



Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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WEEKLY HIGHLIGHTS

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Panama Canal Celebrates Major Milestones

On August 15, the Panama Canal celebrated its 102nd anniversary with 100th transit through the new locks and the expanded waterway. The Panama flagged container ship, a neopanamax size vessel, passed through the canal on August 14, less than 2 months following the inauguration of the expanded canal. According to Panama Canal Authority (ACP), more than \$3.3 billion have been invested for improvements to the original waterway during the past 17 years. Due to the investments, the Panama Canal has been able to grow its total tonnage each year, rising from 228 million Panama Canal tons (PC/UMS) in 1999, to a record-breaking 340.8 million PC/UMS in 2015—a 50 percent increase. ACP expects the annual tonnage to reach approximately 524 million PC/UMS during the next 5 years, driven in part by the usage of the expanded canal. For more, see <https://www.pancanal.com/eng/pr/press-releases/2016/08/15/pr606.html>

Grain Inspections Highest Since Late October 2015

For the week ending September 1, **total inspections of grain** (corn, wheat, soybeans) for export from all major export regions reached 3.4 million metric tons (mmt), up 15 percent from the previous week, up 129 percent from last year, and 117 percent above the 3-year average. Grain inspections were also the highest since late October of last year. Inspections of grain increased 19 percent in the Mississippi Gulf, but remained about the same in the Pacific Northwest (PNW). Soybean inspections jumped 34 percent from the previous week as shipments to Europe rebounded. Wheat and corn inspections increased 11 and 3 percent during the same period due to increased demand from Asia and Latin America. Outstanding export sales (unshipped) were down for corn, wheat, and soybeans.

Barge Rates Remain Below Average with Beginning of Corn Harvest

Typically, at this time of year, there is an increase in barge demand for newly harvested corn in the southern States, which can draw barges to the southern portions of the Mississippi River and may reduce the barge supply in other portions of the river system. However, as of September 6, barge rates at principle origins have not seen rate increases, and are below the 5-year average for early September. As of the week ending September 4, 83 percent of the corn crop in Louisiana has been harvested. Drier weather has allowed considerable harvest progress in certain parishes, however, the harvest pace is still behind the 5-year average pace of 92 percent. The Mississippi corn crop is 58 percent harvested, substantially lower than the 5-year average pace of 79 percent. Soybean harvest progress is 25 and 12 percent harvested for Louisiana and Mississippi, respectively.

Snapshots by Sector

Export Sales

During the week ending August 25, **unshipped balances** of wheat, corn, and soybeans totaled 13.2 mmt, up 57 percent from the same time last year. Net weekly **wheat export sales** were .280 mmt, down 26 percent from the previous week. Net **corn export sales** were .214 mmt, up notably from the previous week, and net **soybean export sales** were down significantly from the past week.

Rail

U.S. Class I railroads originated 21,727 **grain carloads** for the week ending August 27, down 13 percent from the previous week, up 19 percent from last year, and up 18 percent from the 3-year average.

Average September shuttle **secondary railcar bids/offers** per car were \$671 above tariff for the week ending September 1, down \$217 from last week, and \$823 higher than last year. Average non-shuttle secondary railcar bids/offers were \$297 above tariff, \$416 higher than last year. There were no non-shuttle bids/offers last week.

Barge

For the week ending September 3, **barge grain movements** totaled 850,748 tons, 8 percent lower than last week, and up 108 percent from the same period last year.

For the week ending September 3, 559 grain barges **moved down river**, down 4 percent from last week; 1,010 grain barges were **unloaded in New Orleans**, up 10 percent from the previous week.

Ocean

For the week ending September 1, 51 **ocean-going grain vessels** were loaded in the Gulf, 46 percent more than the same period last year. Sixty-five vessels are expected to be loaded within the next 10 days, 38 percent more than the same period last year.

For the week ending September 1, the ocean freight rate for shipping bulk grain from the Gulf to Japan was \$30 per metric ton, 2 percent more than the previous week. The cost of shipping from the PNW to Japan was \$16.50 per metric ton, unchanged from the previous week.

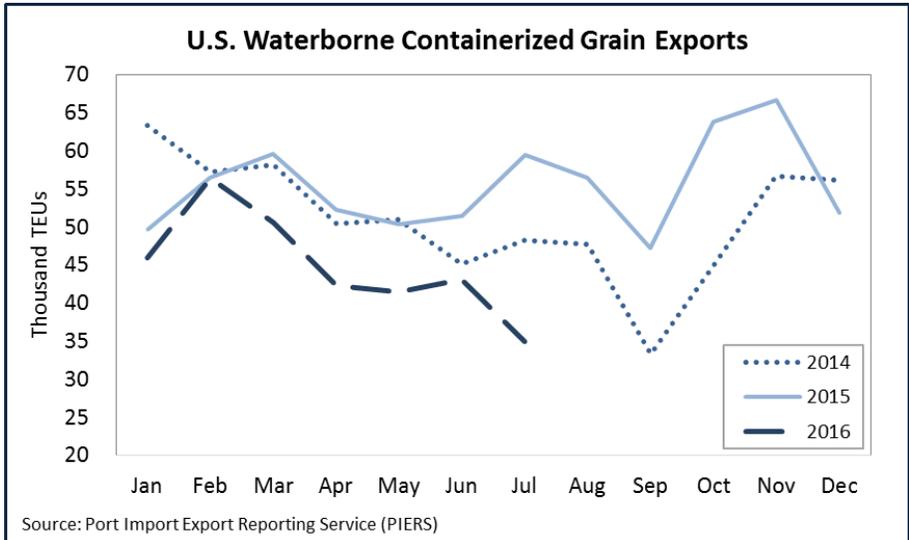
Fuel

During the week ending September 5, U.S. average **diesel fuel prices** remained unchanged from the previous week at \$2.41 per gallon, down \$0.13 from the same week last year.

Containerized Grain Update

So far the 2016 containerized grain market has been characterized by slow demand, overcapacity, historically low ocean freight rates, and competition from record low bulk ocean freight rates. Slow demand and overcapacity in the global vessel fleet have put consistent downward pressure on ocean freight costs. However, recent financial difficulty for one major ocean carrier, could shift the tide.

January-July shipments of containerized grain and grain products were 17 percent lower than last year and 16 percent lower than 2014 (see graph). Containerized shipments have been below average each month except February so far this year. The top containerized grain commodities year-to-date remain dry distillers grains (DDGs) and soybean products (see table). Overall



DDG exports this year are lower due to slow demand from China early in the year. Soybean exports are up year-to-date, but record low bulk ocean freight rates (see [08/04/16 Grain Transportation Report](#)) are competing heavily with containerized freight for those exporters that can either ship bulk or container. The percentage of overall soybeans exported in containers remained unchanged at about 7 percent despite the increased volume exported showing the intense competition from the bulk freight market.

HTS Codes	Commodities	Metric Tons	TEU	Share
230330	Distillers grains	1,934,101	148,687	46%
120100	Soybeans	1,050,706	70,303	25%
230990	Animal feed	485,303	44,730	12%
120810	Soybean meal	264,471	19,544	6%
100590	Corn	237,934	16,003	6%
	Other	212,752	15,595	5%
Total		4,185,267	314,862	100%

Source: Port Import Export Reporting Service (PIERS)

Continued Low Freight Rates

Peak import season is underway in the eastbound transpacific market. Carriers were able to secure peak season rate increases for these cargo in July. However, ocean carriers were unable to secure the same rate increases for westbound transpacific cargo. The westbound trade saw little movement and even some decreases as the market continues to experience slow demand

and overcapacity. Exporters report rates reached the lowest they have seen in the last decade. Drewry Maritime Research reports their transpacific westbound index fell again in July to a record \$765 per 40-ft container--\$110 below last year at this time. For products moving through

Hanjin Shipping Loses Creditor Support

Hanjin Shipping, South Korea's largest shipping line, filed for bankruptcy on August 31 after losing the support of its South Korean creditor, Korea Development Bank (KDB). Hanjin has reportedly been operating in the red for 4 of the last 5 years. Recent plans to liquidate assets were deemed insufficient and rejected by KDB on August 26. The Journal of Commerce states, "The impact on the liner shipping industry is expected to be significant and will affect Hanjin Shipping's CKYHE¹ Alliance partners, its future THE² Alliance partners, slot sharing with other carriers, its charter contractors, and countless shippers with cargo moving on major trades on its 98-ship fleet."

