



Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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October 20, 2016

WEEKLY HIGHLIGHTS

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Grain Barge Shipments Higher than Average while Rates Remain Below Average

As of October 14, USDA's Grain Inspection, Packers, and Stockyards Administration reports that 29,630 grain barges have been inspected and unloaded in the New Orleans area this year, 24 percent higher than the 3-year average. Despite the higher volumes, spot barge rates as of October 18 have been 26 to 60 percent lower than the 3-year average. This indicates an adequate barge supply for the increased demand, as rates remain competitive to attract buyers. Barge rates in the northern most portion of the Upper Mississippi River have seen some increases during the week of October 16, as demand there has increased and as the navigation season nears its winter closure (typically closed late November through late February). In preparation of the closing of the Upper Mississippi River, barges in the St. Paul, MN, area will begin their departure for southern destinations starting mid-November.

Strong Chinese Demand During Harvest Increases Grain Exports

For the week ending October 13, **total inspections of grain** (corn, wheat, and soybeans) for export from major U.S. export regions reached 3.97 million metric tons (mmt), up 14 percent from the previous week, up 25 percent from last year, and 59 percent above the 3-year average. Soybean inspections reached 2.64 mmt, up 39 percent from the previous week. Soybean exports destined to China increased 34 percent from the previous week. Wheat inspections increased 3 percent from the past week, and corn inspections decreased 24 percent. Mississippi Gulf grain inspections increased 17 percent from the previous week, but Pacific Northwest (PNW) inspections decreased 1 percent. Outstanding export sales (unshipped) of grain were up for wheat but down for corn and soybeans.

U.S. On-Highway Diesel Fuel Prices Rise for Third Consecutive Week

During the week ending October 17, U.S. average **diesel fuel prices** increased 4 cents per gallon to reach \$2.48. Prices have increased 11 cents over the past 3 weeks, but remain 5 cents below the same time last year. Analysts report this increase is due to a deeper than expected decrease in distillate fuel inventories since early September. Refineries use distillate fuel to create both diesel fuel and residential heating oil. As the seasonal demand for heating oil increases, impacts to the diesel fuel market can be expected. The National Oceanic and Atmospheric Administration has forecast winter temperatures to be colder than last year for much of the country, particularly the Northeast where the use of heating oil is most prevalent.

Snapshots by Sector

Export Sales

During the week ending October 6, **unshipped balances** of wheat, corn, and soybeans totaled 44.4 mmt, up 42 percent from the same time last year. Net weekly **wheat export sales** were .491 mmt, up 30 percent from the previous week. Net **corn export sales** were .874 mmt, down 58 percent from the previous week, and net **soybean export sales** were 1.4 mmt, down 36 percent from the past week.

Rail

U.S. Class I railroads originated 26,842 **grain carloads** for the week ending October 8, down 3 percent from the previous week, up 8 percent from last year, and up 30 percent from the 3-year average.

Average October shuttle **secondary railcar bids/offers** per car were \$1,250 above tariff for the week ending October 13, up \$458 from last week. Average non-shuttle secondary railcar bids/offers were \$56 above tariff, down \$65 from last week. There were no shuttle or non-shuttle bids/offers this week last year.

Barge

For the week ending October 15, **barge grain movements** totaled 907,620 tons, 44 percent higher than last week, and up 19 percent from the same period last year.

For the week ending October 15, 580 grain barges **moved down river**, up 44 percent from last week, 932 grain barges were **unloaded in New Orleans**, up 1 percent from the previous week.

Ocean

For the week ending October 13, 50 **ocean-going grain vessels** were loaded in the Gulf, 28 percent more than the same period last year. Seventy-five vessels are expected to be loaded within the next 10 days, unchanged from the same period last year.

For the week ending October 13, the ocean freight rate for shipping bulk grain from the Gulf to Japan was \$30.25 per metric ton, 2 percent more than the previous week. The cost of shipping from the PNW to Japan was \$17.50 per metric ton, 8 percent more than the previous week.

Feature Article/Calendar

Iron Ore and Grain Trade Boosted Third Quarter Ocean Freight Rates

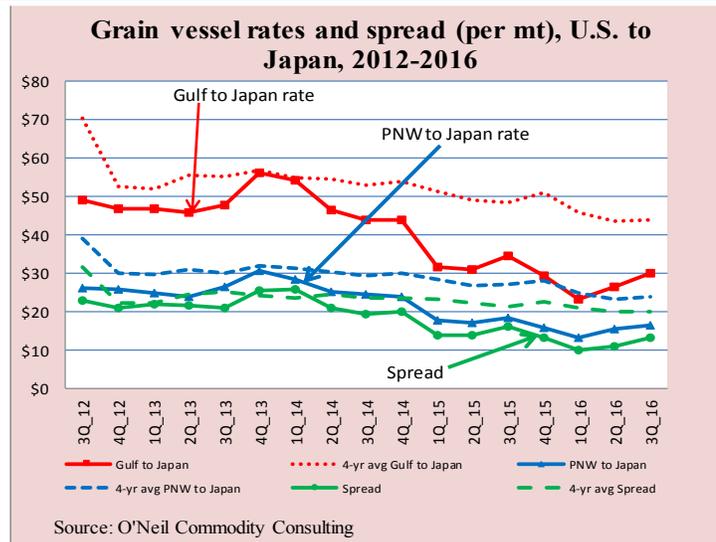
Strong iron ore and grain trade boosted the employment of Panamax vessels and pushed up ocean freight rates during the 3rd quarter, 2016. Starting earlier during the quarter, China substituted domestic coal and iron with cheap imported raw materials leading to high imports and strong demand for Panamax and Supramax vessels.

Ocean freight rates for shipping bulk grain from the U.S. Gulf to Japan averaged \$29.92 per metric ton (mt) during the quarter—13 percent above the previous quarter, but 14 and 32 percent below the same quarter last year and the 4-year average, respectively (see table and figure below). The cost of shipping from the Pacific Northwest (PNW) to Japan averaged \$16.61 per mt, 7.2 percent more than the previous quarter, 11 percent less than a year ago, and 31 percent less than the 4-year average. It cost \$15.10 to ship a metric ton of grain from the U.S. Gulf to Europe—10 percent above the previous quarter, but 2 percent below the same period last year and 26 percent below the 4-year average. The spread, which is the difference between the U.S. Gulf-to-Japan and PNW-to-Japan rates at \$13.31 per mt was also higher than the previous quarter, but lower than what it was a year ago, and the 4-year average. An increasing spread implies that the U.S. Gulf-to-Japan rate was either increasing at a faster rate or decreasing at a lower rate compared to the PNW-to-Japan rate as indicated by strong grain vessel loading activity in the U.S. Gulf during the quarter. In fact, an average of 42 ocean-going grain vessels were loaded in the U.S. Gulf per week during the 3rd quarter, compared to 34 vessels per week during the 2nd quarter.

Ocean freight rates for grain routes during third quarter 2016							
Route	July	Aug.	Sept.	3 rd quarter 2016	Change from		
					2 nd qtr '16	3 rd qtr '15	4-yr avg
	--\$/mt--			--\$/mt--	Percent		
U.S. Gulf to Japan	30.81	28.81	30.15	29.92	13.3	-14	-32
PNW to Japan	17.13	16.25	16.45	16.61	7.2	-11	-31
Spread	13.68	12.56	13.70	13.31	22	-18	-33
U.S. Gulf to Europe	15.25	14.75	15.30	15.10	10	-2	-26

Source: O'Neil Commodity Consulting

Based on information from *Drewry Maritime Research*,¹ following is a summary of important events shaping the quarter. The quarter began in July with an uptick in Chinese iron ore and coal imports causing an increase in freight rates. China relaxed its monetary and fiscal policies in order to stimulate economic growth. It also increased spending on infrastructure, which resulted in higher demand for iron ore. China's coal imports also increased as the government strived to reduce domestic coal production by reducing workers' operating days causing an increase in production



¹ Drewry Maritime Research, Shipping Insight, Monthly Analysis of the Shipping Markets, October 6, 2016

trade from the U.S. Gulf and South America during July. The rates fell slightly in August due to a disruption in coal supply from Australia, which negatively impacted the employment of the Panamax vessels. Turkey also imposed a \$15 per ton tax on coal imports from non-EU countries. In addition, Egypt tightened its phytosanitary requirements on importation of wheat, raising the requirement from 0.05 percent ergot to fully ergot-free wheat. The rates increased again in September on the strength of strong grain trade.

