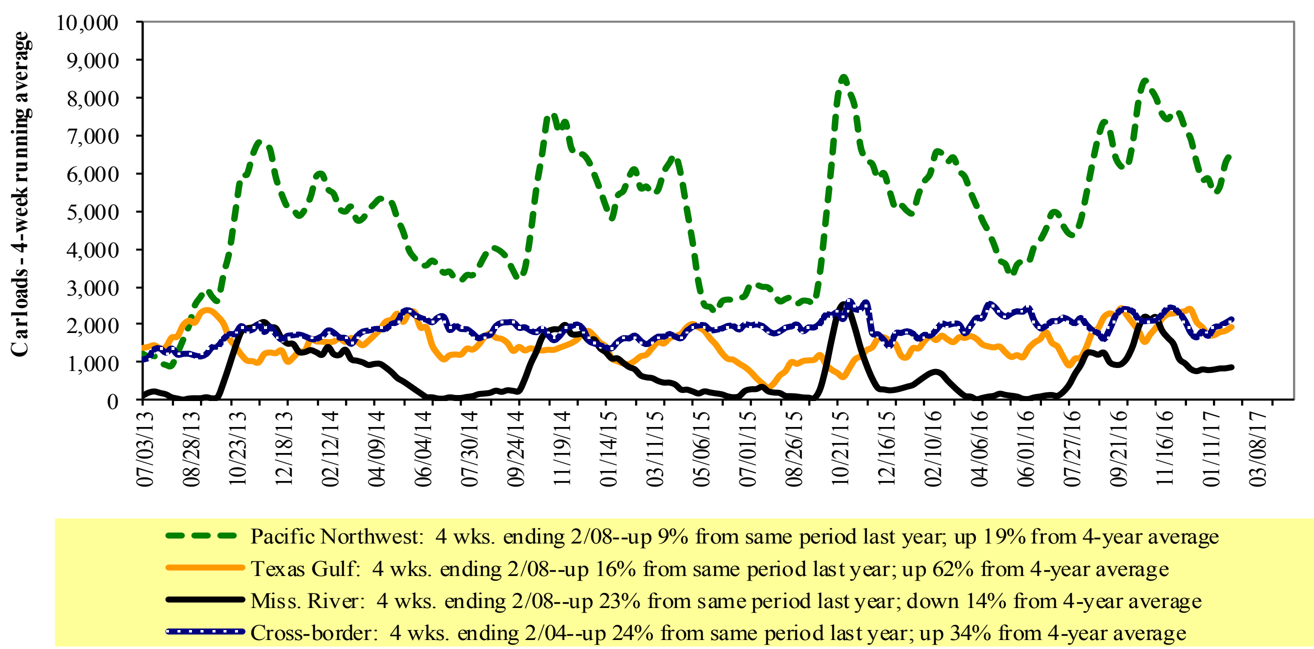
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

Source: Transportation & Marketing Programs/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 Programs/AMS/USDA

Table 4

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

For the week ending:	East		West			U.S. total	Canada	
2/4/2017	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	2,363	2,760	12,983	1,118	6,517	25,741	4,071	4,770
This week last year	2,055	3,094	10,932	664	5,511	22,256	3,311	4,152
2017 YTD	10,353	15,124	57,961	5,450	30,004	118,892	18,681	20,852
2016 YTD	10,229	14,400	55,192	4,347	26,669	110,837	17,419	21,025
2017 YTD as % of 2016 YTD	101	105	105	125	113	107	107	99
Last 4 weeks as % of 2016*	104	106	108	134	110	109	111	102
Last 4 weeks as % of 3-yr avg.**	96	100	115	128	103	109	102	95
Total 2016	95,179	151,005	590,779	45,246	300,836	1,183,045	194,023	234,738

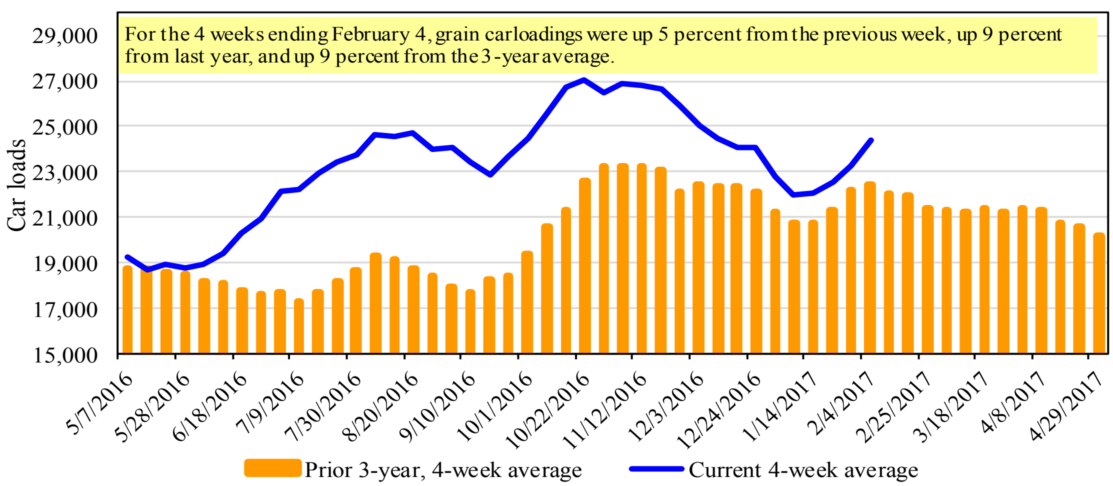
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

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

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

Figure 3

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



Source: Association of American Railroads

Table 5

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

For the week ending:		Delivery period							
2/9/2017		Feb-17	Feb-16	Mar-17	Mar-16	Apr-17	Apr-16	May-17	May-16
BNSF[3]	COT grain units	37	0	45	no bids	1	no bids	1	no bids
	COT grain single-car[5]	no offer	0-1	352	0	60	0	21	0
UP[4]	GCAS/Region 1	no bids	no offer	10	no bids	no bids	no bids	n/a	n/a
	GCAS/Region 2	no bids	no offer	no bids	no bids	no bids	no bids	n/a	n/a

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

[2]Average premium/discount to tariff, last auction

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

[4]UP - GCAS = Grain Car Allocation System

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

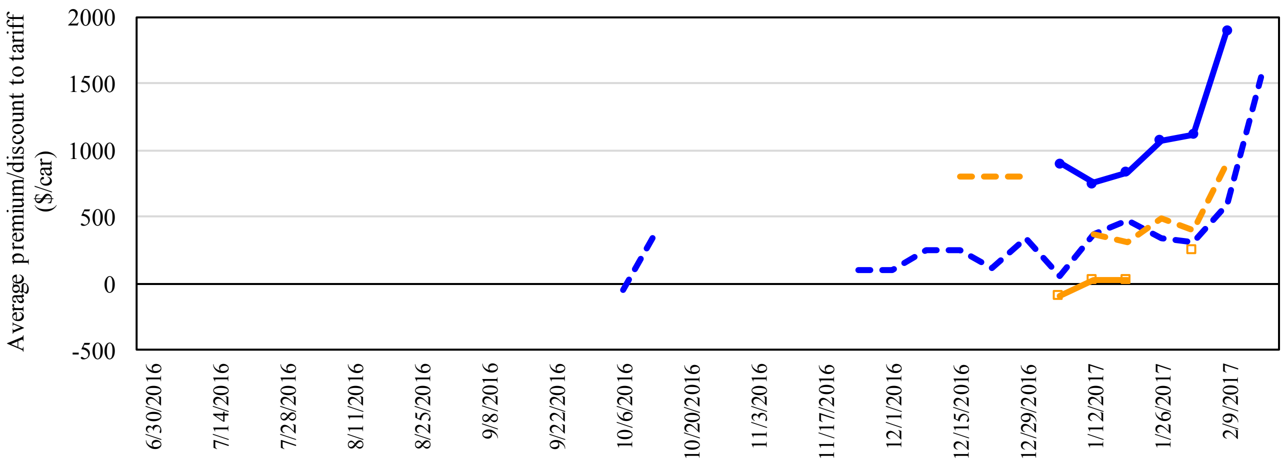
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

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

Source: Transportation & Marketing Programs/AMS/USDA.