Shippers should expect additional costs and fees associated with regaining access to containers and possibly rerouting the container particularly for cargo currently in transit. Cargo currently operating under Hanjin service will be in flux. Some terminals are accepting Hanjin cargo and others are rejecting the entire vessel. Some terminals will accept the arriving containers if the terminal and handling charges were prepaid, if these charges were not prepaid, they must be paid before the cargo container can be released. Due to possible legal ramifications from the bankruptcy, importers and exporters should do whatever possible to gain access to their containers currently under Hanjin contract. Rate hikes in the spot market for both eastbound and westbound movements have already begun. However, many major carriers such as Maersk, MSC, and CMA-CGM have announced additional sailings to fill the gap. So far in 2016 Hanjin ranks 6th for moving U.S. containerized agricultural exports representing 5 percent of the trade.

The Federal Maritime Commission is monitoring the operational and competitive impacts of this disruption and is particularly interested in learning of any conduct by any regulated entity that may violate the Shipping Act. Members of the shipping public are encouraged to share with the agency any specific allegations of illegal behavior. (april.taylor@ams.usda.gov)

¹ Consists of Cosco Container Line, "K"Line, Yang Ming Line, Hanjin Shipping and Evergreen Line.

² Includes Mitsui O.S.K. Lines, NYK Line, "K" Line, Hanjin Shipping, Hapag-Lloyd and Yang Ming Line

Grain Transportation Indicators

Table 1

Grain Transport Cost Indicators¹

For the week ending	Truck	Rail		Barge	Ocean	
		Unit Train	Shuttle		Gulf	Pacific
09/07/16	162	274	234	225	134	117
08/31/16	162	258	244	214	132	117

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

Source: Transportation & Marketing Programs/AMS/USDA

Table 2

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

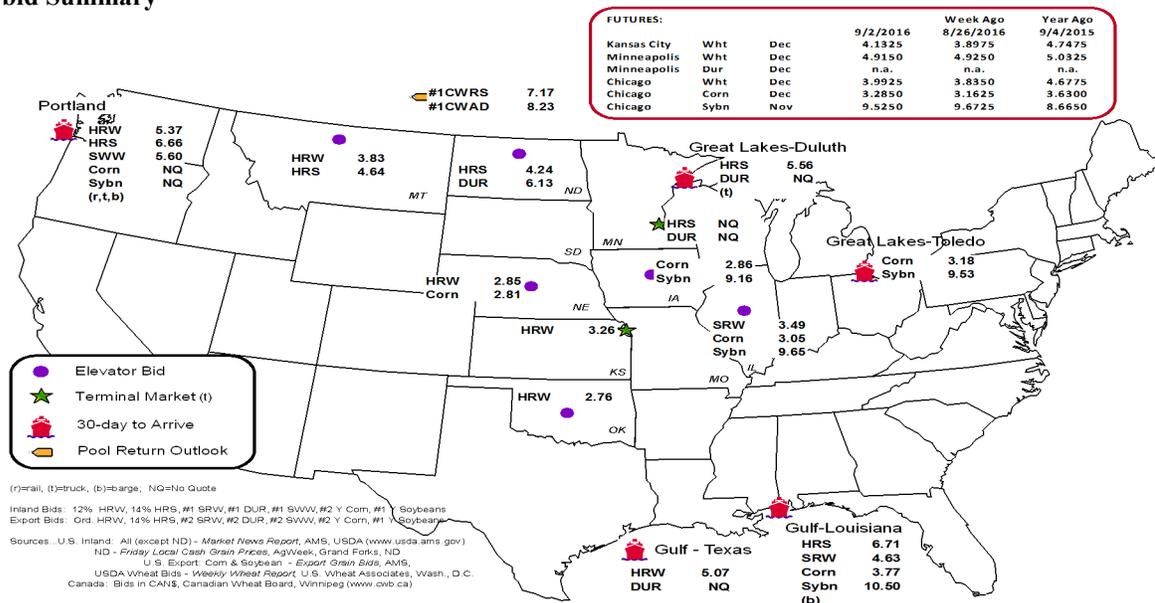
Commodity	Origin--Destination	9/2/2016	8/26/2016
Corn	IL--Gulf	-0.72	-0.69
Corn	NE--Gulf	-0.96	-0.91
Soybean	IA--Gulf	-1.34	-1.52
HRW	KS--Gulf	-1.81	-1.81
HRS	ND--Portland	-2.42	-2.25

Note: nq = no quote

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		Pacific	Atlantic &	Total	Week ending	Cross-Border Mexico ³
	Gulf	Texas Gulf	Northwest	East Gulf			
8/31/2016 ^p	972	1,836	7,484	362	10,654	8/27/2016	1,769
8/24/2016 ^r	930	2,319	7,362	494	11,105	8/20/2016	1,375
2016 YTD ^r	13,803	51,448	178,814	12,251	256,316	2016 YTD	70,653
2015 YTD ^r	12,870	40,790	139,368	15,032	208,060	2015 YTD	62,796
2016 YTD as % of 2015 YTD	107	126	128	81	123	% change YTD	113
Last 4 weeks as % of 2015 ²	1,461	196	270	287	278	Last 4wks % 2015	89
Last 4 weeks as % of 4-year avg. ²	615	139	214	240	210	Last 4wks % 4 yr	106
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.

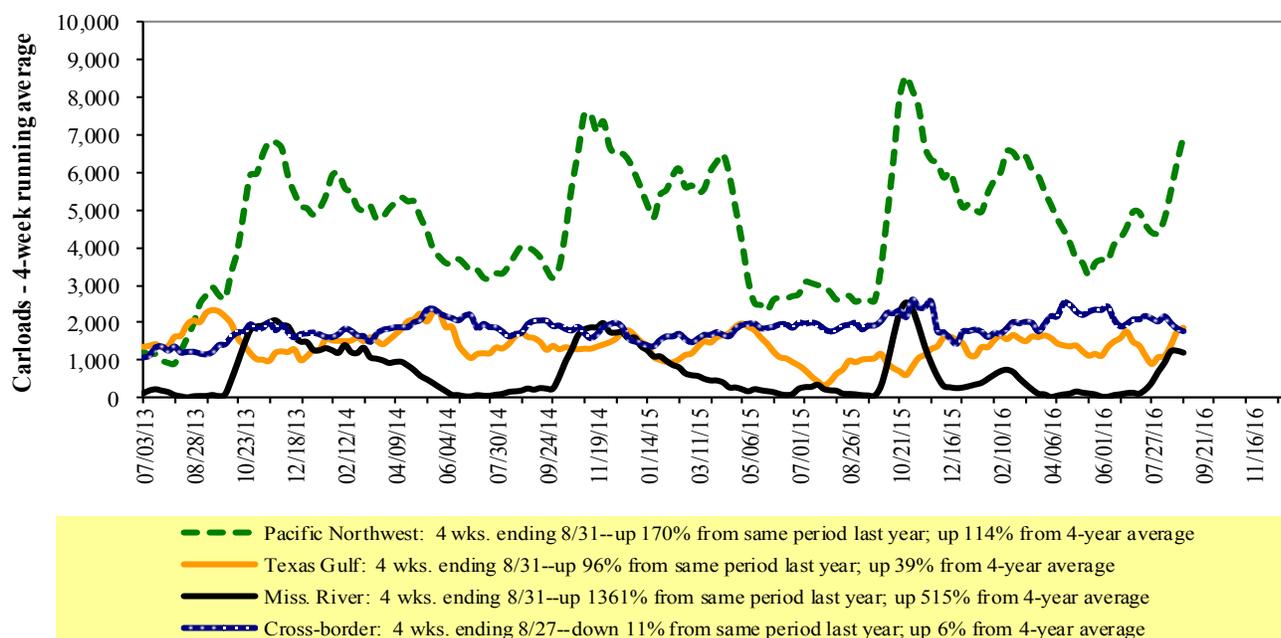
³ Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads to reflect switching between KCSM and FerroMex.

