



# Grain Transportation Report

A weekly publication of the Agricultural Marketing Service  
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October 6, 2016

## WEEKLY HIGHLIGHTS

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### Corn and Soybeans Boost Total Grain Inspections and ...

For the week ending September 29, **total inspections of grain** (corn, wheat, and soybeans) reached 3.28 million metric tons (mmt), up 23 percent from the previous week, up 52 percent from last year, and 71 percent above the 3-year average. Inspections of soybeans jumped 186 percent from the previous week due primarily to increased demand from Asia. Total corn inspections increased 8 percent from the previous week. Wheat inspections, however, were down 27 percent from the past week as shipments to Latin America and Asia decreased. Grain inspections in the Mississippi Gulf increased 19 percent from the previous week, and Pacific Northwest (PNW) inspections increased 31 percent. Outstanding export sales (unshipped) of grain were up for soybeans but were down for corn and wheat.

### ... Vessel Loading Activity Continued to be Strong

Grain vessel loading activity in the U.S. Gulf continued to be strong. The weekly number of **ocean-going grain vessels** loading, loaded, or expected to be loaded have been well above their 4-year averages for the past few weeks. For the week ending September 29, 53 vessels were loading or waiting to be loaded, compared to the 4-year average of 48 vessels. Forty-two vessels were loaded during the previous 7 days and 77 vessels were expected to be loaded in the next 10 days, compared to the 4-year averages of 39 and 60 vessels, respectively. During the same period, ocean freight for shipping bulk grain from the U.S. Gulf to Japan was \$30 per metric ton, 35 percent less than the 4-year average. The cost of shipping from the PNW to Japan was \$16.50 per metric ton, 35 percent less than the 4-year average.

### STB Adopts Final Arbitration Procedure Rules

Last week, the Surface Transportation Board (STB) adopted [changes to its arbitration procedures](#) that will become effective on October 30, 2016. The STB first proposed changes to its rules in May to correspond with requirements set forth in the Surface Transportation Board Reauthorization Act of 2015 (P.L. 114-110). The new rules make rail rate disputes eligible for voluntary arbitration and establish caps on awardable damages of \$25 million in rate disputes and \$2 million in practice disputes (e.g., demurrage, accessorial charges, and misrouting or mishandling of rail cars). The rules also address other aspects, such as maintaining a roster of qualified arbitrators and selection of a lead arbitrator. STB Chairman Elliot [stated](#), "The STB Reauthorization Act further enhances arbitration as an effective means to resolve disputes outside of formal litigation."

## Snapshots by Sector

### **Export Sales**

During the week ending September 22, **unshipped balances** of wheat, corn, and soybeans totaled 43.3 mmt, up 39 percent from the same time last year. Net weekly **wheat export sales** were .571 mmt, up 2 percent from the previous week. Net **corn export sales** were .575 mmt, down 38 percent from the previous week, and net **soybean export sales** were 1.69 mmt, up 93 percent from the past week.

### **Rail**

U.S. Class I railroads originated 25,129 **grain carloads** for the week ending September 24, up 12 percent from the previous week, up 13 percent from last year, and up 37 percent from the 3-year average.

Average October shuttle **secondary railcar bids/offers** per car were \$1,200 above tariff for the week ending September 29, up \$150 from last week, and \$853 higher than last year. Average non-shuttle secondary railcar bids/offers were \$119 above tariff, down \$106 from last week, and \$84 higher than last year.

### **Barge**

For the week ending October 1, **barge grain movements** totaled 695,317 tons, 56 percent higher than last week, and down 21 percent from the same period last year.

For the week ending October 1, 453 grain barges **moved down river**, up 61 percent from last week; 820 grain barges were **unloaded in New Orleans**, up 11 percent from the previous week.

### **Ocean**

For the week ending September 29, 42 **ocean-going grain vessels** were loaded in the Gulf, 2 percent less than the same period last year. Seventy-seven vessels are expected to be loaded within the next 10 days, 57 percent more than the same period last year.

For the week ending September 29, the ocean freight rate for shipping bulk grain from the Gulf to Japan was \$30 per metric ton, 1 percent less 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 October 3, U.S. average **diesel fuel prices** increased 1 cent from the previous week at \$2.39 per gallon, down \$0.10 from the same week last year.