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

Figure 4
Bids/Offers for Railcars to be Delivered in February 2017, Secondary Market

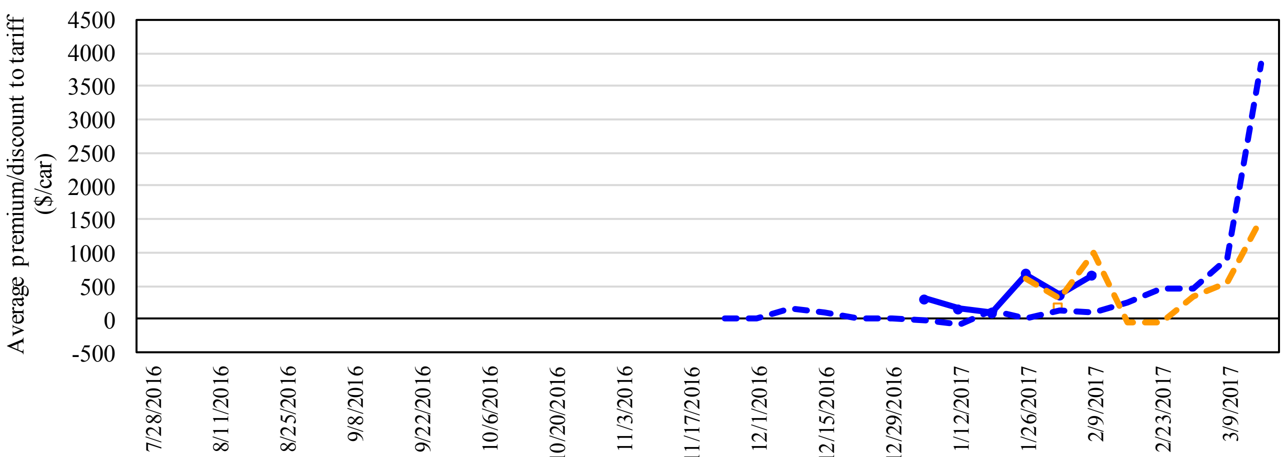


2/9/2017	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	$3,400	$400

There were no Non-Shuttle bids/offers this week.
Average Shuttle bids/offers rose $783 this week and are at the peak.

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

Figure 5
Bids/Offers for Railcars to be Delivered in March 2017, Secondary Market



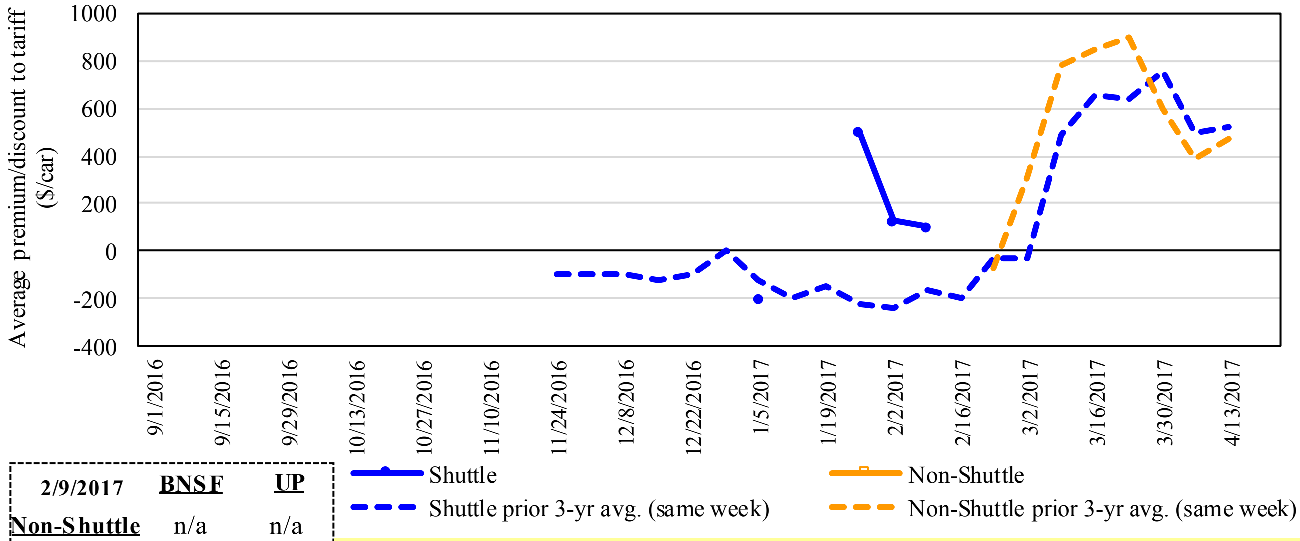
2/9/2017	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	$1,200	$133

There were no Non-Shuttle bids/offers this week.
Average Shuttle bids/offers rose $303 this week and are $8 below the peak.

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

Figure 6

Bids/Offers for Railcars to be Delivered in April 2017, Secondary Market



2/9/2017	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	$100	n/a

There were no Non-Shuttle bids/offers this week.
Average Shuttle bids/offers fell $25 this week and are $400 below the peak.

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

Table 6

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

	For the week ending: 2/9/2017	Delivery period					
		Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17
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 2016	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 2016	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**3400**	**1200**	**100**	**n/a**	**n/a**	**n/a**
	Change from last week	1400	422	(25)	n/a	n/a	n/a
	Change from same week 2016	3419	n/a	250	n/a	n/a	n/a
	UP-Pool	**400**	**133**	**n/a**	**n/a**	**(100)**	**n/a**
	Change from last week	167	183	n/a	n/a	n/a	n/a
	Change from same week 2016	n/a	283	n/a	n/a	n/a	n/a

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

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

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

Sources: Transportation and Marketing Programs/AMS/USDA

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

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]