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)

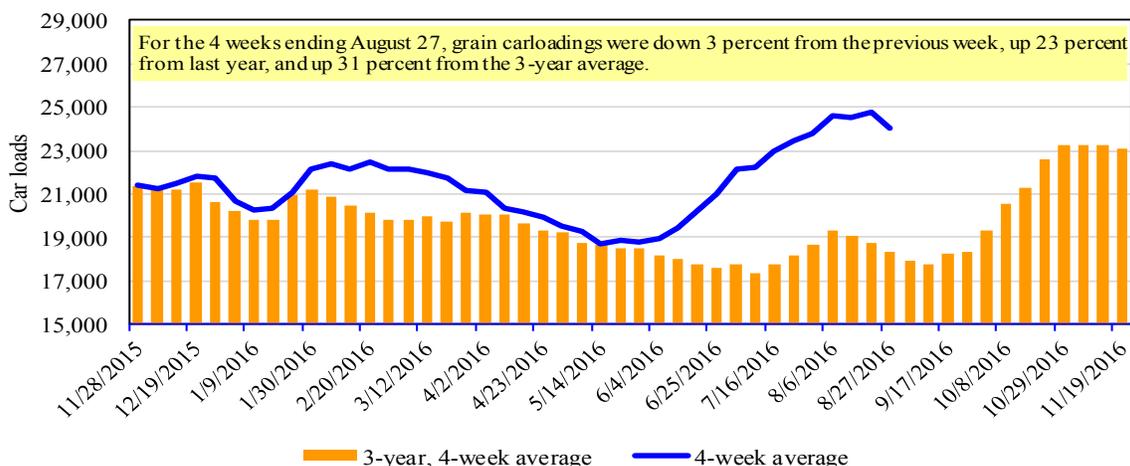
For the week ending:	East		West			U.S. total	Canada	
	CSXT	NS	BNSF	KCS	UP		CN	CP
8/27/2016								
This week	1,131	2,585	11,748	723	5,540	21,727	2,835	4,485
This week last year	1,391	2,244	8,996	721	4,907	18,259	3,286	4,899
2016 YTD	57,970	94,655	370,175	28,705	183,374	734,879	112,610	148,407
2015 YTD	68,123	99,583	333,919	29,359	173,693	704,677	136,894	151,870
2016 YTD as % of 2015 YTD	85	95	111	98	106	104	82	98
Last 4 weeks as % of 2015*	86	106	134	91	129	123	107	100
Last 4 weeks as % of 3-yr avg**	96	116	142	89	133	131	99	95
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:		Delivery period							
9/1/2016		Sep-16	Sep-15	Oct-16	Oct-15	Nov-16	Nov-15	Dec-16	Dec-15
BNSF ³	COT grain units	163	no bids	218	0	58	no bids	36	no bids
	COT grain single-car ⁵	503 .. 525	0	303 .. 307	0 .. 33	225 .. 312	no bids	22 .. 222	3
UP ⁴	GCAS/Region 1	no offer	no bids	no offer	no bids	no offer	no bids	n/a	n/a
	GCAS/Region 2	no offer	no bids	no offer	10	no offer	10	n/a	n/a

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.

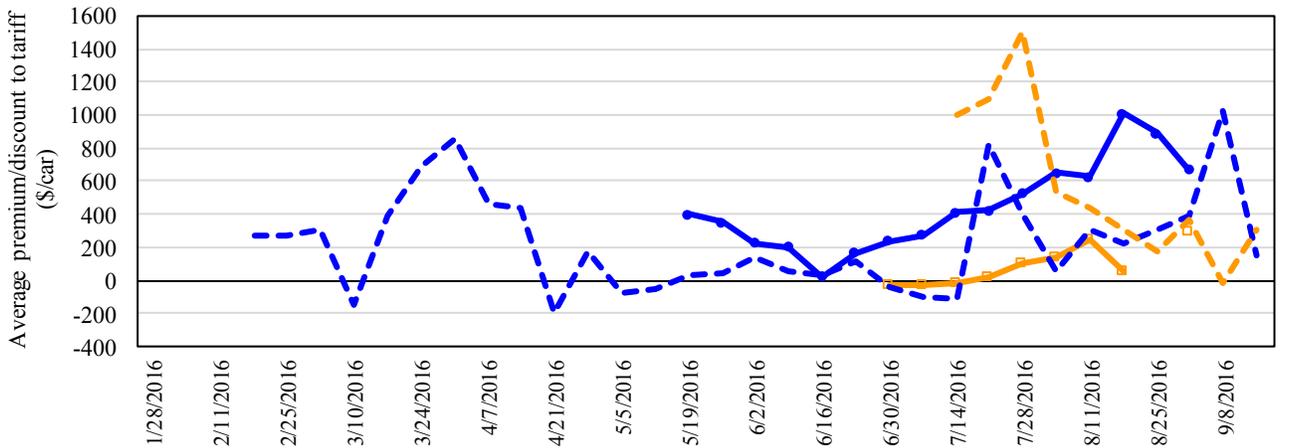
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

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 September 2016, Secondary Market



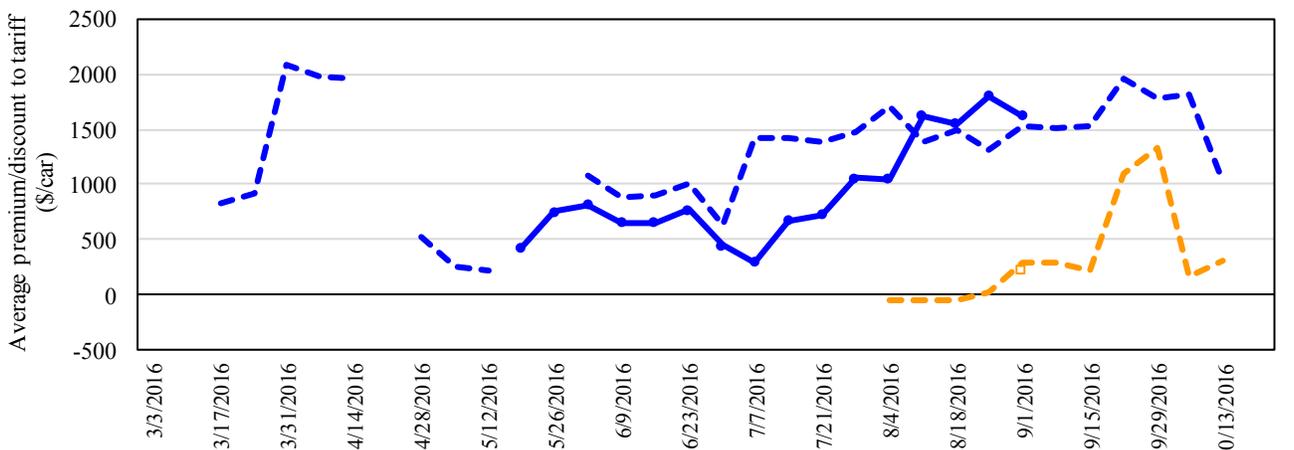
	BNSF	UP
9/1/2016		
Non-Shuttle	\$313	\$281
Shuttle	\$1,117	\$225

— Shuttle
- - - Shuttle prior 3-yr avg. (same week)
— Non-Shuttle
- - - Non-Shuttle prior 3-yr avg. (same week)

There were no Non-Shuttle bids/offers last week. Average Non-Shuttle bids/offers this week are at the peak. Average Shuttle bids/offers fell \$217 this week and are \$335 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 October 2016, Secondary Market



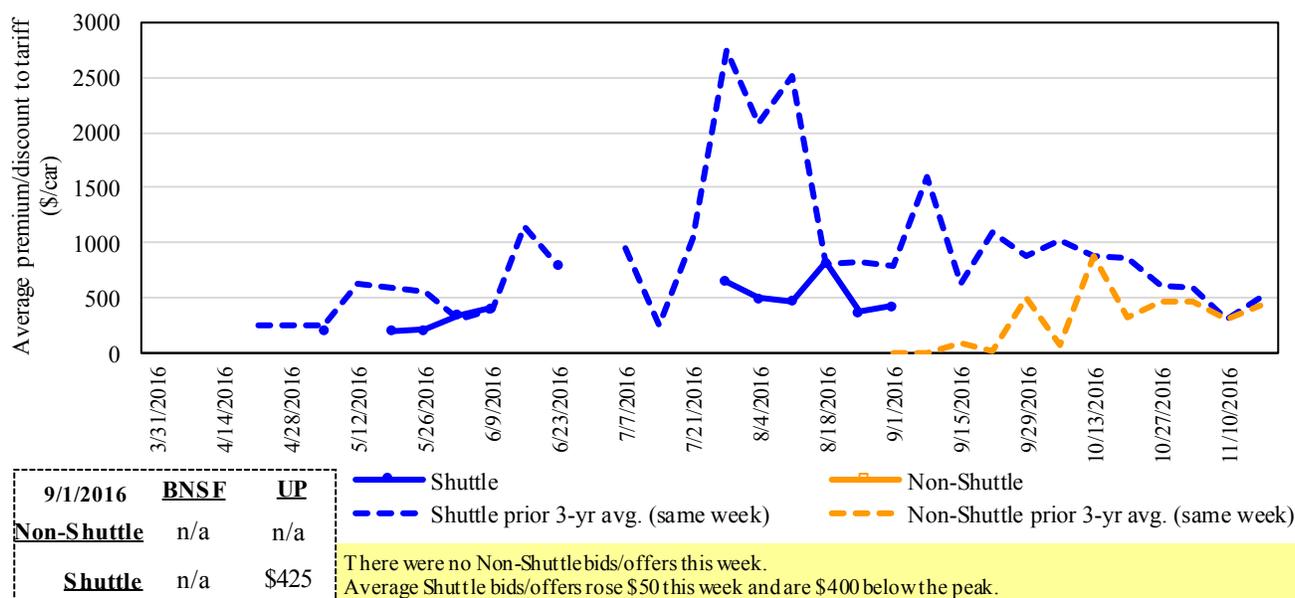
	BNSF	UP
9/1/2016		
Non-Shuttle	\$225	n/a
Shuttle	\$2,050	\$1,200