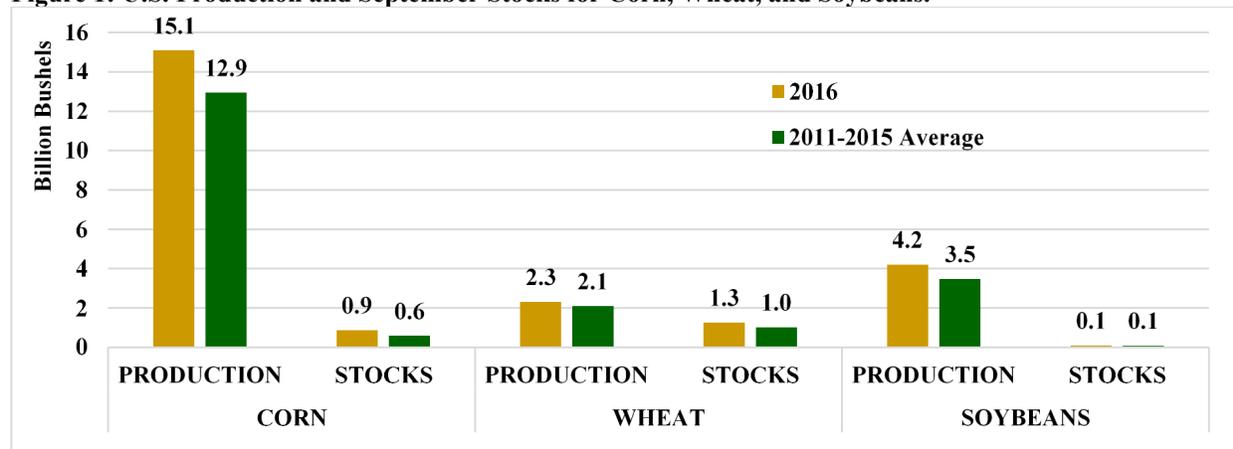
## Grain Storage Shortages and Transportation for the 2016 Fall Harvest

Grain storage is an important link between the production and transportation of grain. The availability of storage gives farmers and elevators the ability to determine when to sell and move product, instead of being tied to whenever the grain is harvested. While farmers and elevators are able to store some grain temporarily on the ground or in temporary bins, a shortage of grain storage implies the need to move any additional grain produced relatively quickly. This article looks at the most recent grain stocks data from USDA’s National Agricultural Statistics Service (NASS) to better understand the types, volumes, and location of grain that is currently stored, where any shortages might exist, and where grain might be moving in the near future.

### Grain Production and September Stocks in 2016

Figure 1 shows the latest data on 2016 production projections and September grain stocks for corn, wheat, and soybeans, compared to the same time averaged over the prior 5 years.<sup>1</sup> First, it highlights the fact that this year is a record harvest. Corn production of 15.1 billion bushels is up 17 percent compared to the prior 5-year average. Similarly, soybean production of 4.2 billion bushels is up 21 percent and wheat production of 2.3 billion bushels is up 10 percent. The figure also shows that grain stocks were higher in September for each commodity compared to the prior 5-year average. Corn stocks were up 47 percent, soybean stocks were up 22 percent, and wheat stocks were up 25 percent. Total stocks of 4.8 billion bushels (including corn, soybeans, wheat, barley, oats, and sorghum) were 31 percent higher than the 5-year average.

**Figure 1: U.S. Production and September Stocks for Corn, Wheat, and Soybeans.**



Source: National Agricultural Statistics Service; authors’ calculations.

Figure 1 has locational and transportation implications. The high levels of corn and soybean production and stocks will likely translate into higher levels of barge movements down the river to be exported out of the Gulf. Increased barge shipments may come from Illinois, Indiana, Missouri, and Iowa, which are each projected to produce more than 150 million bushels of corn and soybeans compared to last year.<sup>2</sup> Similarly, rail transportation of corn and soybeans to the Gulf and the Pacific Northwest (PNW) will likely also be high. Trucking will also benefit from higher movements of corn and soybeans for feed and

<sup>1</sup> Production data come from NASS’ monthly [Crop Production](#) report (“September” is the latest release as of this writing), and grain stocks data come from NASS’ quarterly release of the [Grain Stocks](#) report. Current and historical data can be retrieved and downloaded from [Quick Stats](#).

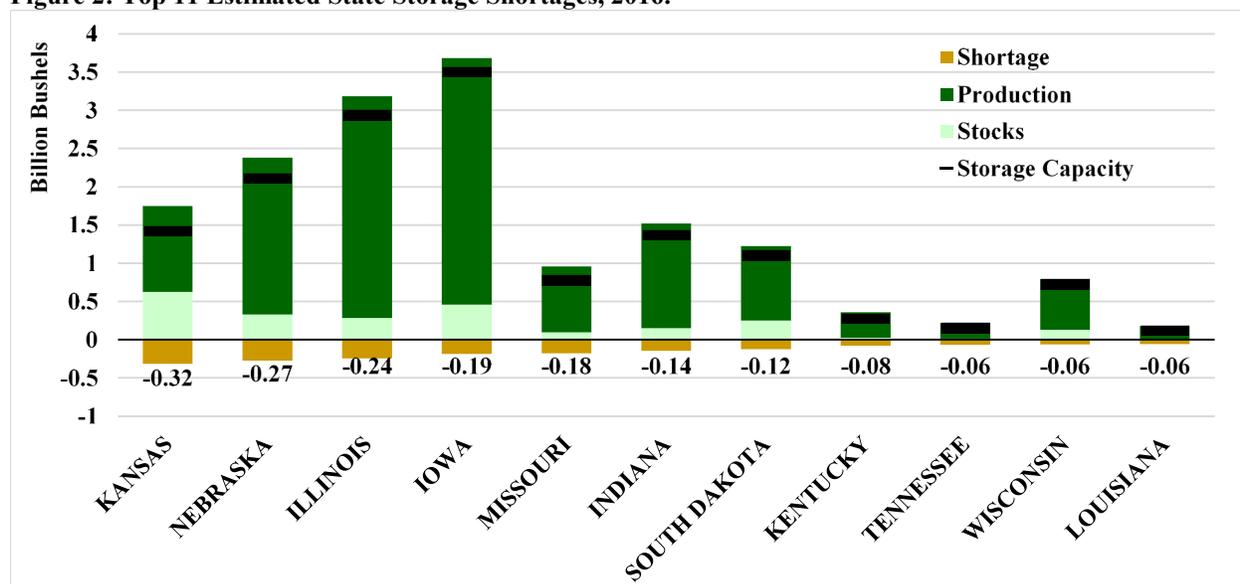
<sup>2</sup> Growth in corn and soybean production from last year is expected to occur in over 20 States, most notably Illinois (+343 million bushels compared to 2015), Indiana (+270 million bushels), Missouri (+237 million bushels), Iowa (+166 million bushels), Kansas (+139 million bushels), and North Dakota (+131 million bushels).