February, 2017	Origin region*	Destination region*	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per: metric ton	Tariff plus surcharge per: bushel[2]	Percent change Y/Y[3]
Unit train							
Wheat	Wichita, KS	St. Louis, MO	$3,770	$46	$37.89	$1.03	5
	Grand Forks, ND	Duluth-Superior, MN	$4,143	$3	$41.17	$1.12	17
	Wichita, KS	Los Angeles, CA	$6,950	$15	$69.17	$1.88	1
	Wichita, KS	New Orleans, LA	$4,408	$80	$44.57	$1.21	5
	Sioux Falls, SD	Galveston-Houston, TX	$6,686	$13	$66.52	$1.81	4
	Northwest KS	Galveston-Houston, TX	$4,676	$88	$47.31	$1.29	4
	Amarillo, TX	Los Angeles, CA	$4,875	$122	$49.62	$1.35	5
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,681	$91	$37.45	$0.95	1
	Toledo, OH	Raleigh, NC	$6,061	$0	$60.19	$1.53	0
	Des Moines, IA	Davenport, IA	$2,258	$19	$22.61	$0.57	5
	Indianapolis, IN	Atlanta, GA	$5,191	$0	$51.55	$1.31	4
	Indianapolis, IN	Knoxville, TN	$4,311	$0	$42.81	$1.09	0
	Des Moines, IA	Little Rock, AR	$3,534	$56	$35.65	$0.91	3
	Des Moines, IA	Los Angeles, CA	$5,202	$164	$53.29	$1.35	4
Soybeans	Minneapolis, MN	New Orleans, LA	$3,639	$60	$36.73	$1.00	-8
	Toledo, OH	Huntsville, AL	$5,051	$0	$50.16	$1.37	0
	Indianapolis, IN	Raleigh, NC	$6,178	$0	$61.35	$1.67	0
	Indianapolis, IN	Huntsville, AL	$4,529	$0	$44.98	$1.22	0
	Champaign-Urbana, IL	New Orleans, LA	$4,495	$91	$45.54	$1.24	3
Shuttle Train							
Wheat	Great Falls, MT	Portland, OR	$3,953	$9	$39.34	$1.07	1
	Wichita, KS	Galveston-Houston, TX	$4,071	$7	$40.50	$1.10	5
	Chicago, IL	Albany, NY	$5,492	$0	$54.54	$1.48	0
	Grand Forks, ND	Portland, OR	$5,611	$15	$55.87	$1.52	1
	Grand Forks, ND	Galveston-Houston, TX	$5,931	$16	$59.05	$1.61	1
	Northwest KS	Portland, OR	$5,643	$144	$57.47	$1.56	4
Corn	Minneapolis, MN	Portland, OR	$5,000	$19	$49.84	$1.27	2
	Sioux Falls, SD	Tacoma, WA	$4,960	$17	$49.42	$1.26	2
	Champaign-Urbana, IL	New Orleans, LA	$3,481	$91	$35.47	$0.90	1
	Lincoln, NE	Galveston-Houston, TX	$3,700	$10	$36.84	$0.94	4
	Des Moines, IA	Amarillo, TX	$3,895	$71	$39.38	$1.00	3
	Minneapolis, MN	Tacoma, WA	$5,000	$18	$49.83	$1.27	2
	Council Bluffs, IA	Stockton, CA	$4,740	$19	$47.26	$1.20	4
Soybeans	Sioux Falls, SD	Tacoma, WA	$5,600	$17	$55.78	$1.52	4
	Minneapolis, MN	Portland, OR	$5,650	$19	$56.29	$1.53	4
	Fargo, ND	Tacoma, WA	$5,500	$15	$54.77	$1.49	4
	Council Bluffs, IA	New Orleans, LA	$4,525	$104	$45.97	$1.25	3
	Toledo, OH	Huntsville, AL	$4,226	$0	$41.97	$1.14	0
	Grand Island, NE	Portland, OR	$5,460	$147	$55.68	$1.52	3

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

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

[3]Percentage change year over year calculated using tariff rate plus fuel surchage

Sources: www.bnsf.com, www.cpr.ca, www.csx.com, www.uprr.com

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

Table 8

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

Commodity	Origin state	Destination region	Tariff rate/car[1]	Fuel surcharge per car[2]	Tariff plus surcharge per: metric ton[3]	bushel[3]	Percent change[4] Y/Y
Date: February, 2017							
Wheat	MT	Chihuahua, CI	$7,459	$0	$76.21	$2.07	0
	OK	Cuautitlan, EM	$6,638	$63	$68.47	$1.86	2
	KS	Guadalajara, JA	$7,180	$265	$76.07	$2.07	5
	TX	Salinas Victoria, NL	$4,258	$37	$43.89	$1.19	3
Corn	IA	Guadalajara, JA	$8,187	$215	$85.84	$2.18	-1
	SD	Celaya, GJ	$7,580	$0	$77.45	$1.97	-3
	NE	Queretaro, QA	$7,909	$125	$82.09	$2.08	1
	SD	Salinas Victoria, NL	$6,635	$0	$67.79	$1.72	1
	MO	Tlalnepantla, EM	$7,293	$122	$75.76	$1.92	2
	SD	Torreon, CU	$7,180	$0	$73.36	$1.86	-1
Soybeans	MO	Bojay (Tula), HG	$8,647	$227	$90.67	$2.47	2
	NE	Guadalajara, JA	$8,942	$229	$93.70	$2.55	-1
	IA	El Castillo, JA	$8,960	$0	$91.55	$2.49	-5
	KS	Torreon, CU	$7,489	$152	$78.07	$2.12	2
Sorghum	NE	Celaya, GJ	$7,164	$191	$75.15	$1.91	-1
	KS	Queretaro, QA	$7,608	$78	$78.53	$1.99	1
	NE	Salinas Victoria, NL	$6,213	$63	$64.12	$1.63	1
	NE	Torreon, CU	$6,607	$138	$68.91	$1.75	0

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

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

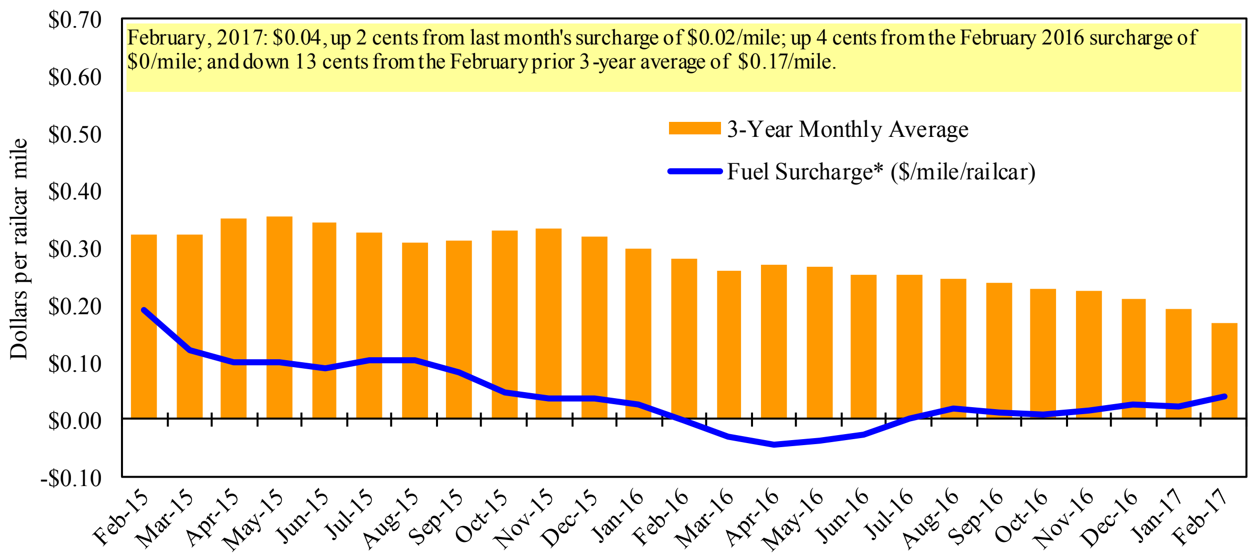
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu

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

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

Figure 7

Railroad Fuel Surcharges, North American Weighted Average[1]