Market Analysis and Outlook

Although ocean freight rates for shipping bulk grain have increased since the 1st quarter of this year, they are still lower than the same period a year ago and the 4-year average (see table). There are many signs in the market that indicate the rates may moderate or stabilize in the shorter term, but fluctuate in the longer term. For example, because of the falling coal production prices, China has partially reversed its rules by allowing 74 coal producers to increase their daily production. This move will likely lead to reduced Chinese imports of foreign coals, which Chinese officials now see as being cheaper than the domestically produced coal. According to *Drewry Maritime Research*, iron ore trade may lose momentum in the coming months because of China real estate policies. Chinese government has raised the down payment for first-time home buyers by 5 percent in Beijing area. Many other cities in China have also tightened restrictions on property purchases. The effect of these policies may result in a slowdown of construction activities, reducing the demand for steel and consequently iron ore importation. The occurrences in China may put a downward pressure on ocean freight rates. However, increasing power consumption may cause an increase in India's demand for coal, especially after the monsoon failed to bring enough rains to fill the dams, slowing the prospects of hydro power generation. The opposing market factors in China and India may either depress or stabilize ocean freight rates in the near term, as long as the market is still having excess vessel supply as it is currently. The long term factor that may exert immense upward pressure on the ocean freight rates will be increased scrapping of older vessels and, or slow rate of new deliveries. Despite a large number of new deliveries, the fleet size has remained relatively stable due to simultaneous increase in scrapping activity. As of September, the orderbook as a percentage of the fleet shrank to 13.7 percent. According to *Drewry Maritime Research*, International Maritime Organization's convention mandating bulk vessel owners to install Ballast Water Treatment system in their vessel by September 2017 may lead to increase rate of scrapping older vessels. Given the current weak freight environment and lower earning for most operators, it may not be economically wise or financially prudent for owners of older vessels to incur additional costs of installing the treatment system. Instead, they may opt to retire the older vessels, which in the long run may clear the market of excess supply, and consequently exerting upward pressure on ocean freight rates. surajudeen.olowolayemo@ams.usda.gov

Rail Transportation

Table 3

Rail Deliveries to Port (carloads)¹

For the Week Ending	Mississippi		Pacific	Atlantic &	Total	Week ending	Cross-Border Mexico ³
	Gulf	Texas Gulf	Northwest	East Gulf			
10/12/2016 ^p	2,061	1,462	8,203	1,118	12,844	10/8/2016	2,281
10/05/2016 ^r	1,949	1,562	7,900	798	12,209	10/1/2016	1,889
2016 YTD ^r	21,583	64,118	219,595	15,279	320,575	2016 YTD	84,327
2015 YTD ^r	19,410	46,419	169,730	17,358	252,917	2015 YTD	75,542
2016 YTD as % of 2015 YTD	111	138	129	88	127	% change YTD	112
Last 4 weeks as % of 2015 ²	89	240	108	126	117	Last 4wks % 2015	104
Last 4 weeks as % of 4-year avg. ²	131	157	145	122	144	Last 4wks % 4 yr	125
Total 2015	29,054	60,819	239,029	26,730	355,632	Total 2015	97,736
Total 2014	44,617	83,674	256,670	32,107	417,068	Total 2014	98,422

¹ Data is incomplete as it is voluntarily provided

² Compared with same 4-weeks in 2015 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.

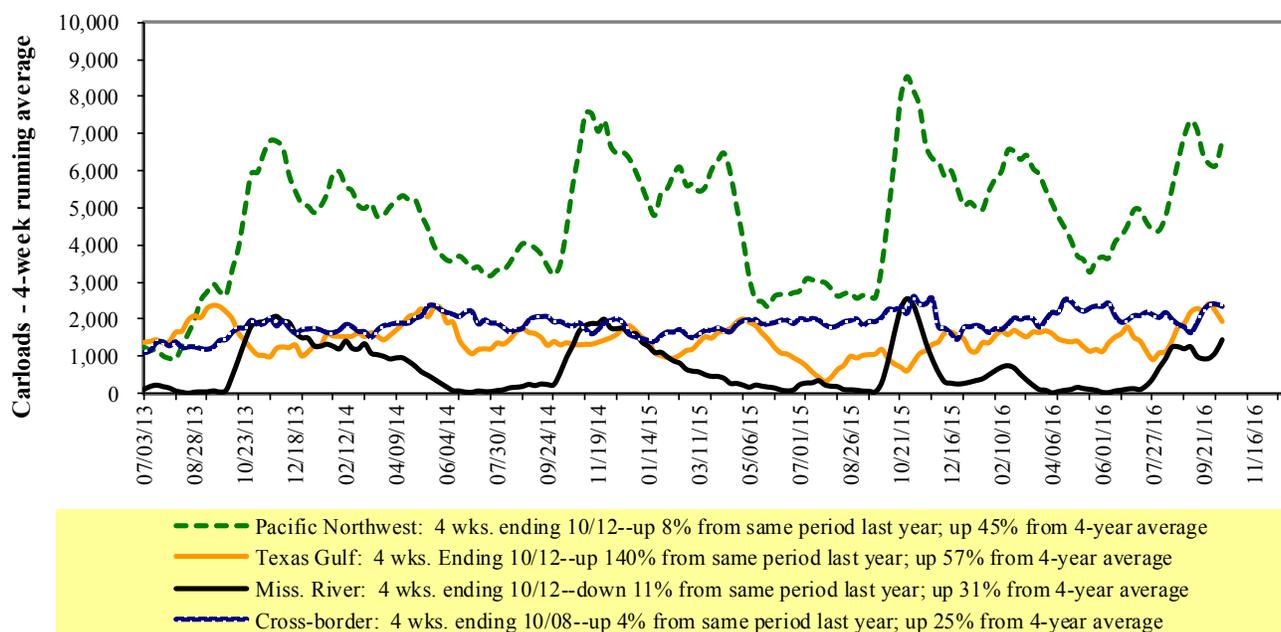
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

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)

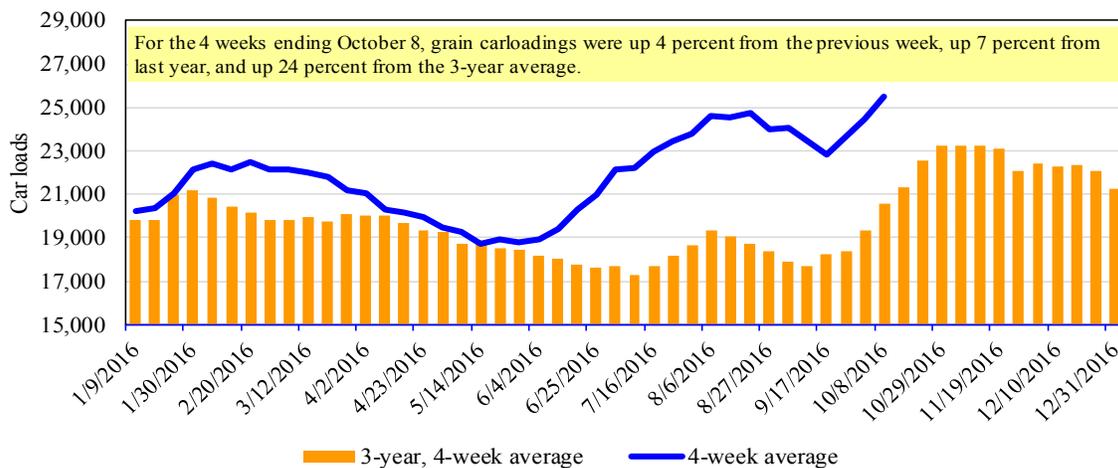
For the week ending:	East		West			U.S. total	Canada	
	CSXT	NS	BNSF	KCS	UP		CN	CP
10/8/2016								
This week	2,202	3,192	12,907	1,175	7,366	26,842	5,757	5,051
This week last year	2,962	3,142	12,191	870	5,653	24,818	5,198	4,217
2016 YTD	68,458	109,713	446,982	34,432	224,470	884,055	138,274	178,120
2015 YTD	79,496	114,933	400,827	36,113	205,041	836,410	160,116	178,484
2016 YTD as % of 2015 YTD	86	95	112	95	109	106	86	100
Last 4 weeks as % of 2015*	86	99	106	96	125	107	112	120
Last 4 weeks as % of 3-yr avg.**	106	116	127	104	134	124	108	104
Total 2015	104,039	149,043	536,173	45,445	267,720	1,102,420	211,868	236,263

*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 Offerings¹ (\$/car)²

For the week ending:		<u>Delivery period</u>							
10/13/2016		Oct-16	Oct-15	Nov-16	Nov-15	Dec-16	Dec-15	Jan-17	Jan-16
BNSF ³	COT grain units	no offer	n/a	0	no bids	0	no bids	no bids	no bids
	COT grain single-car ⁵	no offer	n/a	41	0	43	no bids	3	no bids
UP ⁴	GCAS/Region 1	no offer	n/a	no bids	no bids	no bids	no bids	n/a	no bids
	GCAS/Region 2	no offer	n/a	no bids	no bids	no bids	no bids	n/a	no bids