industrial use. The larger wheat stocks will mostly translate into high rail volumes into Texas and the PNW. However, the timing of these movements is unclear. Storage enables farmers and elevators to hold grain for months. Therefore, to get a sense of the grain that will be moving in the near future, we compare State-level production and stocks to storage capacity.

### State-Level Examination of 2016 Storage Shortages

Figure 2 combines December 2015 storage capacity data with the production and stock data to provide a State-by-State estimate of storage shortages. The shortage is equal to the difference between total storage capacity (off- plus on-farm) and the sum of production (new crop corn, soybeans, and sorghum) and stocks (old crop corn, old crop soybeans, wheat, old crop sorghum, barley, and oats) for each State, and the figure shows the 11 States with the largest storage shortages.<sup>1</sup>

**Figure 2: Top 11 Estimated State Storage Shortages, 2016.**



Source: National Agricultural Statistics Service; authors' calculations.

While figure 2 combines commodities, it shows trends similar to figure 1. The States with the largest storage shortages are high-producing corn or soybean States, like Kansas (320 million-bushel (mbu) shortage), Nebraska (270 mbu), Illinois (240 mbu), and Iowa (190 mbu). These shortages represent an indicator of transportation demand over the next few months.

According to the 2014 Commodity Waybill Sample from the Surface Transportation Board, about 40 percent of Kansas rail shipments of corn went directly to Mexico. Another 40 percent were domestic rail shipments to States like Arkansas and Oklahoma, likely for feed and other use. About 55 percent of Nebraska corn shipments went to California, and 15 percent to Texas, both likely for export. Illinois and Iowa shortages will affect both rail and barge. In-State movements, likely to barge loading facilities, hold the largest share of rail shipments in both States. Additionally, 16 percent of Illinois shipments went to Texas, and 21 percent of Iowa shipments went to California. The grain storage shortages in each of these States are likely to result in additional movements along these routes over the next few months.

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<sup>1</sup> The “production” variable only includes corn, soybeans, and sorghum because they are the relevant new crops after September 1. For earlier findings on the subject, see the *Grain Transportation Reports* dated [10/16/14](#) and [10/15/15](#).

# Grain Transportation Indicators

Table 1

**Grain Transport Cost Indicators<sup>1</sup>**

| For the week ending | Truck |       | Rail    |     | Barge | Ocean |         |
|---------------------|-------|-------|---------|-----|-------|-------|---------|
|                     | Unit  | Train | Shuttle |     |       | Gulf  | Pacific |
| 10/05/16            | 160   | 268   | 259     | 243 | 134   | 117   |         |
| 09/28/16            | 160   | 270   | 250     | 297 | 135   | 117   |         |