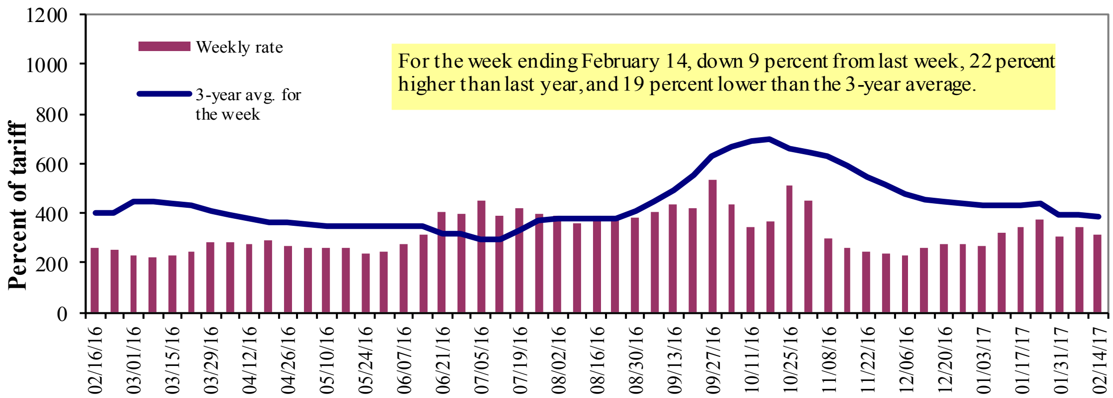


[1] Weighted by each Class I railroad's proportion of grain traffic for the prior year.
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.
**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.
Sources: www.bnsf.com, www.cn.ca, www.cpr.ca, www.csx.com, www.kcsi.com, www.nscorp.com, www.uprr.com

Barge Transportation

Figure 8

Illinois River Barge Freight Rate[1,2]



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

Source: Transportation & Marketing Programs/AMS/USDA

Table 9

Weekly Barge Freight Rates: Southbound Only

		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	2/14/2017	-	-	315	218	268	268	188
	2/7/2017	-	-	345	243	270	275	200
$/ton	2/14/2017	-	-	14.62	8.70	12.57	10.83	5.90
	2/7/2017	-	-	16.01	9.70	12.66	11.11	6.28
Current week % change from the same week:								
	Last year	-	-	22	23	30	30	14
	3-year avg. [2]	-	-	-19	-34	-23	-23	-24
Rate[1]	March	-	393	283	200	213	213	173
	May	330	278	270	195	200	200	170

[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; - closed for winter or flooding

Source: Transportation & Marketing Programs/AMS/USDA

Figure 9
Benchmark tariff rates

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

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

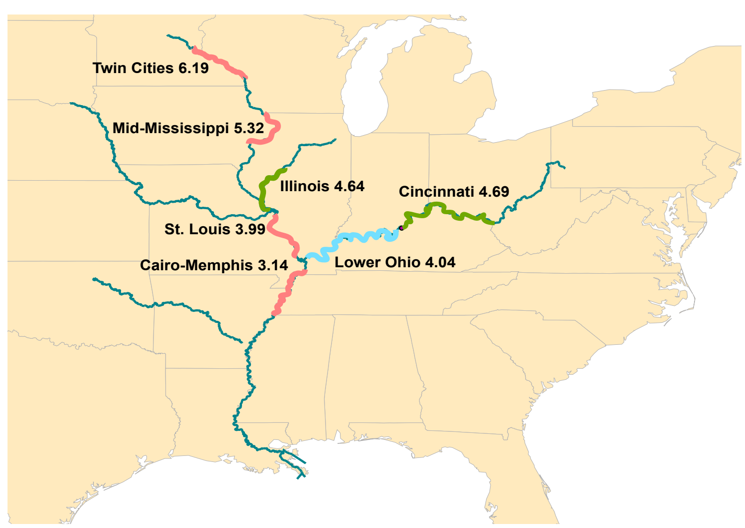
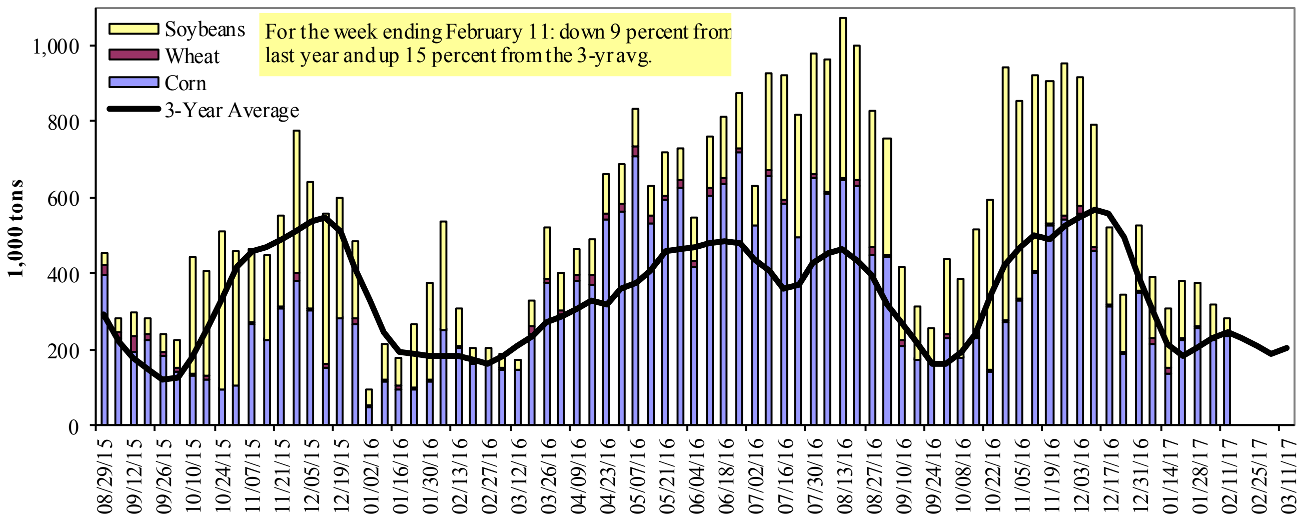


Figure 10

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



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

Source: U.S. Army Corps of Engineers

Table 10

Barge Grain Movements (1,000 tons)

For the week ending 2/11/2017	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	46	0	3	0	49
Alton, IL (L26)	240	0	46	0	286
Granite City, IL (L27)	235	0	46	0	282
Illinois River (L8)	192	0	38	0	230
Ohio River (L52)	112	4	190	30	336
Arkansas River (L1)	1	18	41	0	60
Weekly total - 2017	349	22	277	30	678
Weekly total - 2016	394	36	304	8	742
2017 YTD[1]	1,950	191	1,979	108	4,228
2016 YTD	1,834	103	2,139	13	4,089
2017 as % of 2016 YTD	106	186	93	810	103
Last 4 weeks as % of 2016[2]	106	137	78	477	94
Total 2016	24,136	2,030	16,668	344	43,178

[1] Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/52, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

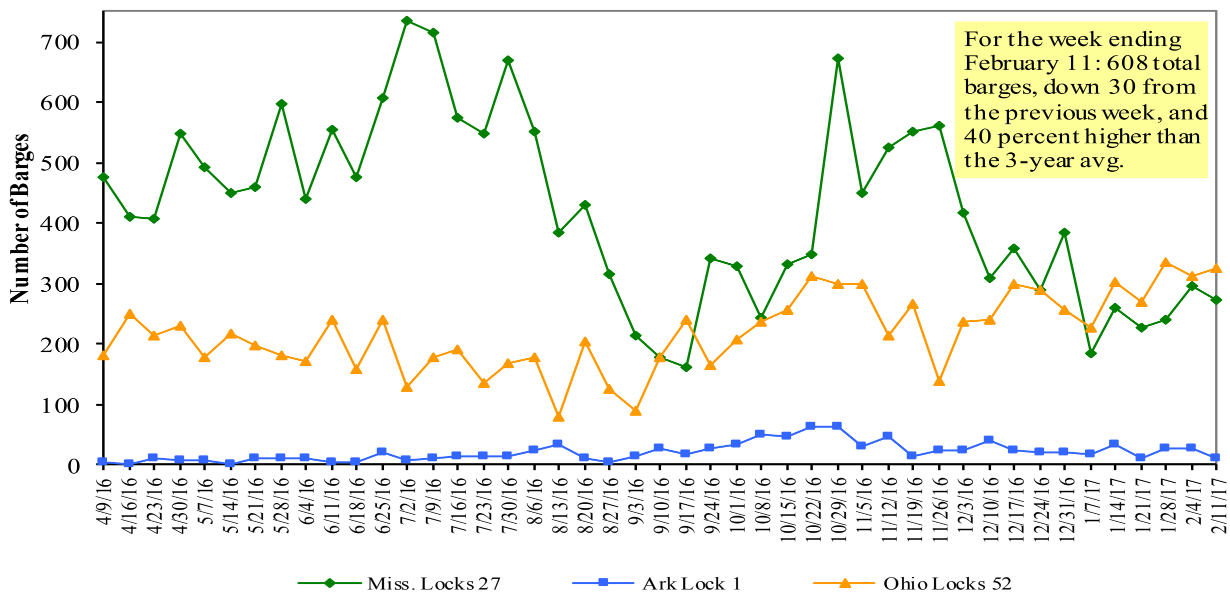
[2] As a percent of same period in 2016.