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

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

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

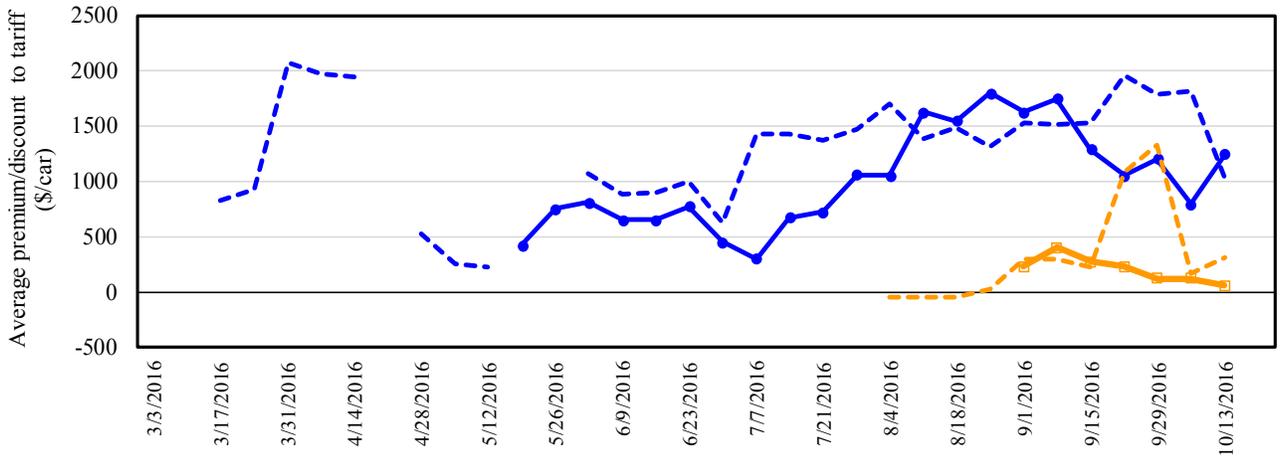
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

⁵Range 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.

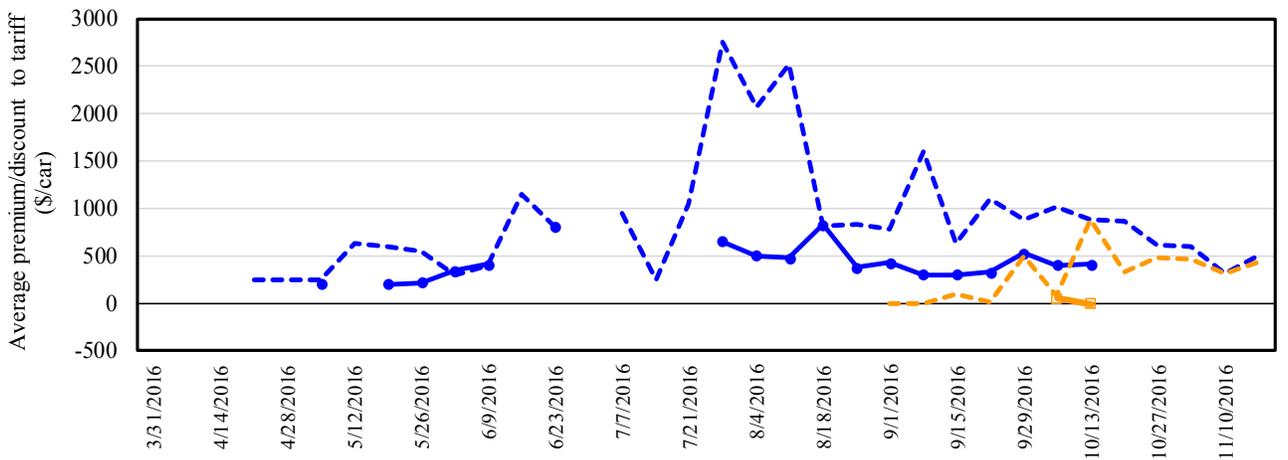
Figure 4
Bids/Offers for Railcars to be Delivered in October 2016, Secondary Market



10/13/2016	BNSF	UP	Shuttle	Non-Shuttle
Non-Shuttle	\$63	\$50	Shuttle prior 3-yr avg. (same week)	Non-Shuttle prior 3-yr avg. (same week)
Shuttle	\$1,250	n/a	Average Non-shuttle bids/offers fell \$65 this week, and are \$344 below the peak. Average Shuttle bids/offers rose \$458 this week and are \$550 below the peak.	

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

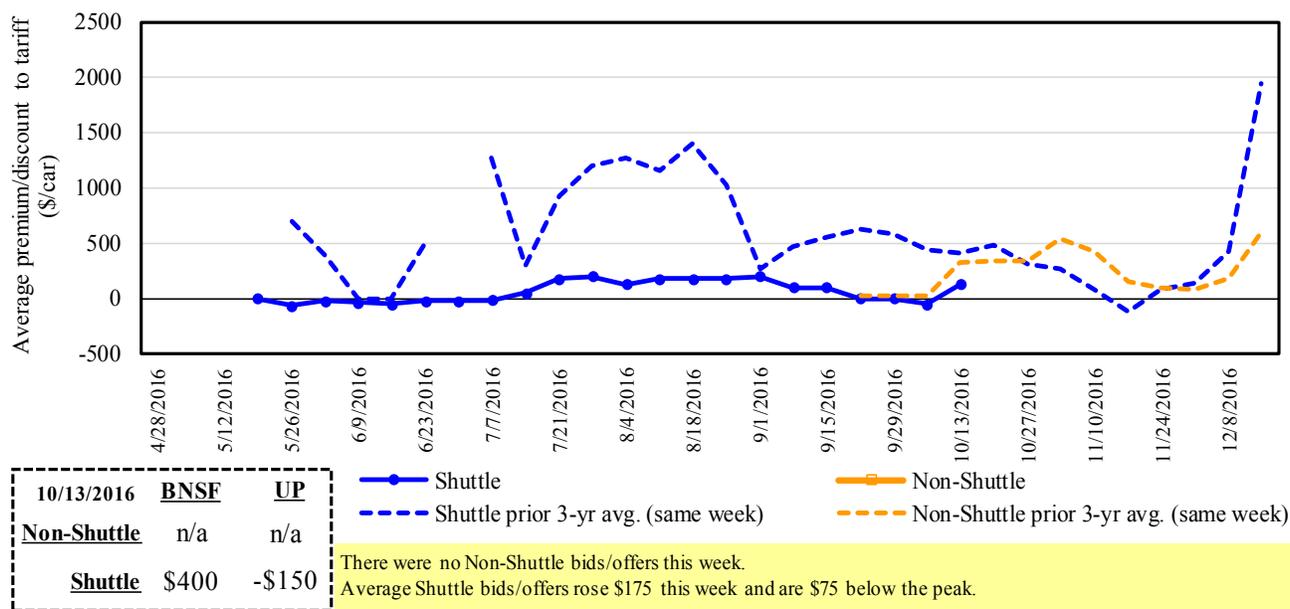
Figure 5
Bids/Offers for Railcars to be Delivered in November 2016, Secondary Market



10/13/2016	BNSF	UP	Shuttle	Non-Shuttle
Non-Shuttle	\$0	-\$25	Shuttle prior 3-yr avg. (same week)	Non-Shuttle prior 3-yr avg. (same week)
Shuttle	\$950	-\$125	Average Non-shuttle bids/offers fell \$63 this week, and are \$63 below the peak. Average Shuttle bids/offers rose \$13 this week and are \$413 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 December 2016, Secondary Market



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:		Delivery period					
		Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17
Non-shuttle	BNSF-GF	63	0	n/a	n/a	n/a	n/a
	Change from last week	(4)	(50)	n/a	n/a	n/a	n/a
	Change from same week 2015	n/a	75	n/a	n/a	n/a	n/a
	UP-Pool	50	(25)	n/a	n/a	n/a	n/a
	Change from last week	(125)	(75)	n/a	n/a	n/a	n/a
	Change from same week 2015	n/a	0	n/a	n/a	n/a	n/a
Shuttle	BNSF-GF	1250	950	400	n/a	n/a	n/a
	Change from last week	(33)	300	n/a	n/a	n/a	n/a
	Change from same week 2015	n/a	1094	n/a	n/a	n/a	n/a
	UP-Pool	n/a	(125)	(150)	0	n/a	n/a
	Change from last week	n/a	(275)	(100)	0	n/a	n/a
	Change from same week 2015	n/a	75	0	n/a	n/a	n/a