— Shuttle
- - - Shuttle prior 3-yr avg. (same week)
— Non-Shuttle
- - - Non-Shuttle prior 3-yr avg. (same week)

There were no Non-Shuttle bids/offers last week. Average Non-Shuttle bids/offers this week are at the peak. Average Shuttle bids/offers fell \$175 this week and are \$175 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 November 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					
		9/1/2016	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17
Non-shuttle	BNSF-GF	313	225	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 2015	451	n/a	n/a	n/a	n/a	n/a
	UP-Pool	281	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 2015	381	n/a	n/a	n/a	n/a	n/a
Shuttle	BNSF-GF	1117	2050	n/a	n/a	n/a	n/a
	Change from last week	(383)	(200)	n/a	n/a	n/a	n/a
	Change from same week 2015	1205	1550	n/a	n/a	n/a	n/a
	UP-Pool	225	1200	425	200	n/a	n/a
	Change from last week	(50)	(150)	50	25	n/a	n/a
	Change from same week 2015	442	1000	275	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
9/1/2016	metric ton					bushel ²		
Unit train								
Wheat	Wichita, KS	St. Louis, MO	\$3,605	\$35	\$36.15	\$0.98	-1	
	Grand Forks, ND	Duluth-Superior, MN	\$4,143	-\$6	\$41.08	\$1.12	15	
	Wichita, KS	Los Angeles, CA	\$6,950	-\$31	\$68.71	\$1.87	-2	
	Wichita, KS	New Orleans, LA	\$4,243	\$62	\$42.75	\$1.16	-1	
	Sioux Falls, SD	Galveston-Houston, TX	\$6,486	-\$25	\$64.16	\$1.75	-2	
	Northwest KS	Galveston-Houston, TX	\$4,511	\$68	\$45.47	\$1.24	-1	
	Amarillo, TX	Los Angeles, CA	\$4,710	\$95	\$47.72	\$1.30	-2	
Corn	Champaign-Urbana, IL	New Orleans, LA	\$3,681	\$70	\$37.25	\$0.95	8	
	Toledo, OH	Raleigh, NC	\$6,061	\$0	\$60.19	\$1.53	9	
	Des Moines, IA	Davenport, IA	\$2,168	\$15	\$21.68	\$0.55	-1	
	Indianapolis, IN	Atlanta, GA	\$5,004	\$0	\$49.69	\$1.26	5	
	Indianapolis, IN	Knoxville, TN	\$4,311	\$0	\$42.81	\$1.09	5	
	Des Moines, IA	Little Rock, AR	\$3,444	\$44	\$34.64	\$0.88	3	
Soybeans	Des Moines, IA	Los Angeles, CA	\$5,052	\$128	\$51.44	\$1.31	1	
	Minneapolis, MN	New Orleans, LA	\$3,799	\$30	\$38.02	\$1.03	-4	
	Toledo, OH	Huntsville, AL	\$5,051	\$0	\$50.16	\$1.37	8	
	Indianapolis, IN	Raleigh, NC	\$6,178	\$0	\$61.35	\$1.67	10	
	Indianapolis, IN	Huntsville, AL	\$4,529	\$0	\$44.98	\$1.22	4	
Champaign-Urbana, IL	New Orleans, LA	\$4,395	\$70	\$44.34	\$1.21	9		
Shuttle Train								
Wheat	Great Falls, MT	Portland, OR	\$3,953	-\$18	\$39.08	\$1.06	-2	
	Wichita, KS	Galveston-Houston, TX	\$3,871	-\$14	\$38.30	\$1.04	-3	
	Chicago, IL	Albany, NY	\$5,492	\$0	\$54.54	\$1.48	16	
	Grand Forks, ND	Portland, OR	\$5,611	-\$30	\$55.42	\$1.51	-3	
	Grand Forks, ND	Galveston-Houston, TX	\$5,931	-\$32	\$58.58	\$1.59	-11	
	Northwest KS	Portland, OR	\$5,478	\$112	\$55.51	\$1.51	-2	
	Minneapolis, MN	Portland, OR	\$5,000	-\$37	\$49.28	\$1.25	-7	
Corn	Sioux Falls, SD	Tacoma, WA	\$4,960	-\$34	\$48.92	\$1.24	-6	
	Champaign-Urbana, IL	New Orleans, LA	\$3,481	\$70	\$35.27	\$0.90	8	
	Lincoln, NE	Galveston-Houston, TX	\$3,600	-\$20	\$35.55	\$0.90	-3	
	Des Moines, IA	Amarillo, TX	\$3,795	\$55	\$38.23	\$0.97	3	
	Minneapolis, MN	Tacoma, WA	\$5,000	-\$37	\$49.29	\$1.25	-7	
	Council Bluffs, IA	Stockton, CA	\$4,640	-\$38	\$45.70	\$1.16	-3	
	Sioux Falls, SD	Tacoma, WA	\$5,490	-\$34	\$54.18	\$1.47	-6	
Soybeans	Minneapolis, MN	Portland, OR	\$5,510	-\$37	\$54.35	\$1.48	-7	
	Fargo, ND	Tacoma, WA	\$5,380	-\$30	\$53.13	\$1.45	-6	
	Council Bluffs, IA	New Orleans, LA	\$4,425	\$81	\$44.75	\$1.22	-2	
	Toledo, OH	Huntsville, AL	\$4,226	\$0	\$41.97	\$1.14	10	
	Grand Island, NE	Portland, OR	\$5,360	\$115	\$54.37	\$1.48	-2	

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	-4
	OK	Cuautitlan, EM	\$6,514	\$49	\$67.05	\$1.82	-5
	KS	Guadalajara, JA	\$6,995	\$102	\$72.51	\$1.97	-4
	TX	Salinas Victoria, NL	\$4,142	\$28	\$42.61	\$1.16	0
Corn	IA	Guadalajara, JA	\$8,137	\$97	\$84.13	\$2.14	-5
	SD	Celaya, GJ	\$7,480	\$0	\$76.43	\$1.94	-6
	NE	Queretaro, QA	\$7,879	\$92	\$81.44	\$2.07	1
	SD	Salinas Victoria, NL	\$6,545	\$0	\$66.87	\$1.70	6
	MO	Tlalnepantla, EM	\$7,238	\$89	\$74.87	\$1.90	2
	SD	Torreon, CU	\$7,080	\$0	\$72.34	\$1.84	-2
Soybeans	MO	Bojay (Tula), HG	\$8,652	\$98	\$89.40	\$2.43	2
	NE	Guadalajara, JA	\$9,142	\$103	\$94.46	\$2.57	1
	IA	El Castillo, JA	\$9,470	\$0	\$96.76	\$2.63	0
	KS	Torreon, CU	\$7,439	\$75	\$76.77	\$2.09	2
Sorghum	NE	Celaya, GJ	\$7,344	\$91	\$75.96	\$1.93	-2
	KS	Queretaro, QA	\$7,563	\$61	\$77.89	\$1.98	-1
	NE	Salinas Victoria, NL	\$6,168	\$49	\$63.52	\$1.61	3
	NE	Torreon, CU	\$6,672	\$72	\$68.91	\$1.75	-1

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

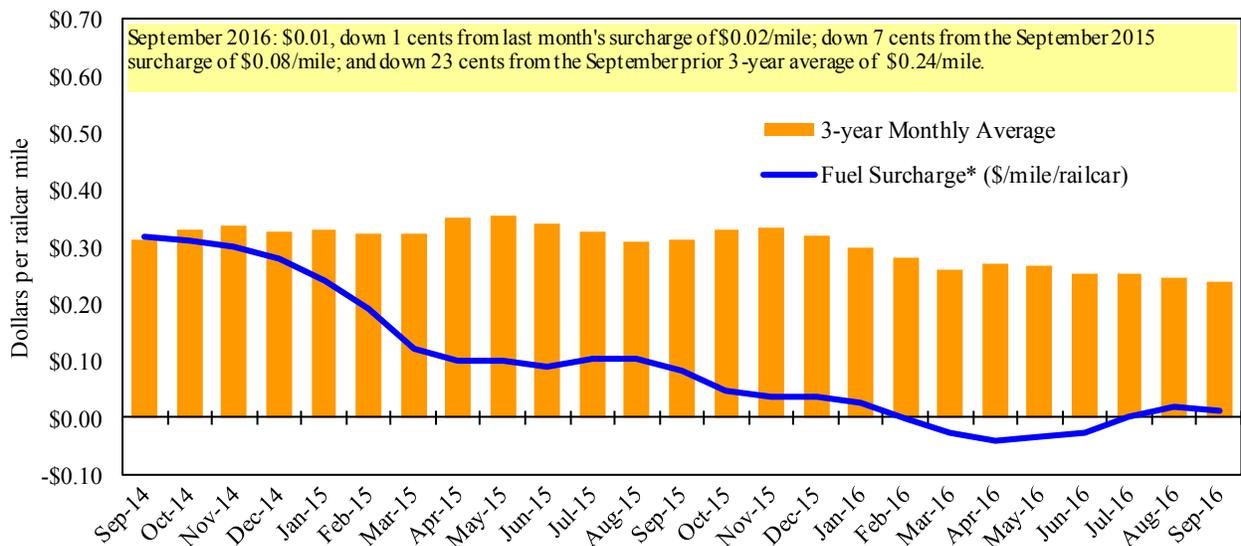
³Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu

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.