<sup>1</sup>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)**

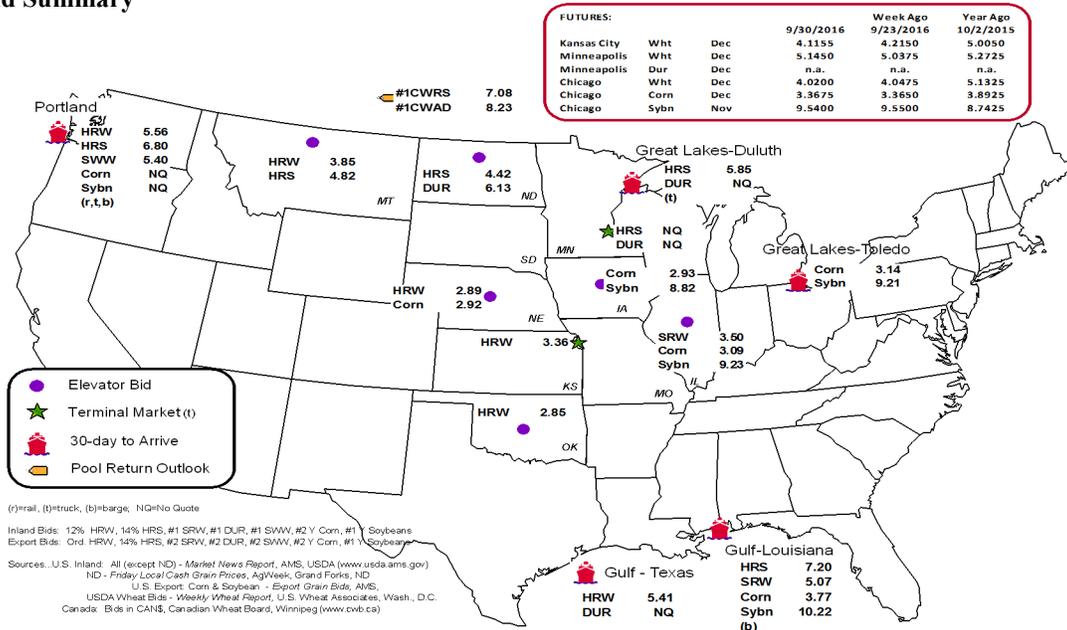
| Commodity | Origin--Destination | 9/30/2016 | 9/23/2016 |
|-----------|---------------------|-----------|-----------|
| Corn      | IL--Gulf            | -0.68     | -0.69     |
| Corn      | NE--Gulf            | -0.85     | -0.88     |
| Soybean   | IA--Gulf            | -1.40     | -1.41     |
| HRW       | KS--Gulf            | -2.05     | -2.00     |
| HRS       | ND--Portland        | -2.38     | -2.35     |

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)<sup>1</sup>

| For the Week Ending                           | Mississippi |            | Pacific   | Atlantic & | Total   | Week ending      | Cross-Border Mexico <sup>3</sup> |
|---|-------------|------------|-----------|------------|---------|------------------|----------------------------------|
|   | Gulf        | Texas Gulf | Northwest | East Gulf  |         |                  |                                  |
| 9/28/2016 <sup>p</sup>                        | 1,054       | 2,548      | 6,369     | 374        | 10,345  | 9/24/2016        | 2,403                            |
| 9/21/2016 <sup>r</sup>                        | 656         | 2,159      | 4,593     | 154        | 7,562   | 9/17/2016        | 2,738                            |
| 2016 YTD <sup>r</sup>                         | 17,573      | 61,094     | 203,382   | 13,363     | 295,412 | 2016 YTD         | 80,157                           |
| 2015 YTD <sup>r</sup>                         | 14,018      | 45,548     | 153,033   | 15,893     | 228,492 | 2015 YTD         | 70,915                           |
| 2016 YTD as % of 2015 YTD                     | 125         | 134        | 133       | 84         | 129     | % change YTD     | 113                              |
| Last 4 weeks as % of 2015 <sup>2</sup>        | 1,226       | 183        | 204       | 287        | 230     | Last 4wks % 2015 | 104                              |
| Last 4 weeks as % of 4-year avg. <sup>2</sup> | 708         | 111        | 190       | 235        | 189     | 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                           |

<sup>1</sup> Data is incomplete as it is voluntarily provided

<sup>2</sup> Compared with same 4-weeks in 2015 and prior 4-year average.

<sup>3</sup> 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.

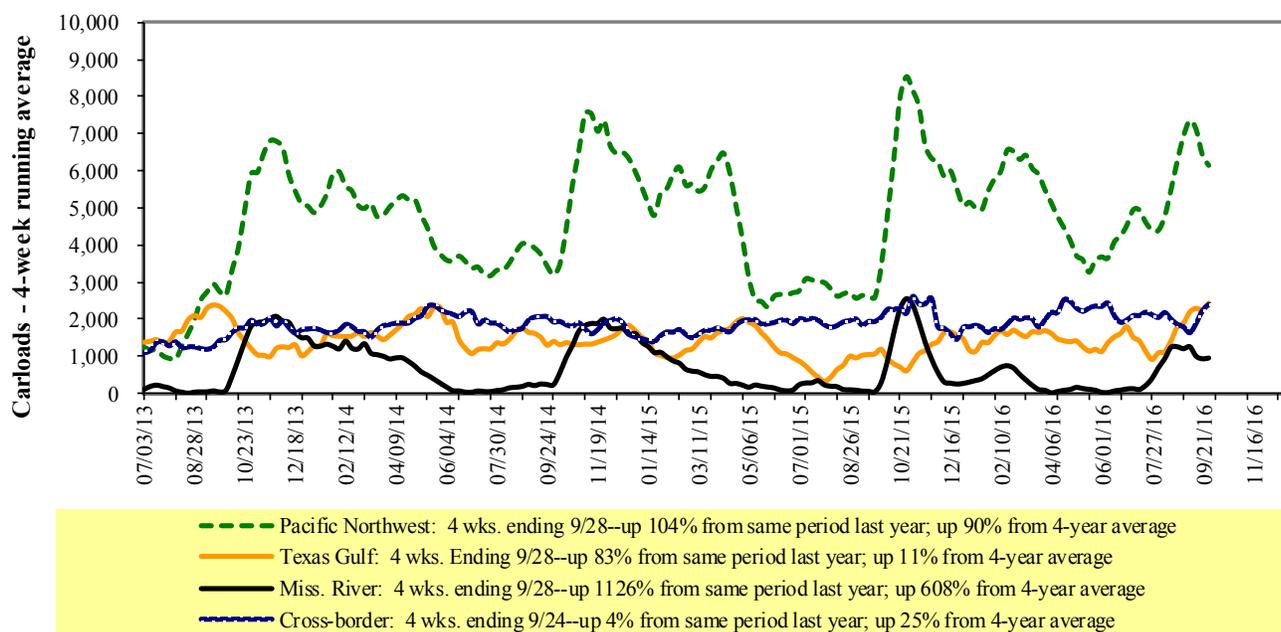
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