Note: Total may not add exactly, due to rounding

Source: U.S. Army Corps of Engineers

Figure 11

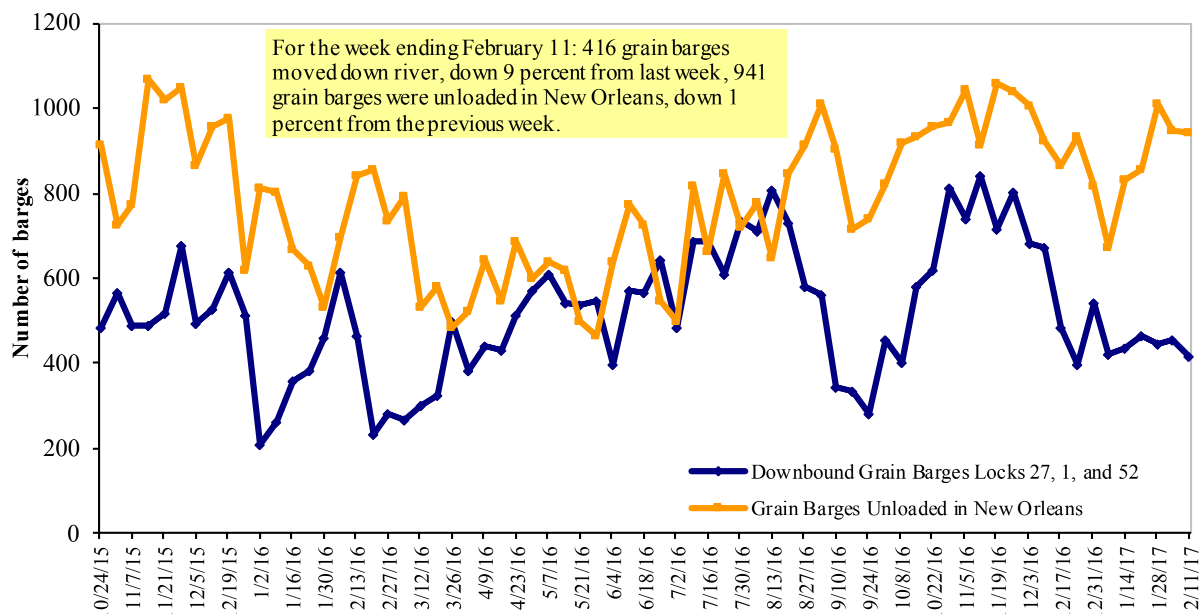
Upbound Empty Barges Transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Locks and Dam 52



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 GIPSA

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[1], Week Ending 2/13/2017(US $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	2.626	0.008	0.557
	New England	2.626	-0.035	0.443
	Central Atlantic	2.765	0.002	0.568
	Lower Atlantic	2.519	0.011	0.572
II	Midwest[2]	2.487	-0.005	0.579
III	Gulf Coast[3]	2.424	0.021	0.566
IV	Rocky Mountain	2.522	0.007	0.656
V	West Coast	2.869	0.013	0.675
	West Coast less California	2.761	0.013	0.718
	California	2.957	0.013	0.641
Total	U.S.	2.565	0.007	0.585

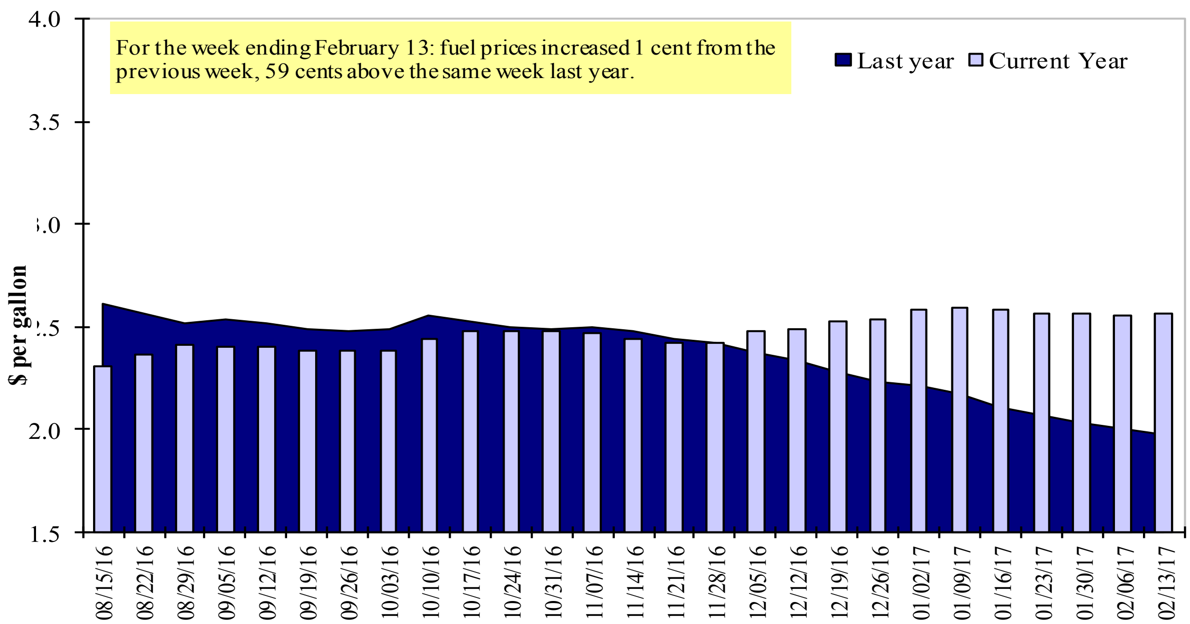
[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

[2]Same as North Central [3]Same as South Central

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

Figure 13

Weekly Diesel Fuel Prices, U.S. Average



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

Grain Exports

Table 12

U.S. Export Balances and Cumulative Exports (1,000 metric tons)

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export Balances[1]									
2/2/2017	2,277	624	2,494	1,298	139	6,831	20,388	10,458	37,676
This week year ago	1,106	472	1,416	857	76	3,927	12,182	7,586	23,694
Cumulative exports-marketing year[2]									
2016/17 YTD	7,218	1,422	4,980	2,699	265	16,584	20,802	40,543	77,929
2015/16 YTD	3,716	2,328	4,155	2,367	547	13,113	12,449	33,535	59,096
YTD 2016/17 as % of 2015/16	194	61	120	114	49	126	167	121	132
Last 4 wks as % of same period 2015/16	196	133	176	142	162	158	166	157	162
2015/16 Total	5,538	3,057	6,285	3,551	670	19,101	45,564	49,821	114,487
2014/15 Total	7,009	3,654	7,250	3,758	665	22,336	45,205	49,614	117,155