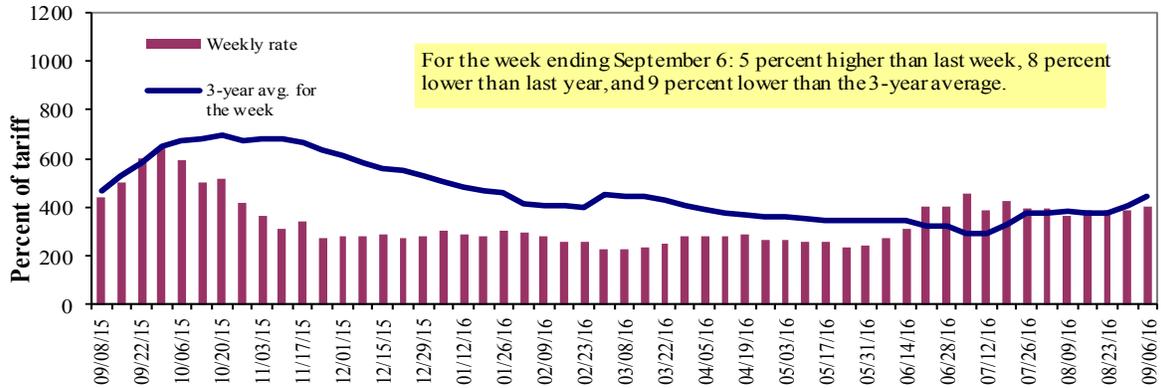
**CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1, 2015.

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	9/6/2016	445	420	405	303	334	334	310
	8/30/2016	473	420	385	278	333	333	275
\$/ton	9/6/2016	27.55	22.34	18.79	12.09	15.66	13.49	9.73
	8/30/2016	29.28	22.34	17.86	11.09	15.62	13.45	8.64
Current week % change from the same week:								
	Last year	0	-5	-8	-29	-27	-27	-27
	3-year avg. ²	-2	-4	-9	-26	-24	-24	-24
Rate¹	October	635	605	603	488	605	605	443
	December	-	-	405	285	325	325	260

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:

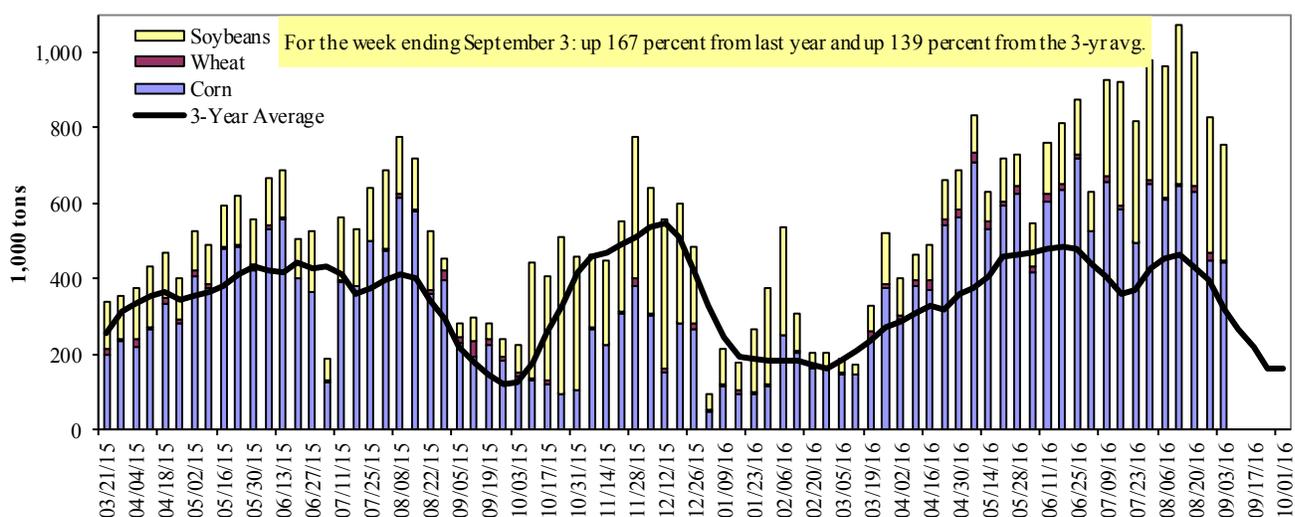
$$(\text{Rate} * 1976 \text{ tariff benchmark rate per ton}) / 100$$

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 9/03/2016	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	188	8	161	6	363
Winfield, MO (L25)	328	8	204	3	542
Alton, IL (L26)	397	5	291	2	694
Granite City, IL (L27)	445	5	306	45	800
Illinois River (L8)	62	0	49	0	111
Ohio River (L52)	18	2	31	0	51
Arkansas River (L1)	0	0	0	0	0
Weekly total - 2016	462	7	337	45	851
Weekly total - 2015	242	58	94	14	408
2016 YTD ¹	17,753	1,571	8,484	231	28,040
2015 YTD	14,619	1,349	6,639	175	22,783
2016 as % of 2015 YTD	121	116	128	132	123
Last 4 weeks as % of 2015 ²	184	71	467	159	217
Total 2015	19,215	1,686	14,191	359	35,451

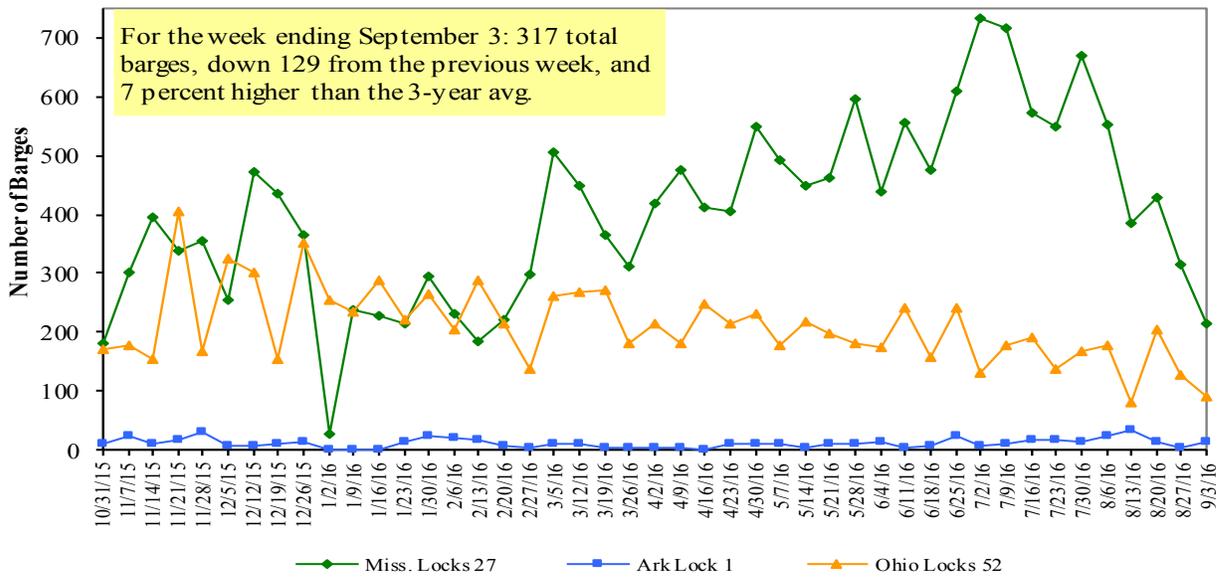
¹ Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/52, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

² As a percent of same period in 2015.