¹Average 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 Shipments¹

Effective date:		Origin region*	Destination region*	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per:		Percent change Y/Y ³
10/1/2016	metric ton					bushel ²		
Unit train								
Wheat	Wichita, KS	St. Louis, MO	\$3,770	\$30	\$37.74	\$1.03	4	
	Grand Forks, ND	Duluth-Superior, MN	\$4,143	-\$9	\$41.05	\$1.12	16	
	Wichita, KS	Los Angeles, CA	\$6,950	-\$46	\$68.56	\$1.87	-1	
	Wichita, KS	New Orleans, LA	\$4,408	\$53	\$44.30	\$1.21	3	
	Sioux Falls, SD	Galveston-Houston, TX	\$6,486	-\$38	\$64.03	\$1.74	-1	
	Northwest KS	Galveston-Houston, TX	\$4,676	\$59	\$47.02	\$1.28	3	
	Amarillo, TX	Los Angeles, CA	\$4,875	\$81	\$49.22	\$1.34	2	
Corn	Champaign-Urbana, IL	New Orleans, LA	\$3,681	\$60	\$37.15	\$0.94	9	
	Toledo, OH	Raleigh, NC	\$6,061	\$0	\$60.19	\$1.53	0	
	Des Moines, IA	Davenport, IA	\$2,258	\$13	\$22.55	\$0.57	4	
	Indianapolis, IN	Atlanta, GA	\$5,191	\$0	\$51.55	\$1.31	4	
	Indianapolis, IN	Knoxville, TN	\$4,311	\$0	\$42.81	\$1.09	0	
Soybeans	Des Moines, IA	Little Rock, AR	\$3,534	\$38	\$35.47	\$0.90	2	
	Des Moines, IA	Los Angeles, CA	\$5,202	\$109	\$52.74	\$1.34	1	
	Minneapolis, MN	New Orleans, LA	\$3,934	\$15	\$39.21	\$1.07	6	
	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	\$60	\$45.24	\$1.23	12	
Shuttle Train								
Wheat	Great Falls, MT	Portland, OR	\$3,953	-\$26	\$38.99	\$1.06	-1	
	Wichita, KS	Galveston-Houston, TX	\$3,871	-\$21	\$38.24	\$1.04	-2	
	Chicago, IL	Albany, NY	\$5,492	\$0	\$54.54	\$1.48	0	
	Grand Forks, ND	Portland, OR	\$5,611	-\$46	\$55.27	\$1.50	-2	
	Grand Forks, ND	Galveston-Houston, TX	\$5,931	-\$47	\$58.43	\$1.59	-11	
	Northwest KS	Portland, OR	\$5,673	\$96	\$57.29	\$1.56	2	
	Corn	Minneapolis, MN	Portland, OR	\$5,000	-\$56	\$49.10	\$1.25	-2
Sioux Falls, SD		Tacoma, WA	\$4,960	-\$51	\$48.75	\$1.24	-2	
Champaign-Urbana, IL		New Orleans, LA	\$3,481	\$60	\$35.17	\$0.89	9	
Lincoln, NE		Galveston-Houston, TX	\$3,700	-\$30	\$36.45	\$0.93	1	
Des Moines, IA		Amarillo, TX	\$3,895	\$47	\$39.15	\$0.99	2	
Minneapolis, MN		Tacoma, WA	\$5,000	-\$55	\$49.11	\$1.25	-2	
Council Bluffs, IA		Stockton, CA	\$4,740	-\$57	\$46.50	\$1.18	0	
Soybeans	Sioux Falls, SD	Tacoma, WA	\$5,600	-\$51	\$55.11	\$1.50	0	
	Minneapolis, MN	Portland, OR	\$5,650	-\$56	\$55.56	\$1.51	1	
	Fargo, ND	Tacoma, WA	\$5,500	-\$45	\$54.17	\$1.47	1	
	Council Bluffs, IA	New Orleans, LA	\$4,525	\$70	\$45.63	\$1.24	1	
	Toledo, OH	Huntsville, AL	\$4,226	\$0	\$41.97	\$1.14	0	
Grand Island, NE	Portland, OR	\$5,460	\$98	\$55.20	\$1.50	1		

¹A 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.

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

³Percentage change year over year calculated using tariff rate plus fuel surcharge

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:		Percent change ⁴ Y/Y
					metric ton ³	bushel ³	
Wheat	MT	Chihuahua, CI	\$7,459	\$0	\$76.21	\$2.07	-1
	OK	Cuautitlan, EM	\$6,596	\$42	\$67.82	\$1.84	0
	KS	Guadalajara, JA	\$7,077	\$125	\$73.59	\$2.00	1
	TX	Salinas Victoria, NL	\$4,197	\$24	\$43.13	\$1.17	1
Corn	IA	Guadalajara, JA	\$8,187	\$108	\$84.75	\$2.15	-3
	SD	Celaya, GJ	\$7,580	\$0	\$77.45	\$1.97	-4
	NE	Querretaro, QA	\$7,909	\$79	\$81.62	\$2.07	-1
	SD	Salinas Victoria, NL	\$6,635	\$0	\$67.79	\$1.72	1
	MO	Tlalnepantla, EM	\$7,268	\$77	\$75.05	\$1.90	-1
	SD	Torreon, CU	\$7,180	\$0	\$73.36	\$1.86	-2
Soybeans	MO	Bojay (Tula), HG	\$8,647	\$112	\$89.49	\$2.43	2
	NE	Guadalajara, JA	\$8,942	\$115	\$92.54	\$2.52	-2
	IA	El Castillo, JA	\$8,960	\$0	\$91.55	\$2.49	-4
	KS	Torreon, CU	\$7,489	\$79	\$77.33	\$2.10	2
Sorghum	NE	Celaya, GJ	\$7,164	\$98	\$74.20	\$1.88	-4
	KS	Querretaro, QA	\$7,608	\$52	\$78.26	\$1.99	0
	NE	Salinas Victoria, NL	\$6,213	\$42	\$63.91	\$1.62	0
	NE	Torreon, CU	\$6,607	\$74	\$68.26	\$1.73	-4

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.

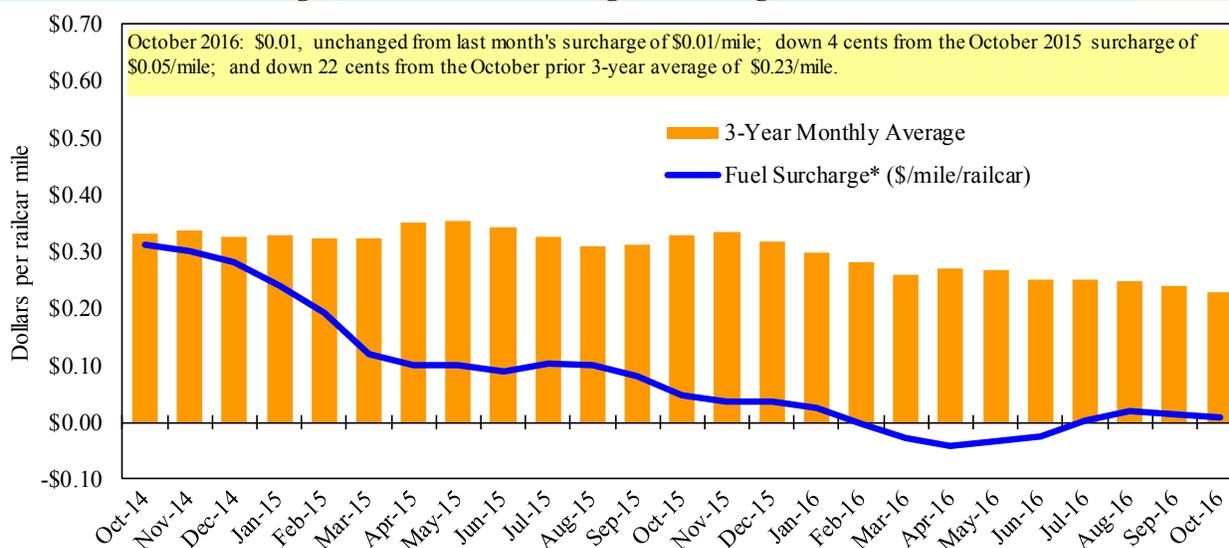
²Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009

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 surcharge

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

Figure 7

Railroad Fuel Surcharges, North American Weighted Average¹

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}



¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-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
Rate¹	10/18/2016	495	403	368	290	313	288	243
	10/11/2016	438	390	345	293	313	313	275
\$/ton	10/18/2016	30.64	21.44	17.08	11.57	14.68	11.64	7.63
	10/11/2016	27.11	20.75	16.01	11.69	14.68	12.65	8.64
Current week % change from the same week:								
	Last year	-19	-31	-29	-45	-39	-44	-52
	3-year avg. ²	-26	-42	-47	-54	-56	-60	-59
Rate¹	November	450	370	345	268	273	273	230
	January	-	-	355	240	250	250	200

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average; ton = 2,000 pounds; - closed for winter