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

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

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

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

Table 13

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

For the week ending 2/02/2017	**Total Commitments**[2]		**% change**	**Exports**[3]
	2016/17	**2015/16**	**current MY**	**3-year avg**
	Current MY	**Last MY**	**from last MY**	**2013-2015**
	- 1,000 mt -			**- 1,000 mt -**
Mexico	10,451	9,207	14	11,204
Japan	6,587	4,054	62	11,284
Korea	3,431	712	382	3,931
Colombia	2,801	2,493	12	4,134
Peru	1,984	989	101	2,109
Top 5 Importers	**25,254**	**17,454**	**45**	**32,662**
Total US corn export sales	**41,189**	**24,630**	**67**	**46,633**
% of Projected	73%	51%		
Change from prior week	**972**	**405**		
Top 5 importers' share of U.S. corn export sales	61%	71%		70%
USDA forecast, February 2017	**56,616**	**48,295**	**17**	
Corn Use for Ethanol USDA forecast, February 2017	**135,890**	**132,233**	**3**	

(n) indicates negative number.

[1]Based on FAS Marketing Year Ranking Reports for 2015/16 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. Total commitments change from prior week could include revisions from previous week's outastanding sales or accumulated sales.

[3]FAS Marketing Year Ranking Reports - http://apps.fas.usda.gov/export-sales/myrkaug.htm; 3-yr average

Table 14

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

For the week ending 2/2/2017	Total Commitments[2] 2016/17 Current MY	2015/16 Last MY	% change current MY from last MY	Exports[3] 3-yr avg. 2013-2015
	- 1,000 mt -			- 1,000 mt -
China	33,514	25,820	30	29,033
Mexico	2,612	2,103	24	3,295
Indonesia	1,250	948	32	2,065
Japan	1,528	1,392	10	1,994
Netherlands	1,181	1,024	15	1,644
Top 5 importers	**40,085**	**31,285**	**28**	**38,032**
Total US soybean export sales	**51,001**	**41,120**	**24**	**48,389**
% of Projected	91%	78%		
Change from prior week	**536**	**604**		
Top 5 importers' share of U.S. soybean export sales	79%	76%		**79%**
USDA forecast, February 2017	**55,858**	**52,752**	**6**	

(n) indicates negative number.

[1]Based on FAS Marketing Year Ranking Reports for 2015/16 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. Total commitments change from prior week could include reivisions from previous week's outstanding sales and/or accumulated sales

[3] FAS Marketing Year Final Reports - www.fas.usda.gov/export-sales/myfi_rpt.htm. (Carryover plus Accumulated Exports)

Table 15

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

For the week ending 2/02/2017	Total Commitments[2] 2016/17 Current MY	2015/16 Last MY	% change current MY from last MY	Exports[3] 3-yr avg 2013-2015
	- 1,000 mt -			- 1,000 mt -
Japan	2,126	1,989	7	2,743
Mexico	2,471	1,895	30	2,660
Philippines	2,213	1,803	23	2,156
Brazil	1,125	369	205	2,076
Nigeria	1,197	1,366	(12)	1,978
Korea	1,119	1,055	6	1,170
China	1,061	514	107	1,770
Taiwan	889	832	7	1,005
Indonesia	846	418	103	776
Colombia	686	532	29	679
Top 10 importers	**13,733**	**10,772**	27	**17,013**
Total US wheat export sales	**23,415**	**17,040**	**37**	**24,485**
% of Projected	84%	81%		
Change from prior week	**527**	**263**		
Top 10 importers' share of U.S. wheat export sales	59%	63%		69%
USDA forecast, February 2017	**27,929**	**21,117**	**32**	

(n) indicates negative number.

[1] Based on FAS Marketing Year Ranking Reports for 2015/16 - 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 from prior week could include revisions from the previous week's outstanding and/or accumulated sales

[3] FAS Marketing Year Final Reports - www.fas.usda.gov/export-sales/myfi_rpt.htm.

Table 16

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

Port Regions	For the Week Ending 02/09/17	Previous Week[1]	Current Week as % of Previous	2017 YTD	2016 YTD	2017 YTD as % of 2016 YTD	Last 4-weeks as % of: Last Year	Prior 3-yr. avg.	2016 Total
Pacific Northwest									
Wheat	105	428	25	1,155	1,286	90	119	106	12,325
Corn	297	124	240	1,214	446	272	240	220	12,009
Soybeans	290	458	63	2,002	2,541	79	72	77	14,447
Total	**691**	**1,009**	**68**	**4,371**	**4,272**	**102**	**103**	**103**	**38,782**
Mississippi Gulf									
Wheat	77	104	74	400	372	107	110	113	3,480
Corn	815	784	104	3,746	2,425	154	172	159	31,420
Soybeans	686	1,119	61	5,312	4,805	111	123	106	35,278
Total	**1,578**	**2,007**	**79**	**9,458**	**7,602**	**124**	**139**	**124**	**70,178**
Texas Gulf									
Wheat	97	128	75	520	295	176	147	109	6,019
Corn	7	28	24	151	65	234	287	131	1,669
Soybeans	0	0	n/a	0	92	0	0	0	1,105
Total	**103**	**156**	**66**	**671**	**452**	**148**	**148**	**97**	**8,792**
Interior									
Wheat	45	23	196	235	117	201	195	147	1,543
Corn	109	161	68	715	606	118	141	127	7,197
Soybeans	101	114	88	637	481	132	133	116	4,577
Total	**255**	**298**	**85**	**1,587**	**1,204**	**132**	**142**	**124**	**13,317**
Great Lakes									
Wheat	0	0	n/a	0	0	n/a	n/a	n/a	1,186
Corn	0	0	n/a	0	0	n/a	n/a	n/a	584
Soybeans	0	0	n/a	0	0	n/a	n/a	n/a	910
Total	**0**	**0**	**n/a**	**0**	**0**	**n/a**	**n/a**	**n/a**	**2,681**
Atlantic									
Wheat	0	35	1	36	33	107	1072	322	315
Corn	0	0	n/a	0	0	n/a	n/a	0	294
Soybeans	76	45	169	466	466	100	86	93	2,269
Total	**77**	**80**	**95**	**501**	**500**	**100**	**95**	**100**	**2,878**
U.S. total from ports									
Wheat	324	719	45	2,346	2,103	112	128	112	24,867
Corn	1,228	1,097	112	5,826	3,541	165	178	161	53,173
Soybeans	1,153	1,736	66	8,417	8,385	100	103	97	58,587
Total	**2,704**	**3,551**	**76**	**16,588**	**14,029**	**118**	**126**	**116**	**136,627**