Note: Total may not add exactly, due to rounding

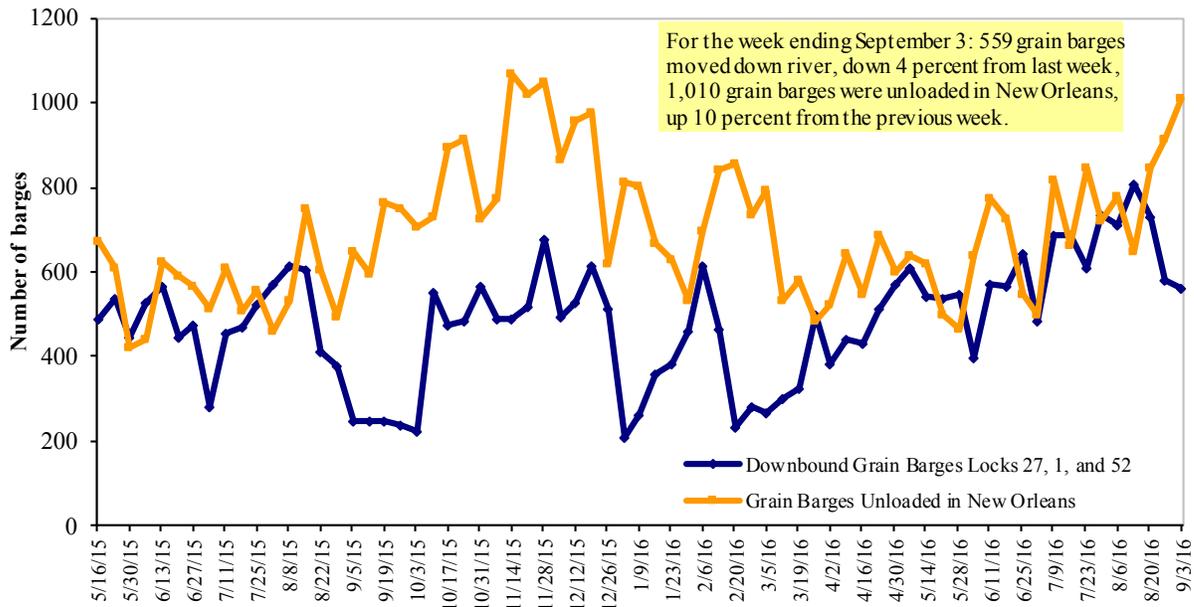
Source: U.S. Army Corps of Engineers

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 09/05/2016 (US \$/gallon)

Region	Location	Price	Change from	
			Week ago	Year ago
I	East Coast	2.408	-0.002	-0.186
	New England	2.420	-0.003	-0.243
	Central Atlantic	2.499	0.003	-0.217
	Lower Atlantic	2.335	-0.006	-0.154
II	Midwest ²	2.387	-0.004	-0.096
III	Gulf Coast ³	2.264	-0.005	-0.121
IV	Rocky Mountain	2.493	0.017	-0.074
V	West Coast	2.664	0.006	-0.082
	West Coast less California	2.563	0.008	-0.027
	California	2.746	0.005	-0.126
Total	U.S.	2.407	-0.002	-0.127

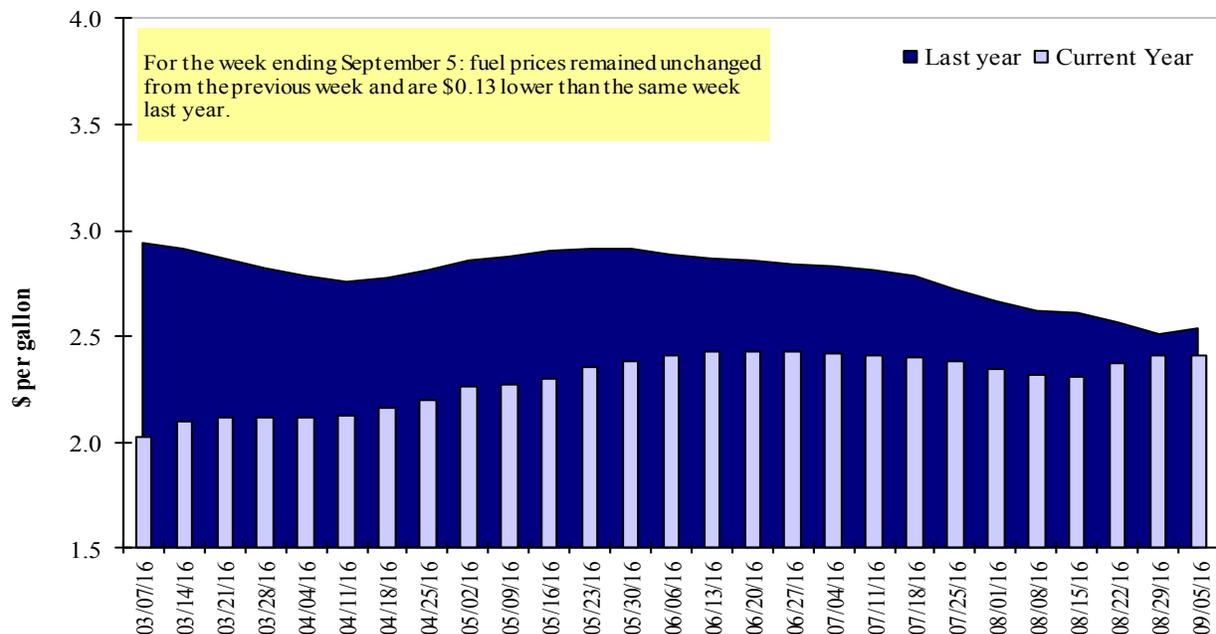
¹Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

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									
8/25/2016	2,177	616	1,720	1,007	98	5,618	4,519	3,028	13,164
This week year ago	1,351	858	1,903	944	170	5,227	2,215	952	8,394
Cumulative exports-marketing year²									
2015/16 YTD	2,659	488	2,010	994	78	6,228	45,564	49,821	101,613
2014/15 YTD	1,508	1,001	1,237	783	311	4,840	45,205	49,614	99,658
YTD 2015/16 as % of 2014/15	176	49	163	127	25	129	101	100	102
Last 4 wks as % of same period 2014/15	172	73	98	111	74	115	280	455	197
2014/15 Total	7,009	3,654	7,250	3,758	665	22,336	45,205	49,614	117,155
2013/14 Total	11,465	7,307	6,338	4,367	486	29,963	46,868	44,478	121,309

¹ Current unshipped (outstanding) export sales to date

² Shipped export sales to date; new marketing year now in effect for wheat; corn and soybean 2015/16 marketing ends

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 8/25/2016	Total Commitments ²			% change current MY from last MY	Exports ³ 3-year avg 2012-2014
	2016/17	2015/16	2014/15		
	Next MY	Current MY	Last MY		
	- 1,000 mt -				- 1,000 mt -
Japan	1,730	10,819	12,145	(11)	9,244
Mexico	3,240	12,816	10,946	17	7,448
Korea	254	3,284	3,922	(16)	2,630
Colombia	324	4,688	4,466	5	1,727
Taiwan	228	2,338	1,810	29	1,224
Top 5 Importers	5,775	33,945	33,289	2	22,273
Total US corn export sales	11,819	50,083	47,420	6	34,445
% of Projected	21%	102%	100%		
Change from prior week	648	214	113		
Top 5 importers' share of U.S. corn export sales	49%	68%	70%		65%
USDA forecast, August 2016	55,344	48,982	47,506	3	
Corn Use for Ethanol USDA forecast, August 2016	133,985	132,080	134,976	(2)	

(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 week's outstanding sales or 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 8/25/2016	Total Commitments ²			% change current MY from last MY	Exports ³ 3-yr avg. 2012-2014
	2016/17 Next MY	2015/16 Current MY	2014/15 Last MY		
	- 1,000 mt -				- 1,000 mt -
China	8,199	29,877	29,599	1	24,211
Mexico	1,000	3,415	3,320	3	2,971
Indonesia	100	2,093	1,928	9	1,895
Japan	329	2,319	2,312	0	1,750
Taiwan	310	1,359	1,388	(2)	1,055
Top 5 importers	9,937	39,064	38,547	1	31,882
Total US soybean export sales	18,760	52,849	50,566	5	39,169
% of Projected	35%	103%	101%		
Change from prior week	1,476	(114)	(60)		
Top 5 importers' share of U.S. soybean export sales	53%	74%	76%		81%
USDA forecast, August 2016	53,134	51,226	50,191	2	

(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 week's outstanding sales and/or accumulated sales³FAS 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 8/25/2016	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	997	950	5	2,743
Mexico	1,093	1,007	9	2,660
Nigeria	2,604	907	187	1,978
Philippines	995	783	27	2,156
Brazil	655	260	152	2,273
Korea	673	512	31	1,156
Taiwan	378	449	(16)	923
Indonesia	319	122	162	790
Colombia	345	245	41	664
Thailand	254	142	79	685
Top 10 importers	8,058	5,233	54	16,028
Total US wheat export sales	11,845	10,066	18	24,059
% of Projected	46%	48%		
Change from prior week	280	278		
Top 10 importers' share of U.S. wheat export sales	68%	52%		67%
USDA forecast, August 2016	25,886	21,117	23	

(n) indicates negative number.