Source: Transportation & Marketing Programs/AMS/USDA

Figure 9

Benchmark tariff rates

Calculating barge rate per ton:

$$(\text{Rate} * 1976 \text{ tariff benchmark rate per ton})/100$$

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

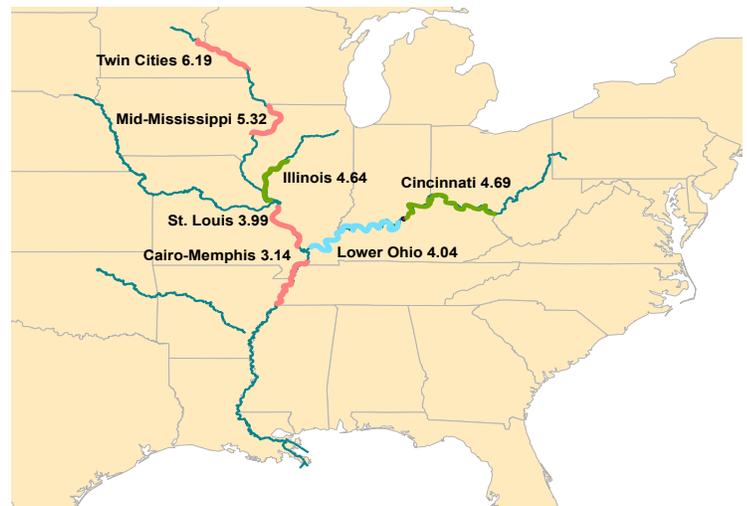
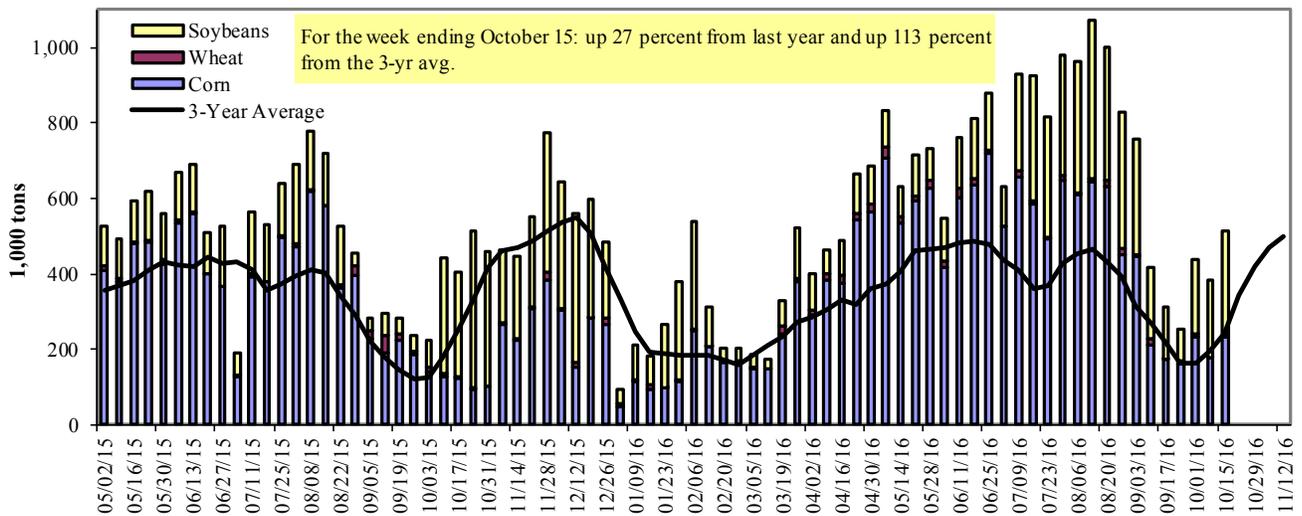


Figure 10

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 10/15/2016	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	24	0	178	0	203
Winfield, MO (L25)	126	2	245	0	373
Alton, IL (L26)	217	5	259	3	485
Granite City, IL (L27)	232	5	277	3	516
Illinois River (L8)	44	0	41	0	85
Ohio River (L52)	88	0	223	2	313
Arkansas River (L1)	1	15	57	4	78
Weekly total - 2016	321	20	557	9	908
Weekly total - 2015	148	3	596	15	763
2016 YTD ¹	19,532	1,769	10,176	294	31,771
2015 YTD	16,007	1,535	8,538	242	26,322
2016 as % of 2015 YTD	122	115	119	122	121
Last 4 weeks as % of 2015 ²	134	115	72	83	94
Total 2015	19,215	1,686	14,191	359	35,451

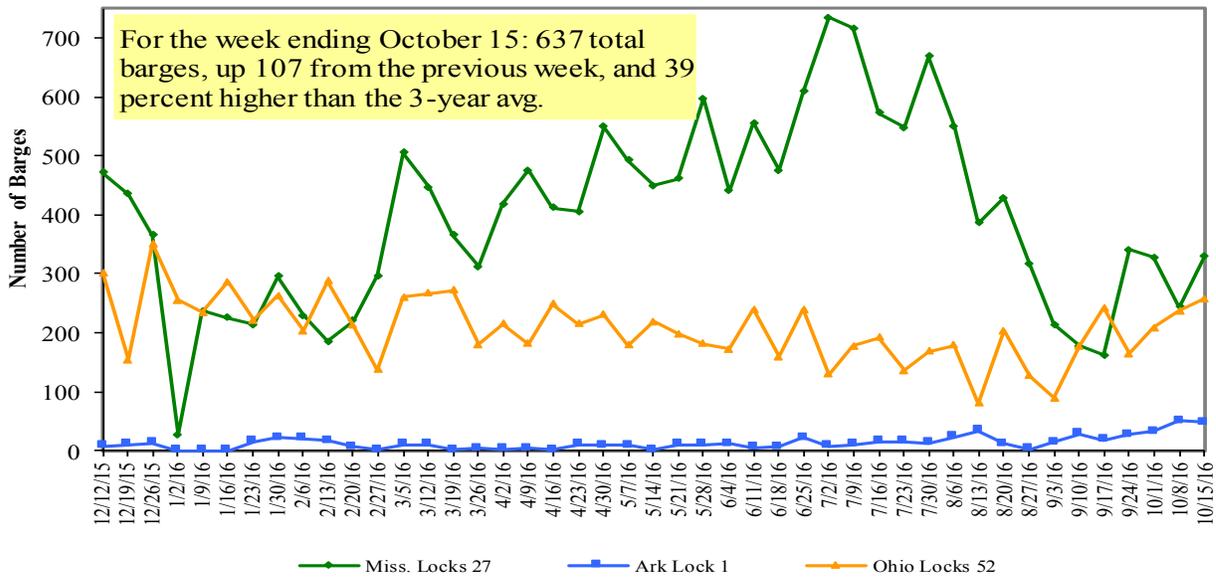
¹ Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/52, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

² As a percent of same period in 2015.

Note: Total may not add exactly, due to rounding

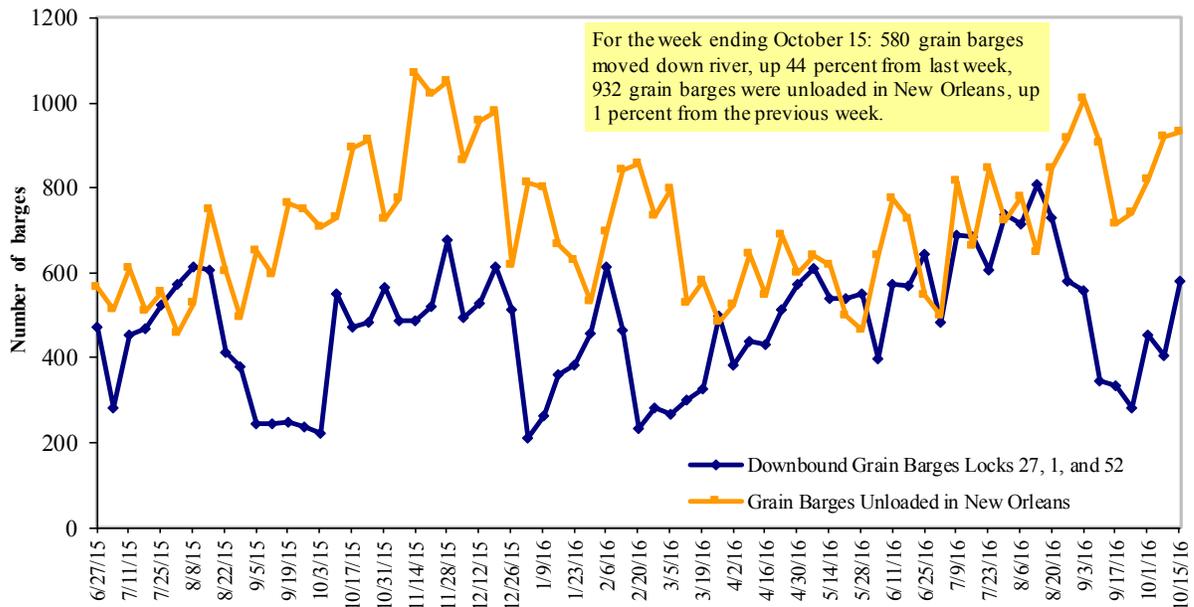
Source: U.S. Army Corps of Engineers

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 Prices¹, Week Ending 10/17/2016 (US \$/gallon)