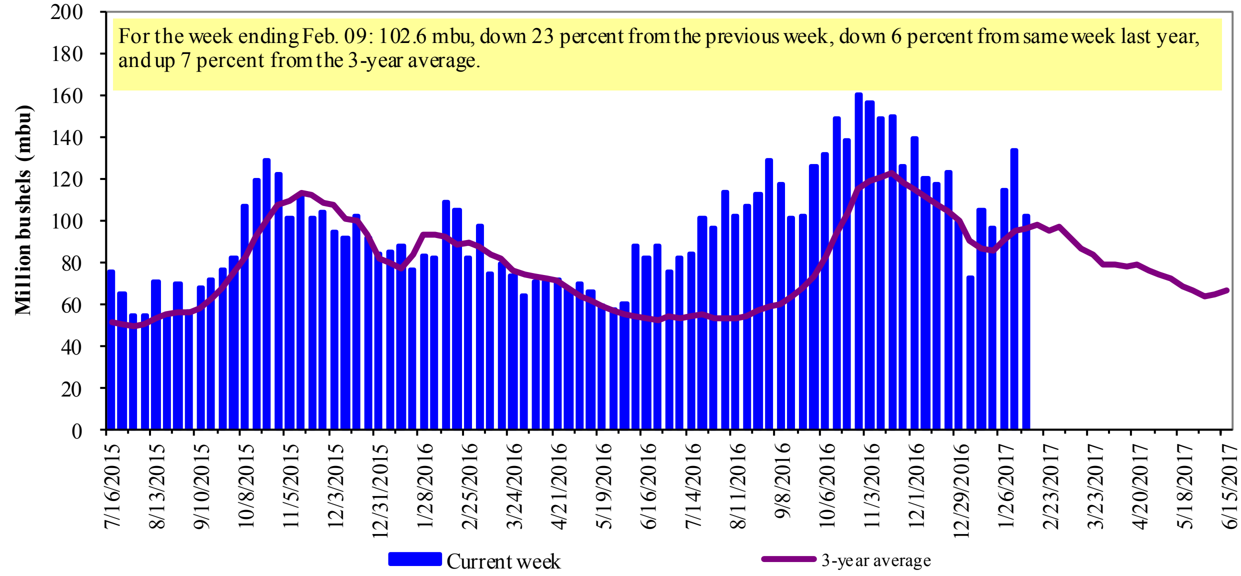
[1] Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

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, 35 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 58 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2016.

Figure 14

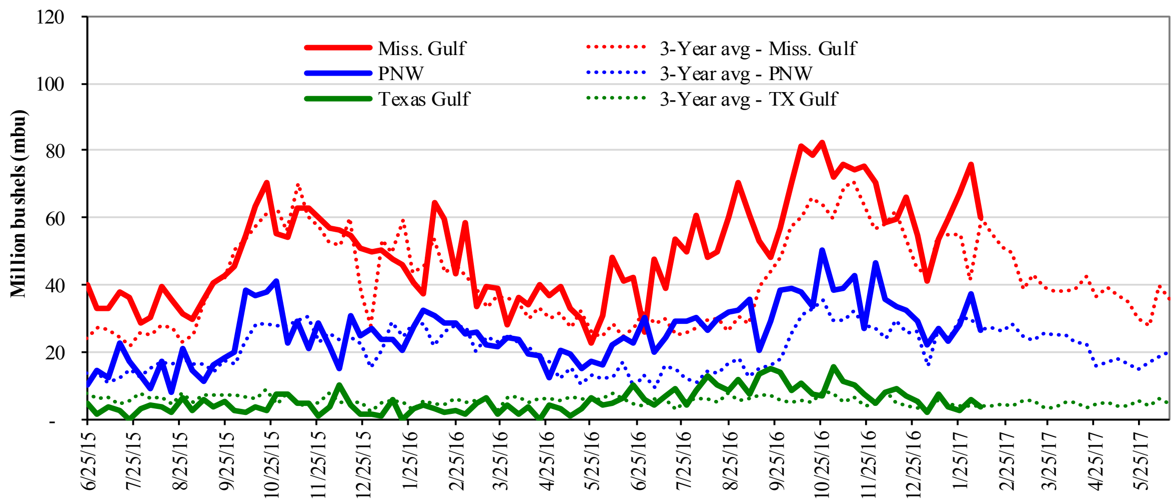
U.S. grain inspected for export (wheat, corn, and soybeans)



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 PNW[1] (wheat, corn, and soybeans)



Week ending 02/09/17 inspections (mbu):		Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Mississippi Gulf:	60.1	Last Week:	down 21	down 34	down 22	down 30
PNW:	26.2	Last Year (same week):	down 7	up 22	down 5	down 14
Texas Gulf:	3.8	3-yr avg. (4-wk. mov. Avg):	up 14	down 3	up 13	down 5

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

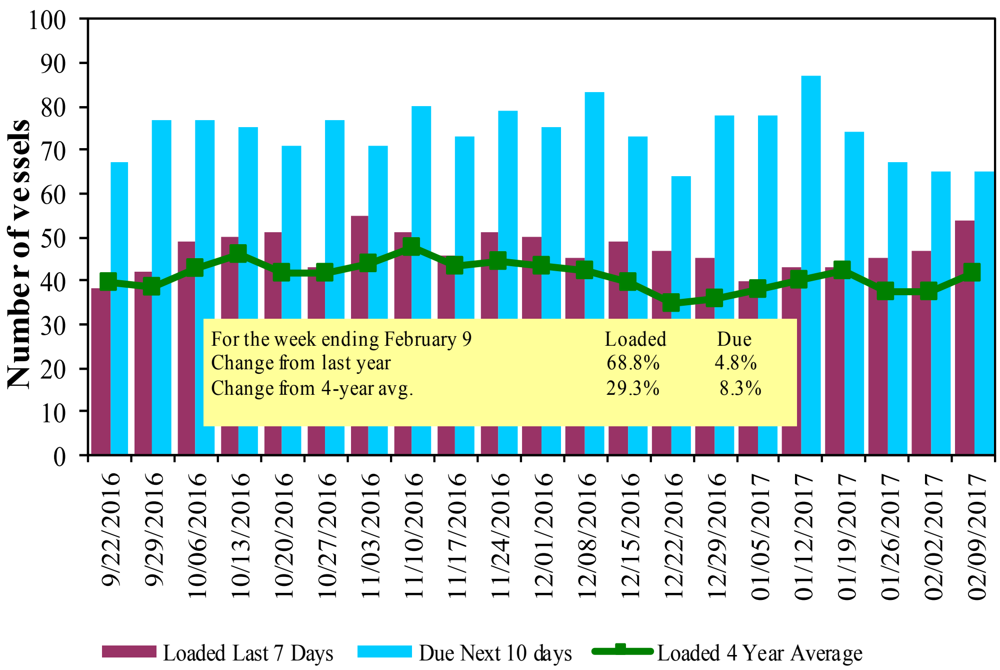
Ocean Transportation

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

	Gulf			Pacific Northwest	Vancouver B.C.
Date	In port	Loaded 7-days	Due next 10-days	In port	In port
2/9/2017	58	54	65	38	n/a
2/2/2017	66	47	65	34	n/a
2016 range	(21..62)	(27..55)	(40..87)	(6..27)	n/a
2016 avg.	43	40	62	15	n/a