¹Based on FAS Marketing Year Ranking Reports - www.fas.usda.gov; Marketing year = Jun 1 - May 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 the previous week's outstanding and/or accumulated sales³FAS 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 09/01/16	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	311	323	96	8,579	7,390	116	102	100	10,985
Corn	524	399	131	8,829	6,643	133	337	337	7,232
Soybeans	10	122	9	5,051	4,087	124	2010	2796	11,809
Total	846	844	100	22,460	18,120	124	194	192	30,027
Mississippi Gulf									
Wheat	100	57	175	2,542	3,075	83	89	46	4,504
Corn	582	755	77	21,637	20,940	103	97	125	26,701
Soybeans	1,197	772	155	15,774	12,303	128	459	772	29,593
Total	1,879	1,584	119	39,954	36,318	110	172	200	60,797
Texas Gulf									
Wheat	187	179	104	3,340	2,692	124	264	135	3,724
Corn	127	53	238	1,061	402	264	518	650	596
Soybeans	0	0	n/a	92	210	44	n/a	n/a	864
Total	314	233	135	4,493	3,305	136	309	177	5,184
Interior									
Wheat	27	12	237	889	975	91	108	82	1,388
Corn	168	163	103	4,812	4,195	115	119	135	6,201
Soybeans	50	71	69	2,743	2,093	131	232	335	3,518
Total	245	246	100	8,443	7,262	116	137	150	11,106
Great Lakes									
Wheat	47	36	128	614	634	97	102	192	997
Corn	36	20	175	388	413	94	202	308	485
Soybeans	0	0	n/a	159	89	180	n/a	n/a	733
Total	83	57	145	1,161	1,135	102	136	240	2,216
Atlantic									
Wheat	1	0	n/a	199	421	47	195	15	520
Corn	0	0	n/a	48	115	41	203	121	277
Soybeans	41	5	867	1,049	987	106	331	895	2,053
Total	41	5	879	1,295	1,523	85	268	148	2,850
U.S. total from ports**									
Wheat	673	608	111	16,163	15,186	106	124	95	22,118
Corn	1,437	1,391	103	36,775	32,708	112	145	175	41,492
Soybeans	1,297	970	134	24,868	19,768	126	451	745	48,570
Total	3,407	2,968	115	77,805	67,663	115	180	191	112,180

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

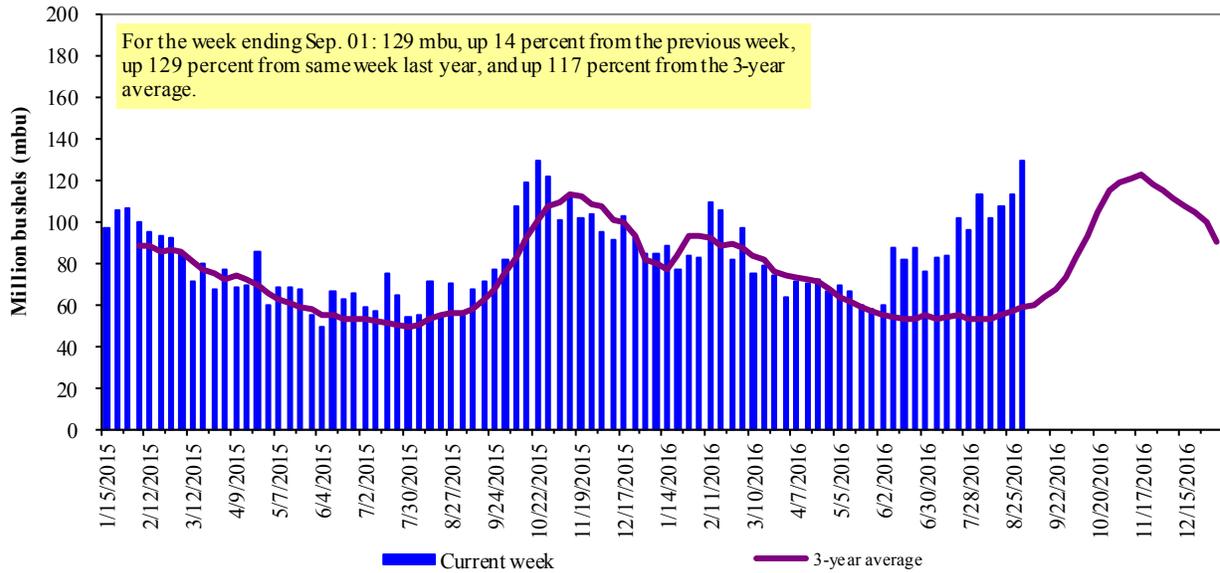
**Total only includes regions shown above

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

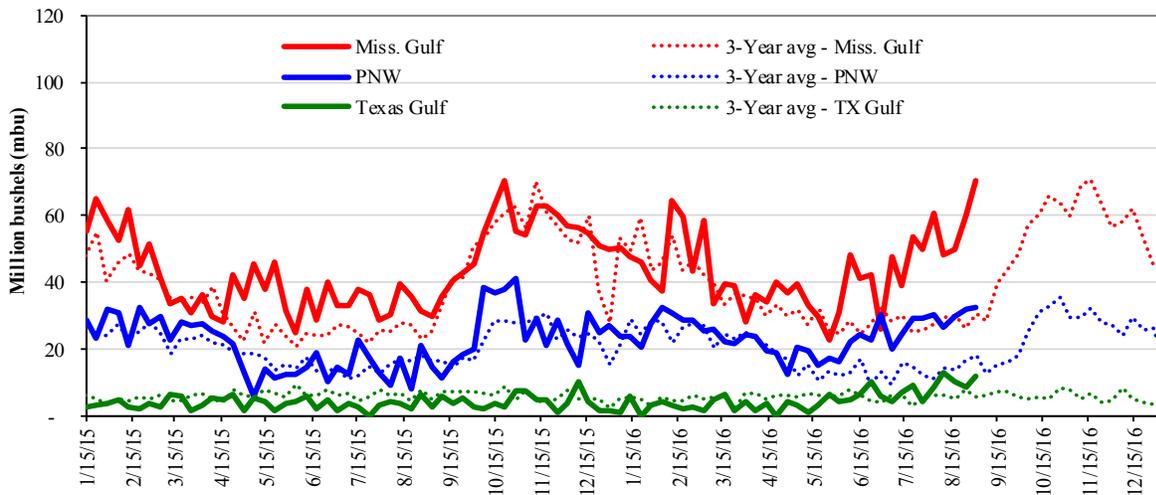
U.S. grain inspected for export (wheat, corn, and soybeans)



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 09/01/16 inspections (mbu):		Percent change from:				
Mississippi Gulf:	70.6	Last Week:	MS Gulf	TX Gulf	U.S. Gulf	PNW
PNW:	32.4	Last Year (same week):	up 17	up 36	up 20	up 1
Texas Gulf:	11.9	3-yr avg. (4-wk. mov. Avg):	up 139	up 370	up 157	up 121
			up 143	up 97	up 135	up 110

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

Ocean Transportation

Table 17

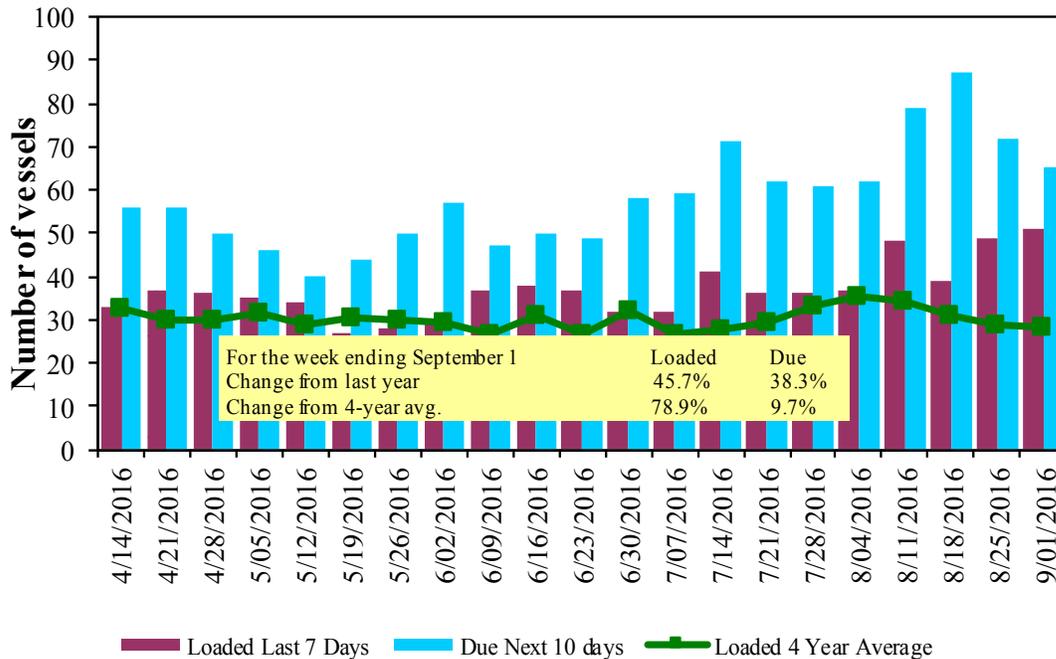
Weekly Port Region Grain Ocean Vessel Activity (number of vessels)