Region	Location	Price	Change from	
			Week ago	Year ago
I	East Coast	2.472	0.031	-0.052
	New England	2.477	0.024	-0.085
	Central Atlantic	2.579	0.039	-0.063
	Lower Atlantic	2.389	0.026	-0.038
II	Midwest ²	2.458	0.041	-0.142
III	Gulf Coast ³	2.357	0.040	0.032
IV	Rocky Mountain	2.546	0.038	0.023
V	West Coast	2.742	0.030	0.038
	West Coast less California	2.635	0.044	0.059
	California	2.828	0.019	0.020
Total	U.S.	2.481	0.036	-0.050

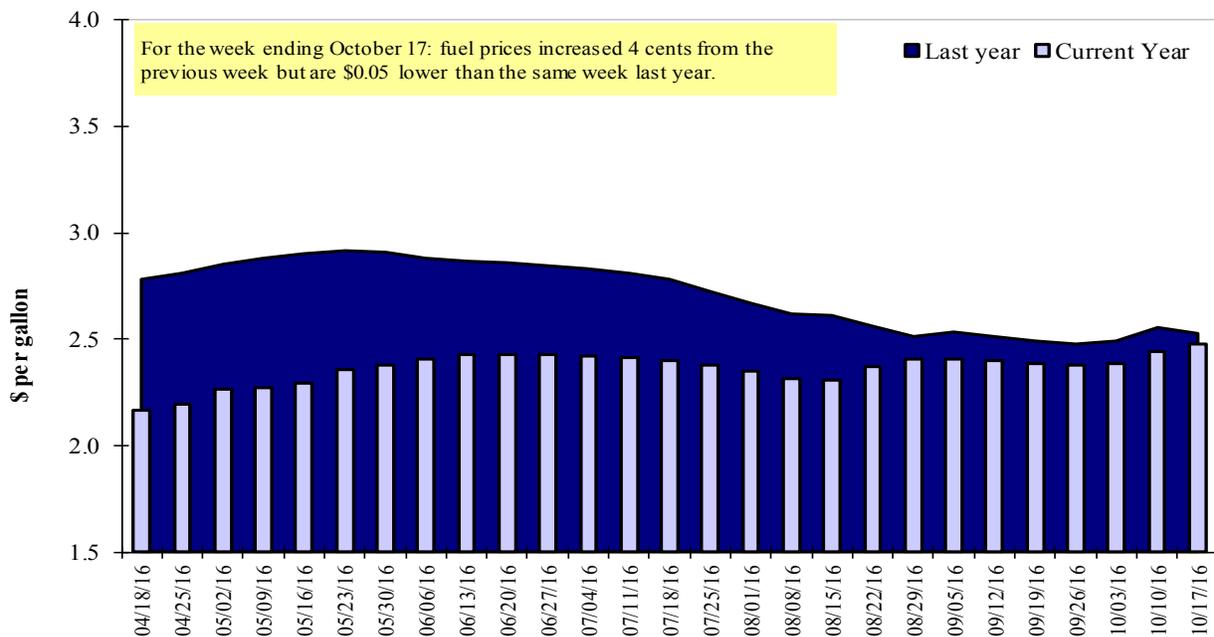
¹Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

²Same as North Central ³Same 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)

For the week ending	Wheat						Corn	Soybeans	Total
	HRW	SRW	HRS	SWW	DUR	All wheat			
Export Balances¹									
10/6/2016	1,974	491	1,489	845	68	4,867	14,792	24,712	44,370
This week year ago	1,042	573	1,366	724	134	3,838	7,851	19,442	31,131
Cumulative exports-marketing year²									
2016/17 YTD	4,454	797	3,044	1,611	137	10,042	6,685	4,998	21,725
2015/16 YTD	2,215	1,522	2,455	1,378	396	7,966	3,780	3,809	15,555
YTD 2016/17 as % of 2015/16	201	52	124	117	35	126	177	131	140
Last 4 wks as % of same period 2015/16	194	87	111	126	52	131	190	123	141
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 Importers¹ of U.S. Corn

For the week ending 10/06/2016	Total Commitments ²		% change current MY from last MY	Exports ³ 3-year avg 2013-2015
	2016/17 Current MY	2015/16 Last MY		
	- 1,000 mt -			- 1,000 mt -
Japan	2,767	1,818	52	10,997
Mexico	6,296	4,883	29	11,542
Korea	1,441	123	1,072	3,933
Colombia	1,205	902	34	3,994
Taiwan	802	219	266	1,991
Top 5 Importers	12,511	7,945	57	32,457
Total US corn export sales	21,477	11,632	85	47,026
% of Projected	38%	24%		
Change from prior week	874	599		
Top 5 importers' share of U.S. corn export sales	58%	68%		69%
USDA forecast, October 2016	56,616	48,295	17	
Corn Use for Ethanol USDA forecast, October 2016	133,985	132,233	1	

(n) indicates negative number.

¹Based on FAS Marketing Year Ranking Reports - 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 from prior week could include revisions from previous
Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--
http://www.fas.usda.gov/esrquery/

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

Table 14

Top 5 Importers¹ of U.S. Soybeans

For the week ending 10/06/2016	Total Commitments ²		% change current MY from last MY	Exports ³ 3-yr avg. 2013-2015
	2016/17 Current MY	2015/16 Last MY		
	- 1,000 mt -			- 1,000 mt -
China	13,422	10,235	31	29,033
Mexico	1,183	1,084	9	3,295
Indonesia	463	297	56	2,065
Japan	798	987	(19)	1,994
Taiwan	638	371	72	1,226
Top 5 importers	16,503	12,974	27	37,614
Total US soybean export sales	29,710	23,252	28	39,169
% of Projected	54%	44%		
Change from prior week	1,417	1,417		
Top 5 importers' share of U.S. soybean export sales	56%	56%		96%
USDA forecast, October 2016	55,177	52,752	5	

(n) indicates negative number.

¹ Based on FAS Marketing Year Ranking Reports - 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's³ FAS Marketing Year Final Reports - www.fas.usda.gov/export-sales/myfi_rpt.htm. (Carryover plus Accumulated Exports)

Table 15

Top 10 Importers¹ of All U.S. Wheat

For the week ending 10/06/2016	Total Commitments ²		% change current MY from last MY	Exports ³ 3-yr avg 2013-2015
	2016/17 Current MY	2015/16 Last MY		
	- 1,000 mt -			- 1,000 mt -
Japan	1,316	1,196	10	2,743
Mexico	1,441	1,151	25	2,660
Nigeria	653	970	(33)	1,978
Philippines	1,590	1,155	38	2,156
Brazil	995	310	221	2,076
Korea	760	662	15	1,170
Taiwan	463	510	(9)	1,005
Indonesia	478	193	148	776
Colombia	441	393	12	679
Thailand	440	194	127	618
Top 10 importers	8,136	6,539	24	15,861
Total US wheat export sales	14,908	11,804	26	24,485
% of Projected	56%	56%		
Change from prior week	491	460		
Top 10 importers' share of U.S. wheat export sales	55%	55%		65%
USDA forecast, October 2016	26,567	21,117	26	

(n) indicates negative number.