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)**

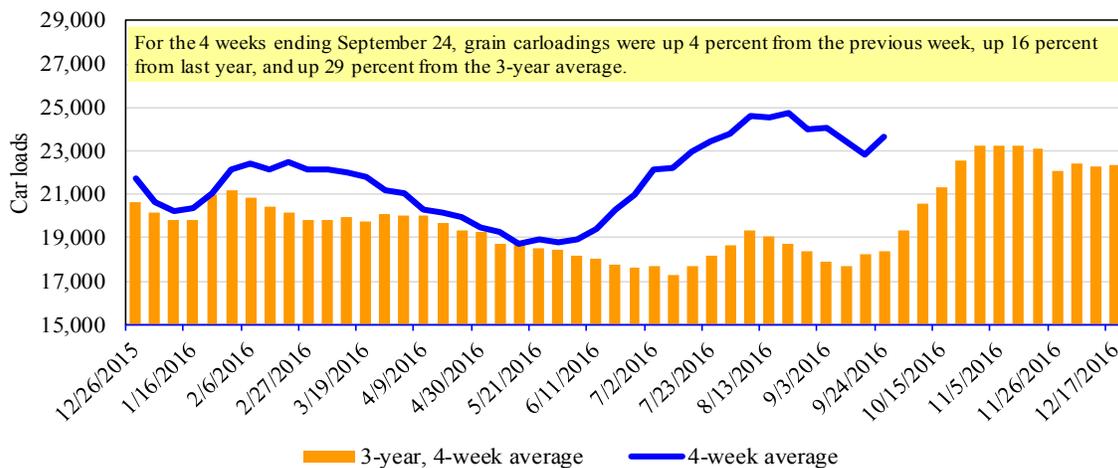
| For the week ending:             | East    |         | West    |        |         | U.S. total | Canada  |         |
|----------------------------------|---------|---------|---------|--------|---------|------------|---------|---------|
|                                  | CSXT    | NS      | BNSF    | KCS    | UP      |            | CN      | CP      |
| 9/24/2016                        |         |         |         |        |         |            |         |         |
| This week                        | 2,129   | 2,225   | 13,156  | 1,369  | 6,250   | 25,129     | 4,156   | 6,090   |
| This week last year              | 2,108   | 2,407   | 11,168  | 1,192  | 5,357   | 22,232     | 3,545   | 3,861   |
| 2016 YTD                         | 63,866  | 103,371 | 420,318 | 32,325 | 209,707 | 829,587    | 126,959 | 167,816 |
| 2015 YTD                         | 73,972  | 109,033 | 375,865 | 33,988 | 193,705 | 786,563    | 150,383 | 169,209 |
| 2016 YTD as % of 2015 YTD        | 86      | 95      | 112     | 95     | 108     | 105        | 84      | 99      |
| Last 4 weeks as % of 2015*       | 101     | 92      | 120     | 78     | 132     | 116        | 106     | 112     |
| Last 4 weeks as % of 3-yr avg.** | 116     | 118     | 132     | 92     | 139     | 129        | 97      | 107     |
| 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 Offerings<sup>1</sup> (\$/car)<sup>2</sup>**

| For the week ending: |                                   | <u>Delivery period</u> |         |          |         |          |         |         |         |
|----------------------|-----------------------------------|------------------------|---------|----------|---------|----------|---------|---------|---------|
| 9/29/2016            |                                   | Oct-16                 | Oct-15  | Nov-16   | Nov-15  | Dec-16   | Dec-15  | Jan-17  | Jan-16  |
| BNSF <sup>3</sup>    | COT grain units                   | no offer               | no bids | no offer | no bids | no bids  | no bids | no bids | no bids |
|                      | COT grain single-car <sup>5</sup> | 179                    | 0       | no offer | 0       | no bids  | no bids | 9       | 1       |
| UP <sup>4</sup>      | 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 | no bids | no offer | no bids | n/a     | n/a     |

<sup>1</sup>Auction offerings are for single-car and unit train shipments only.