Date	Gulf			Pacific Northwest	Vancouver B.C.
	In port	Loaded 7-days	Due next 10-days	In port	In port
9/1/2016	47	51	65	8	n/a
8/25/2016	53	49	72	16	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

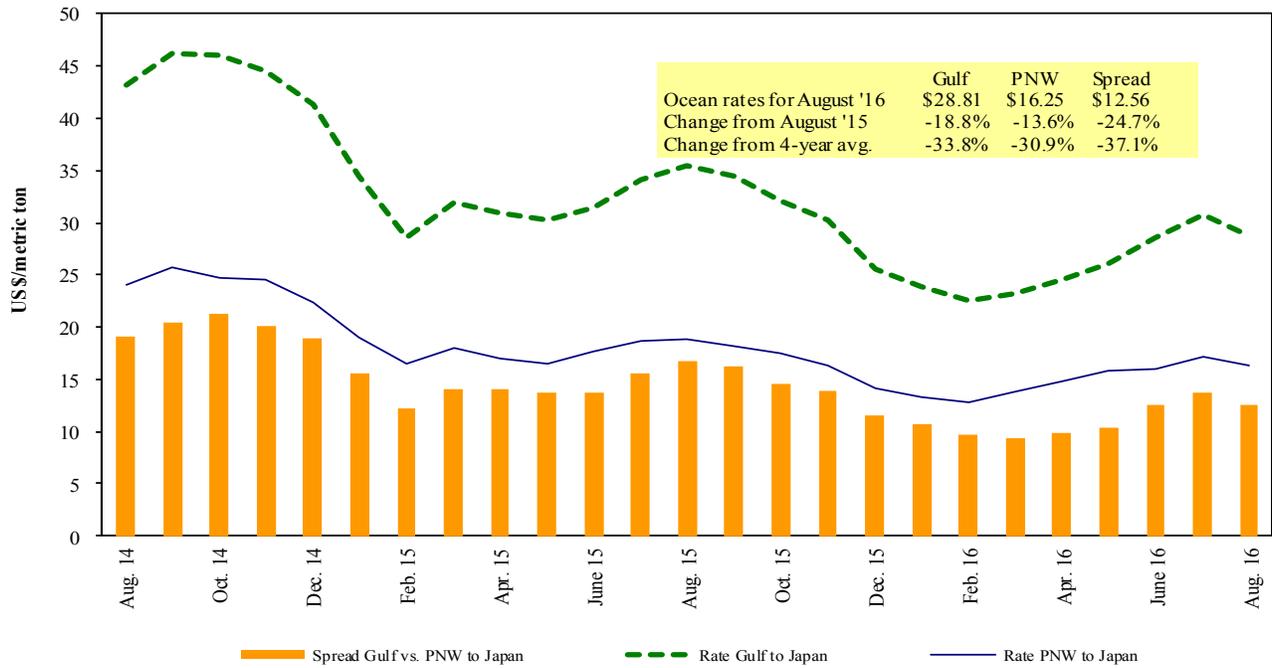
U.S. Gulf Vessel Loading Activity



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 09/03/2016

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US\$/metric ton)
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	China	Heavy Grain	Aug 15/25	60,000	26.75
U.S. Gulf	China	Heavy Grain	Aug 10/20	60,000	26.25
U.S. Gulf	South Africa	Sorghum ¹	Sep 15/25	20,000	63.50
U.S. Gulf	Djibouti	Wheat ¹	Aug 22/31	47,720	46.48
PNW	Japan	Heavy Grain	Aug 1/10	58,000	19.80
PNW	Japan	Heavy Grain	Jul 20/30	60,000	16.50
PNW	Taiwan	Wheat1	Sep 8/22	54,000	21.10
Brazil	China	Heavy Grain	Aug 18/25	60,000	18.60
Brazil	Japan	Heavy Grain	Sep 1/30	62,000	19.00
Brazil	Malaysia	Heavy Grain	Sep 1/30	65,000	17.00
Romania	France	Heavy Grain	Aug 5/9	55,000	8.50
Ukraine	Morrocco	Heavy Grain	Aug 29/Sep 3	30,000	16.00

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

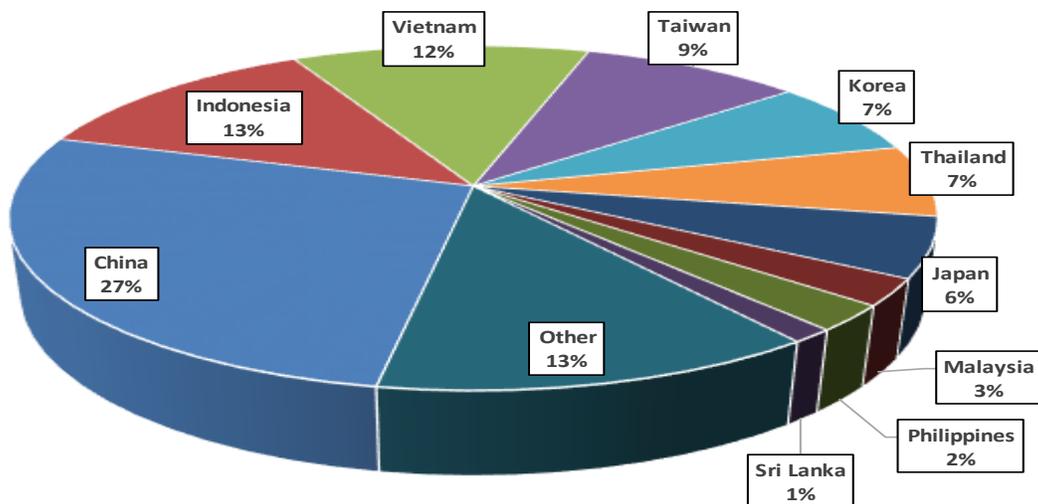
¹50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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

In 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

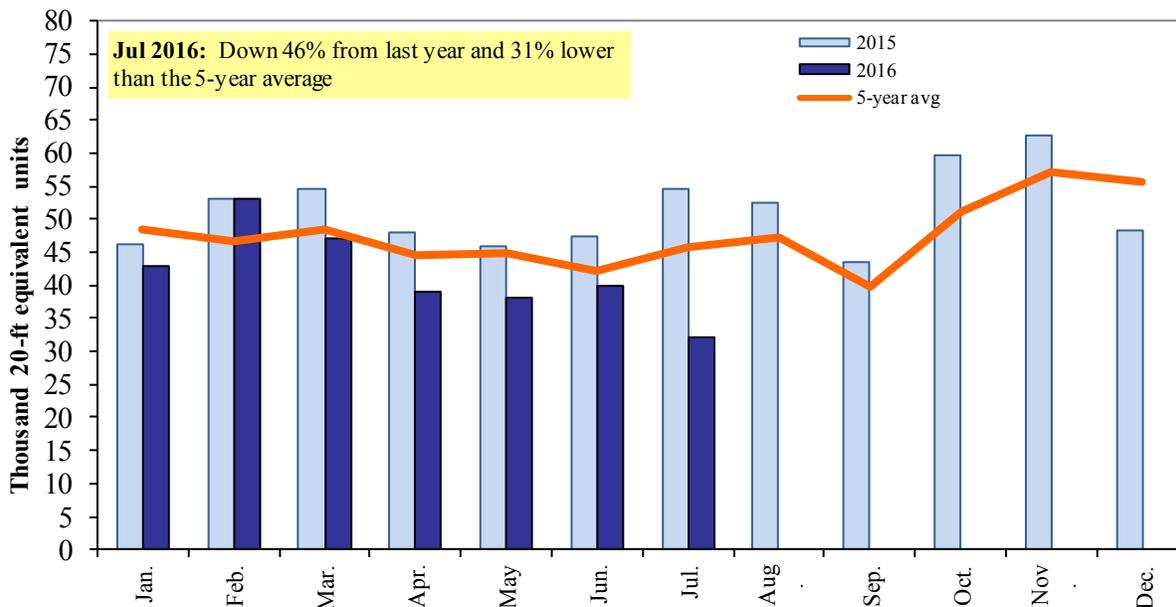


Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data

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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