¹ Based on FAS Marketing Year Ranking Reports - 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 sales³ 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 10/13/16	Previous Week*	Current Week as % of Previous	2016 YTD*	2015 YTD*	2016 YTD as % of 2015 YTD	Last 4-weeks as % of:		2015 Total*
							Last Year	Prior 3-yr. avg.	
Pacific Northwest									
Wheat	116	198	59	10,179	9,068	112	86	82	10,985
Corn	0	137	0	10,449	7,057	148	513	698	7,232
Soybeans	913	707	129	7,163	5,783	124	112	178	11,809
Total	1,029	1,042	99	27,791	21,908	127	125	158	30,027
Mississippi Gulf									
Wheat	39	9	448	2,910	3,723	78	83	35	4,504
Corn	679	838	81	25,929	23,149	112	199	164	26,701
Soybeans	1,443	1,005	144	20,875	16,941	123	96	113	29,593
Total	2,162	1,851	117	49,715	43,812	113	123	122	60,797
Texas Gulf									
Wheat	241	196	123	4,758	3,088	154	507	188	3,724
Corn	0	0	n/a	1,389	541	257	228	516	596
Soybeans	54	32	165	178	274	65	134	210	864
Total	294	228	129	6,325	3,903	162	366	211	5,184
Interior									
Wheat	32	28	115	1,209	1,176	103	151	154	1,388
Corn	129	107	121	5,676	5,042	113	107	123	6,201
Soybeans	112	109	103	3,135	2,609	120	67	83	3,518
Total	274	244	112	10,019	8,827	114	95	111	11,106
Great Lakes									
Wheat	37	29	125	867	804	108	247	161	997
Corn	11	0	n/a	463	471	98	86	70	485
Soybeans	113	27	413	299	195	154	132	125	733
Total	160	57	284	1,629	1,470	111	172	137	2,216
Atlantic									
Wheat	10	0	n/a	210	478	44	212	25	520
Corn	38	48	79	224	240	93	149	129	277
Soybeans	6	16	36	1,122	1,019	110	136	259	2,053
Total	54	64	84	1,556	1,737	90	149	114	2,850
U.S. total from ports**									
Wheat	474	460	103	20,133	18,336	110	142	100	22,118
Corn	858	1,130	76	44,129	36,500	121	202	189	41,492
Soybeans	2,641	1,896	139	32,772	26,822	122	100	127	48,570
Total	3,973	3,486	114	97,034	81,658	119	131	135	112,180

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

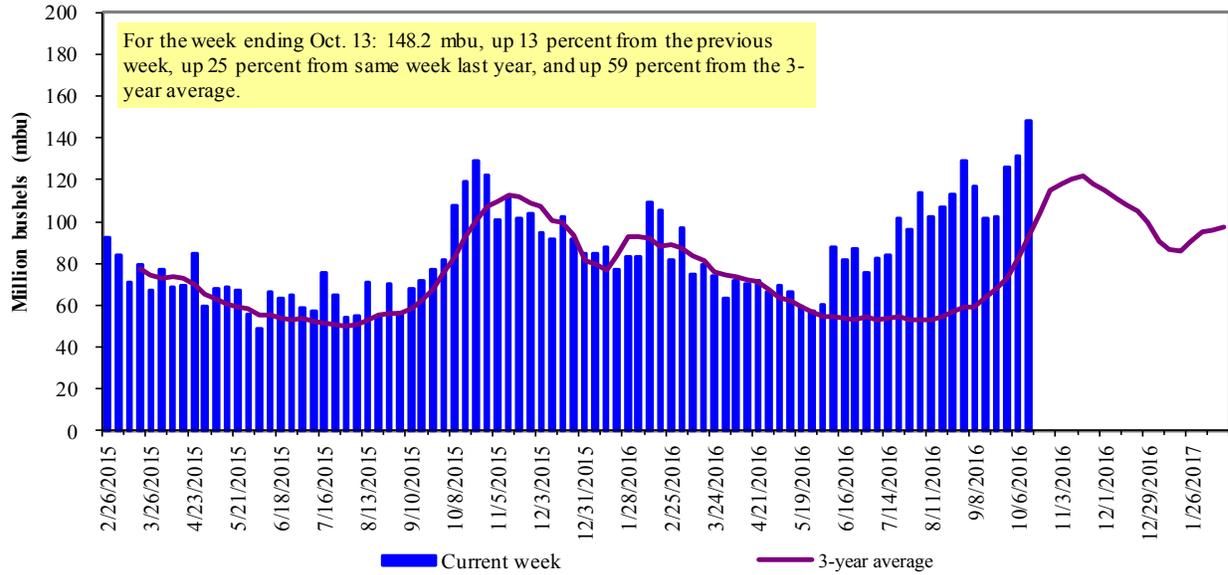
**Total only includes regions shown above

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 59 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2015.

Figure 14

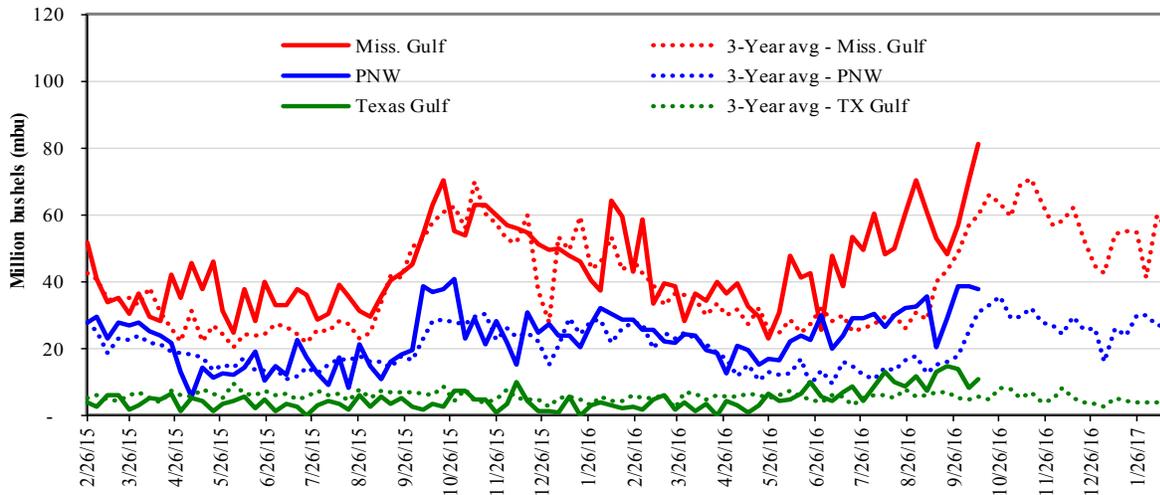
U.S. grain inspected for export (wheat, corn, and soybeans)



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)



Week ending 10/13/16 inspections (mbu):		Percent change from:				
Mississippi Gulf:	81.2	Last Week:	MS Gulf	TX Gulf	U.S. Gulf	PNW
PNW:	37.8	Last Year (same week):	up 16	up 29	up 17	down 2
Texas Gulf:	10.8	3-yr avg. (4-wk. mov. Avg):	up 29	up 221	up 38	up 2
			up 56	up 92	up 59	up 68

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

Ocean Transportation

Table 17

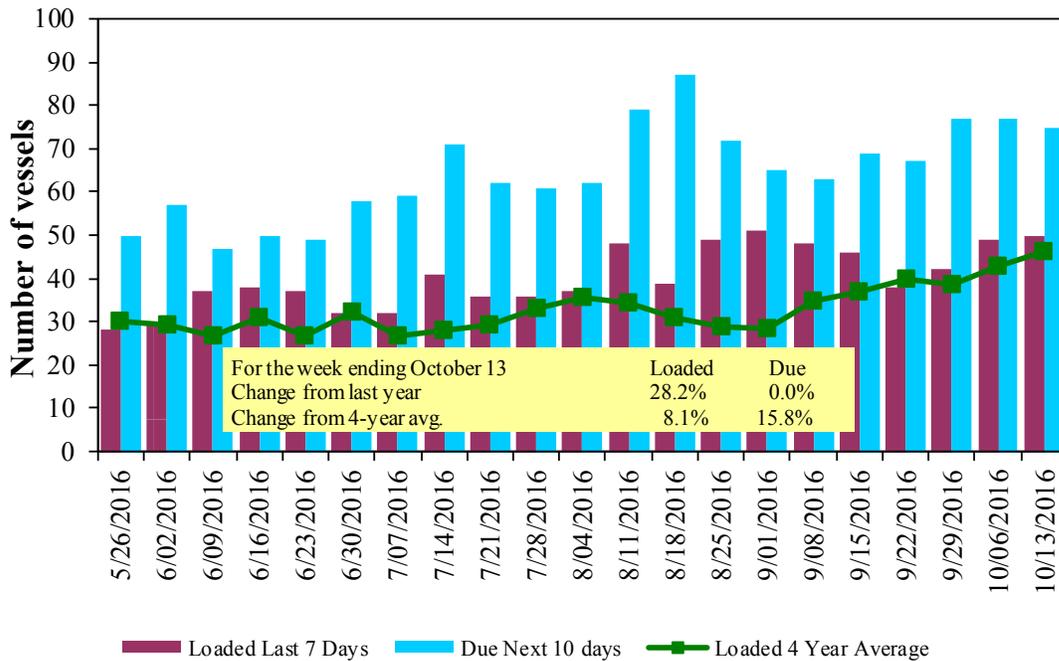
Weekly Port Region Grain Ocean Vessel Activity (number of vessels)

Date	Gulf			Pacific Northwest	Vancouver B.C.
	In port	Loaded 7-days	Due next 10-days	In port	In port
10/13/2016	57	50	75	15	n/a
10/6/2016	54	49	77	13	n/a
2015 range	(25..54)	(28..54)	(36..80)	(3..26)	n/a
2015 avg.	42	38	56	11	n/a