<sup>2</sup>Average premium/discount to tariff, last auction

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

<sup>4</sup>UP - GCAS = Grain Car Allocation System

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

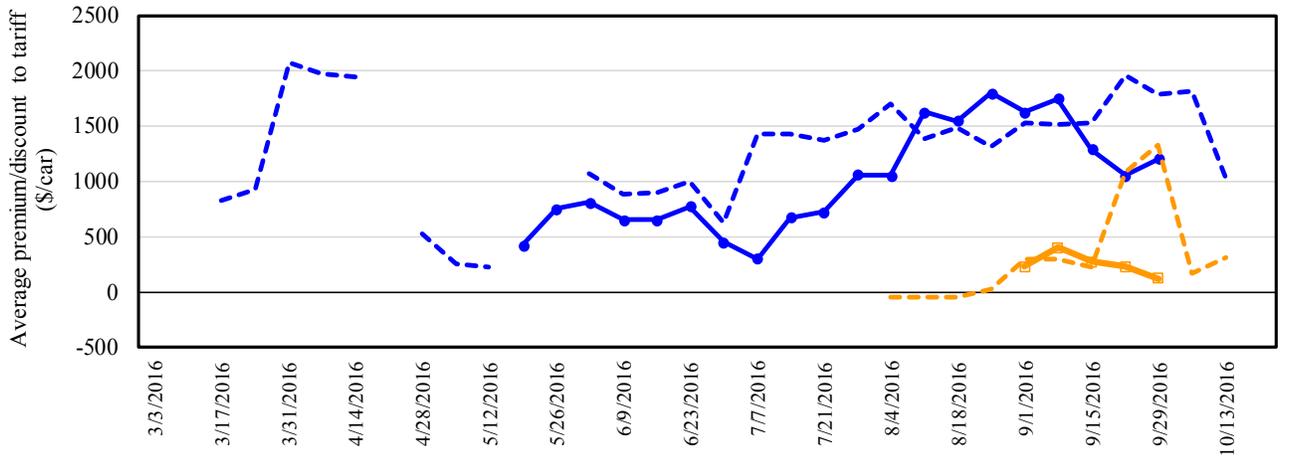
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

<sup>5</sup>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 October 2016, Secondary Market**

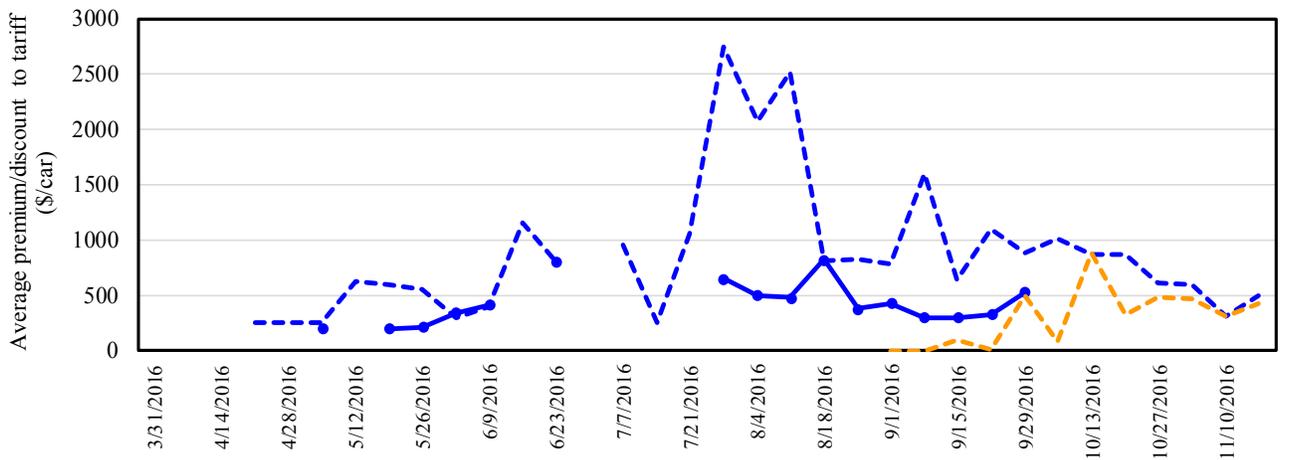


|                    | BNSF    | UP      |
|--------------------|---------|---------|
| 9/29/2016          |         |         |
| <b>Non-Shuttle</b> | \$119   | n/a     |
| <b>Shuttle</b>     | \$1,300 | \$1,100 |

Shuttle prior 3-yr avg. (same week)      Non-Shuttle prior 3-yr avg. (same week)  
 Average Non-shuttle bids/offers fell \$106 this week, and are \$281 below the peak.  
 Average Shuttle bids/offers rose \$150 this week and are \$600 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**