Source: Transportation & Marketing Programs/AMS/USDA

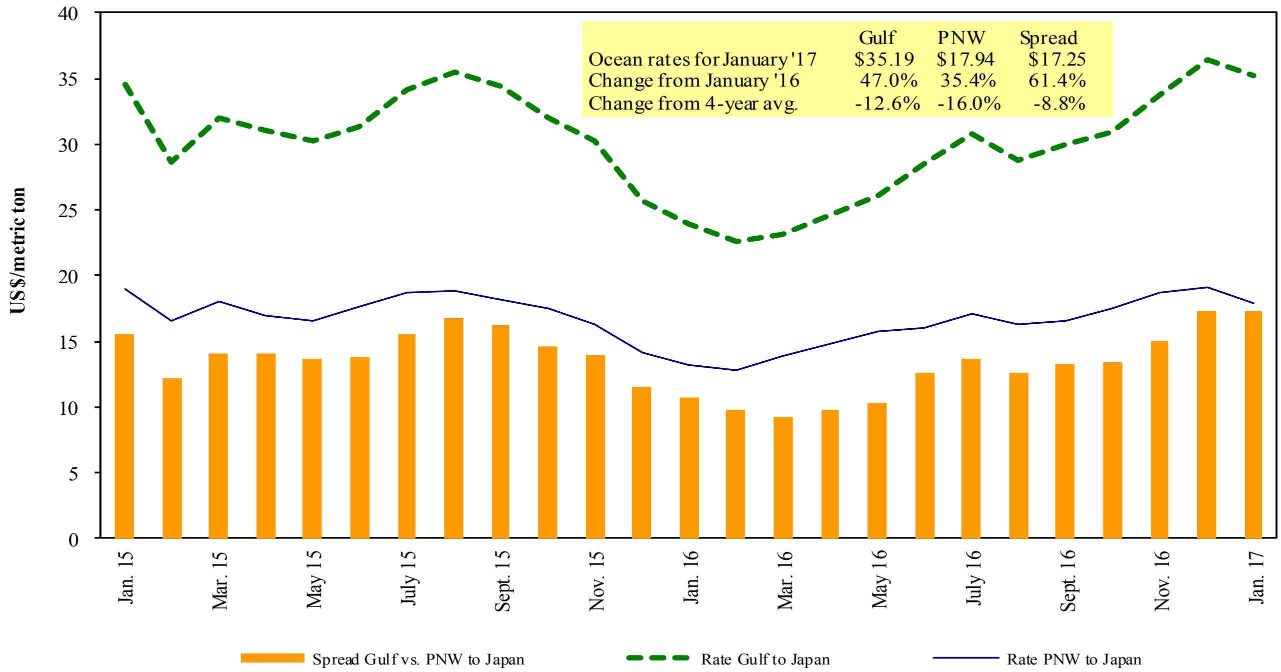
Figure 16
U.S. Gulf Vessel Loading Activity



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

Figure 17

Grain Vessel Rates, U.S. to Japan



Data Source: O'Neil Commodity Consulting

Table 18

Ocean Freight Rates For Selected Shipments, Week Ending 2/11/2017

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	China	Heavy Grain	Feb 15/28	60,000	23.50
U.S. Gulf	China	Heavy Grain	Jan 15/25	55,000	34.00
U.S. Gulf	China	Heavy Grain	Dec 19/24	66,000	33.90
U.S. Gulf	China	Heavy Grain	Dec 15/24	65,000	34.50
U.S. Gulf	China	Heavy Grain	Dec 14/20	53,000	34.00
U.S. Gulf	China	Heavy Grain	Dec 12/20	63,000	36.00
U.S. Gulf	China	Heavy Grain	Dec 10/20	63,000	35.75
U.S. Gulf	Djibouti	Sorghum	Feb 20/28	29,210	53.39*
Vancouver	China	Heavy Grain	Nov 1/10	50,000	31.50
Brazil	China	Heavy Grain	May 1/5	60,000	23.50
Brazil	China	Heavy Grain	Feb 20/28	60,000	22.50
Brazil	China	Heavy Grain	Feb 8/18	60,000	23.85
Brazil	China	Soybeans	Feb 1/10	60,000	24.20
Brazil	South Korea	Heavy Grain	Mar 15/Apr 15	65,000	23.50
EC S, America	China	Heavy Grain	Feb 1/10	60,000	24.00

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

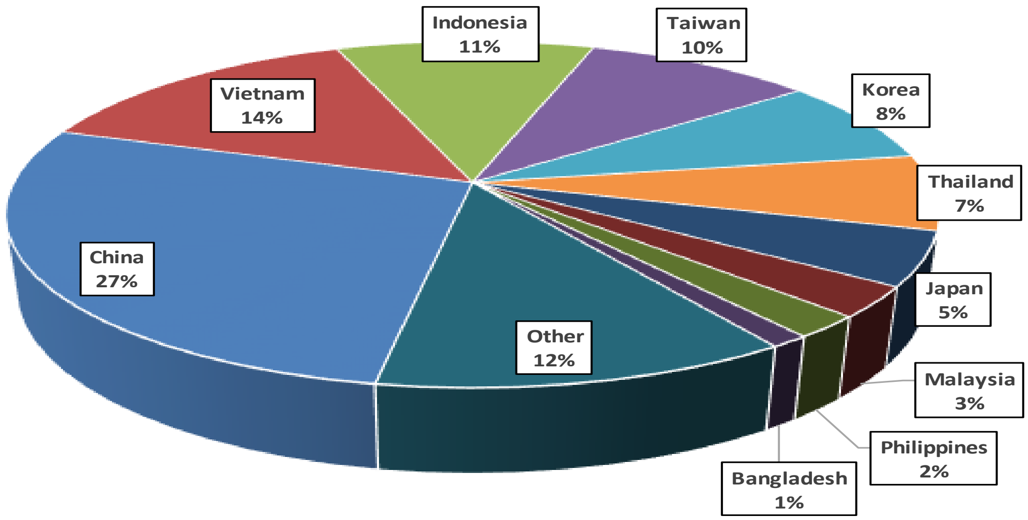
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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

In 2015, containers were used to transport 8 percent of total U.S. waterborne grain exports. Approximately 64 percent of U.S. waterborne grain exports in 2015 went to Asia, of which 12 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, January-October 2016

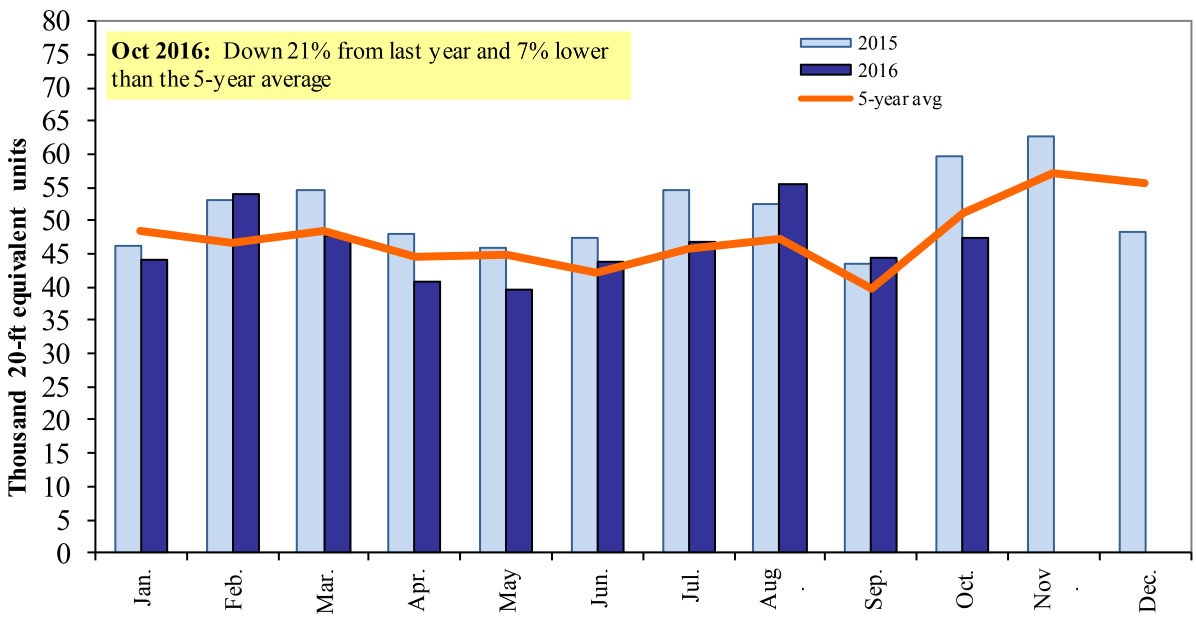


Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data

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

Figure 19

Monthly Shipments of Containerized Grain to Asia



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

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

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