Source: Transportation & Marketing Programs/AMS/USDA

Figure 16

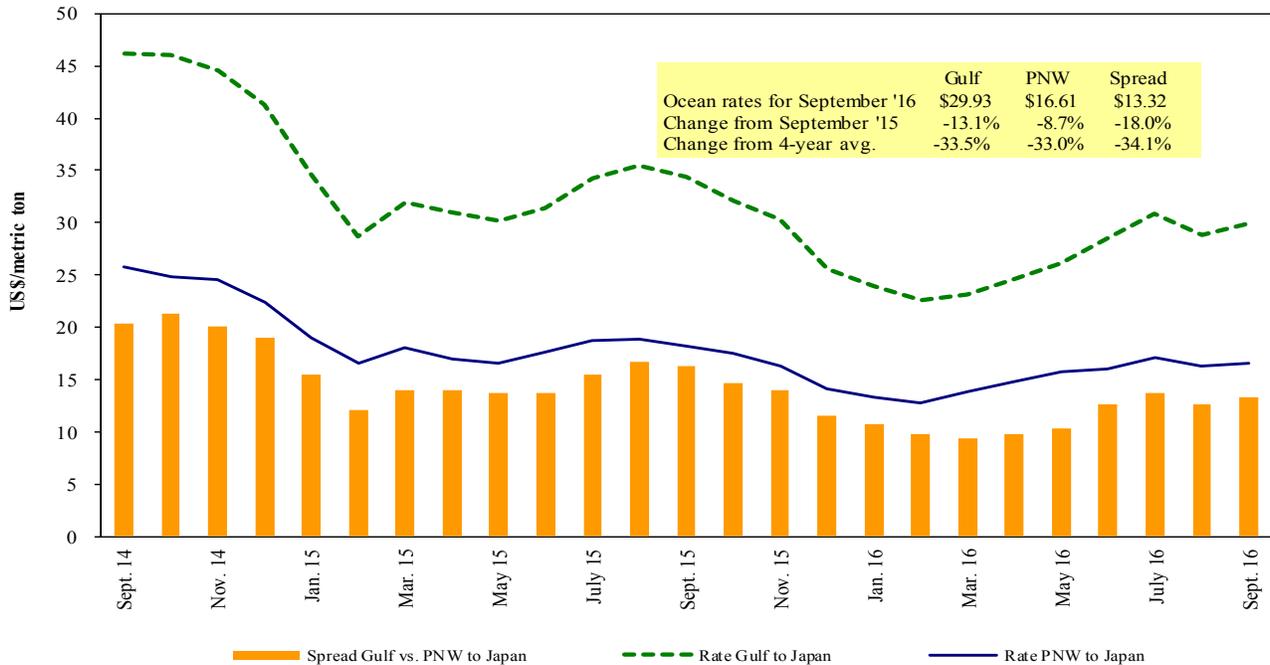
U.S. Gulf Vessel Loading Activity



Source: Transportation & Marketing Programs/AMS/USDA

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 10/15/2016

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US\$/metric ton)
U.S. Gulf	China	Heavy Grain	Oct 20/30	65,000	27.50
U.S. Gulf	China	Heavy Grain	Oct 10/20	60,000	28.25
U.S. Gulf	China	Heavy Grain	Oct 5/15	66,000	28.00
U.S. Gulf	China	Heavy Grain	Sep 20/25	60,000	27.75
U.S. Gulf	China	Heavy Grain	Sep 1/10	60,000	27.00
U.S. Gulf	China	Heavy Grain	Aug 25/Sep 5	66,000	26.25
U.S. Gulf	China	Heavy Grain	Aug 24/30	60,000	26.40
U.S. Gulf	China	Heavy Grain	Aug 16/26	60,000	26.00
U.S. Gulf	South Africa	Sorghum	Sep 15/25	20,000	63.50*
U.S. Gulf	Djibouti	Wheat	Aug 22/31	47,720	46.48*
PNW	Bangladesh	Wheat	Dec 1/10	12,500	160.33*
PNW	Bangladesh	Wheat	Nov 1/10	12,500	163.55*
PNW	Taiwan	Wheat	Sep 8/22	54,000	21.10
Black Sea	Spanish Mediterranean	Heavy Grain	Oct 14/18	60,000	9.35
Brazil	Japan	Heavy Grain	Sep 1/30	62,000	19.00
Brazil	Malaysia	Heavy Grain	Sep 1/30	65,000	17.00
River Plate	Algeria	Corn	Sep 24/28	40,000	19.50
Ukraine	Iran	Wheat	Oct 10/17	60,000	22.25
Ukraine	Morocco	Heavy Grain	Aug 29/Sep 3	30,000	16.00

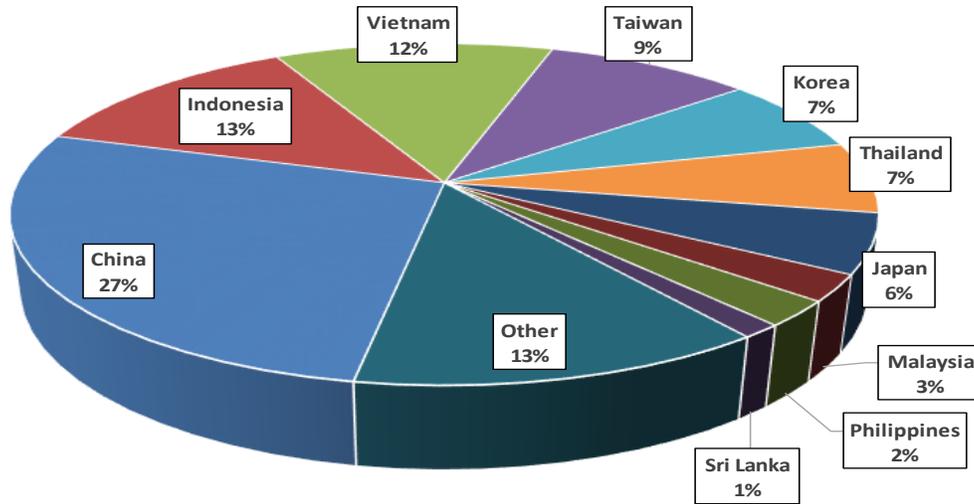
Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), F.O.B., except where otherwise indicated; op = option

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

In 2014, containers were used to transport 7 percent of total U.S. waterborne grain exports. Approximately 63 percent of U.S. waterborne grain exports in 2014 went to Asia, of which 11 percent were moved in containers. Approximately 95 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-July 2016

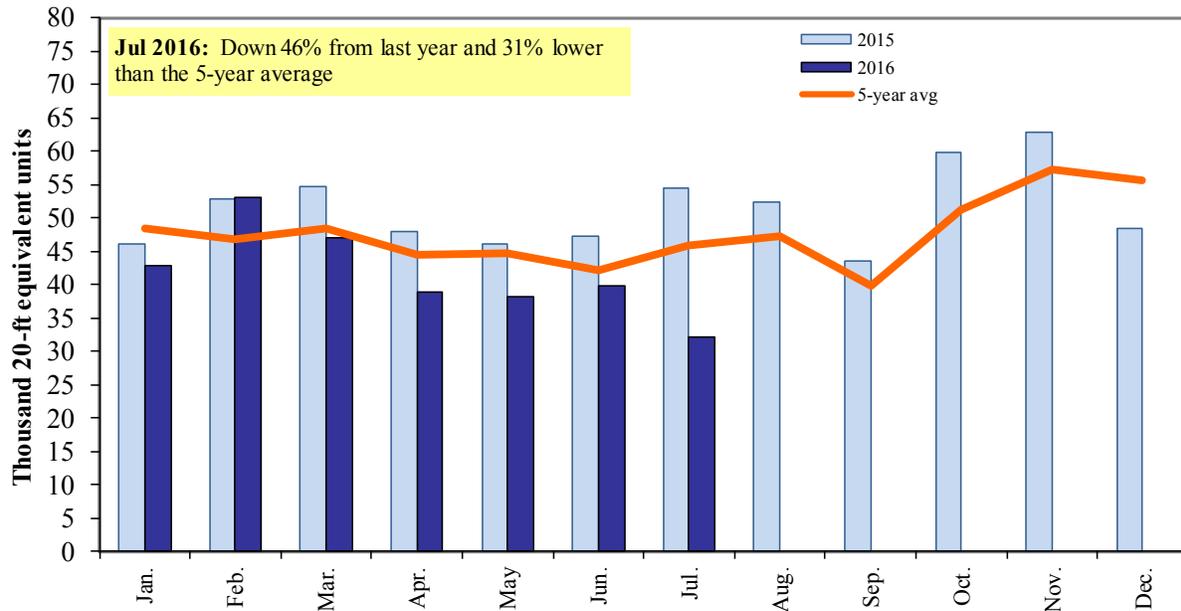


Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data

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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