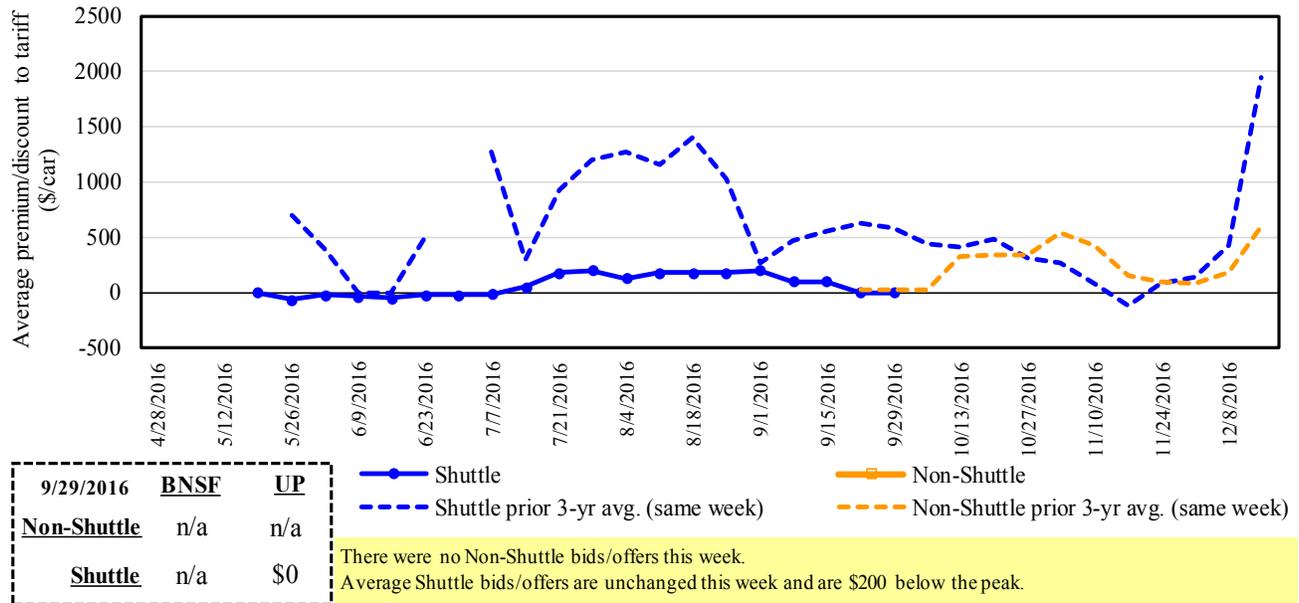
|                    | BNSF  | UP    |
|--------------------|-------|-------|
| 9/29/2016          |       |       |
| <b>Non-Shuttle</b> | n/a   | n/a   |
| <b>Shuttle</b>     | \$750 | \$300 |

Shuttle prior 3-yr avg. (same week)      Non-Shuttle prior 3-yr avg. (same week)  
 There were no Non-Shuttle bids/offers this week.  
 Average Shuttle bids/offers rose \$200 this week and are \$300 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)<sup>1</sup>**

| For the week ending: |                            | Delivery period |            |            |            |            |            |
|----------------------|----------------------------|-----------------|------------|------------|------------|------------|------------|
|                      |                            | 9/29/2016       | Oct-16     | Nov-16     | Dec-16     | Jan-17     | Feb-17     |
| <b>Non-shuttle</b>   | <b>BNSF-GF</b>             | <b>119</b>      | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> |
|                      | Change from last week      | (81)            | n/a        | n/a        | n/a        | n/a        | n/a        |
|                      | Change from same week 2015 | 69              | n/a        | n/a        | n/a        | n/a        | n/a        |
|                      | <b>UP-Pool</b>             | <b>n/a</b>      | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> |
|                      | Change from last week      | n/a             | n/a        | n/a        | n/a        | n/a        | n/a        |
|                      | Change from same week 2015 | n/a             | n/a        | n/a        | n/a        | n/a        | n/a        |
| <b>Shuttle</b>       | <b>BNSF-GF</b>             | <b>1300</b>     | <b>750</b> | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> | <b>n/a</b> |
|                      | Change from last week      | (50)            | 250        | n/a        | n/a        | n/a        | n/a        |
|                      | Change from same week 2015 | 906             | 872        | n/a        | n/a        | n/a        | n/a        |
|                      | <b>UP-Pool</b>             | <b>1100</b>     | <b>300</b> | <b>0</b>   | <b>50</b>  | <b>n/a</b> | <b>n/a</b> |
|                      | Change from last week      | 350             | 150        | 0          | 100        | n/a        | n/a        |
|                      | Change from same week 2015 | 800             | 425        | 100        | n/a        | n/a        | n/a        |

<sup>1</sup>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<sup>1</sup>**

| Effective date:      |                      | Origin region*        | Destination region* | Tariff rate/car | Fuel surcharge per car | Tariff plus surcharge per: |        | Percent change Y/Y <sup>3</sup> |
|----------------------|----------------------|-----------------------|---------------------|-----------------|------------------------|----------------------------|--------|---------------------------------|
| 10/1/2016            | metric ton           |                       |                     |                 |                        | bushel <sup>2</sup>        |        |                                 |
| <b>Unit train</b>    |                      |                       |                     |                 |                        |                            |        |                                 |
| 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     |                                 |
| <b>Shuttle Train</b> |                      |                       |                     |                 |                        |                            |        |                                 |
| 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                          |        |                                 |

<sup>1</sup>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.

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

<sup>3</sup>Percentage 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 <sup>1</sup> | Fuel surcharge per car <sup>2</sup> | Tariff plus surcharge per: |                     | Percent change <sup>4</sup> Y/Y |
|-----------|--------------|----------------------|------------------------------|-------------------------------------|----------------------------|---------------------|---------------------------------|
|           |              |                      |                              |                                     | metric ton <sup>3</sup>    | bushel <sup>3</sup> |                                 |
| 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                              |

<sup>1</sup>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.

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

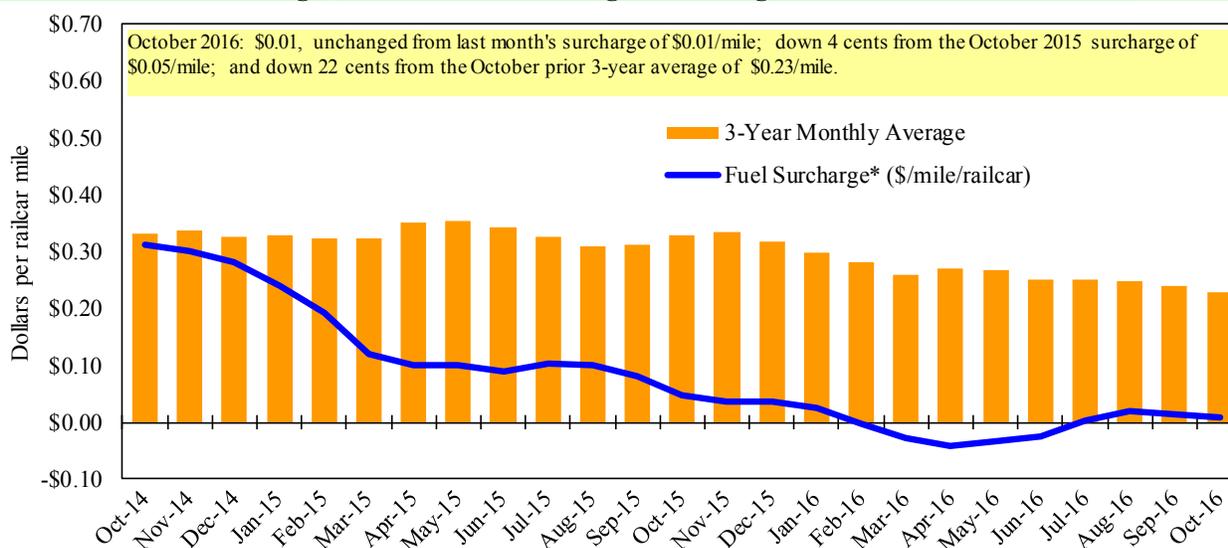
<sup>3</sup>Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu

<sup>4</sup>Percentage 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 Average<sup>1</sup>**



<sup>1</sup> 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<sup>1,2</sup>



<sup>1</sup>Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); <sup>2</sup>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 |
|--|--------------------------|-------------|-----------------|----------------------|-----------|------------|------------|---------------|
| <b>Rate<sup>1</sup></b>                          | 10/4/2016                | 475         | 500             | 438                  | 375       | 438        | 438        | 385           |
|  | 9/27/2016                | 550         | 538             | 535                  | 420       | 525        | 525        | 400           |
| <b>\$/ton</b>                                    | 10/4/2016                | 29.40       | 26.60           | 20.32                | 14.96     | 20.54      | 17.70      | 12.09         |
|  | 9/27/2016                | 34.05       | 28.62           | 24.82                | 16.76     | 24.62      | 21.21      | 12.56         |
| <b>Current week % change from the same week:</b> |                          |             |                 |                      |           |            |            |               |
|  | Last year                | -20         | -15             | -26                  | -25       | -25        | -25        | -20           |
|  | 3-year avg. <sup>2</sup> | -25         | -24             | -34                  | -41       | -39        | -39        | -39           |
| <b>Rate<sup>1</sup></b>                          | November                 | 488         | 437             | 388                  | 325       | 362        | 362        | 283           |
|  | January                  | -           | -               | 375                  | 268       | 313        | 313        | 235           |

<sup>1</sup>Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); <sup>2</sup>4-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:

(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.

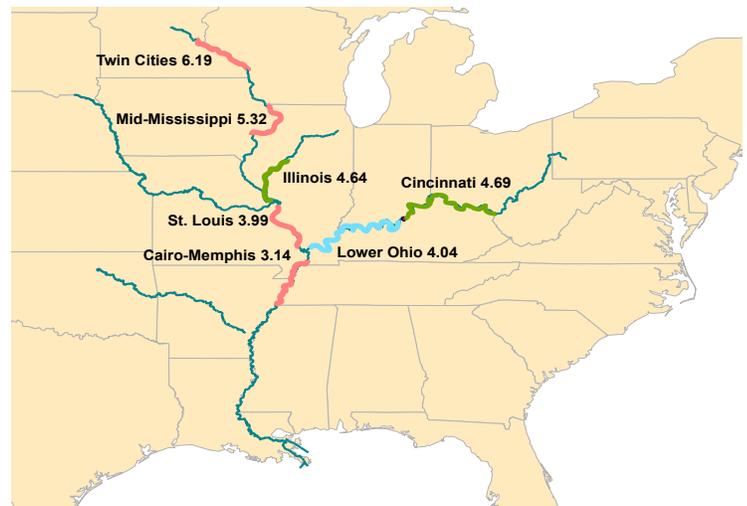
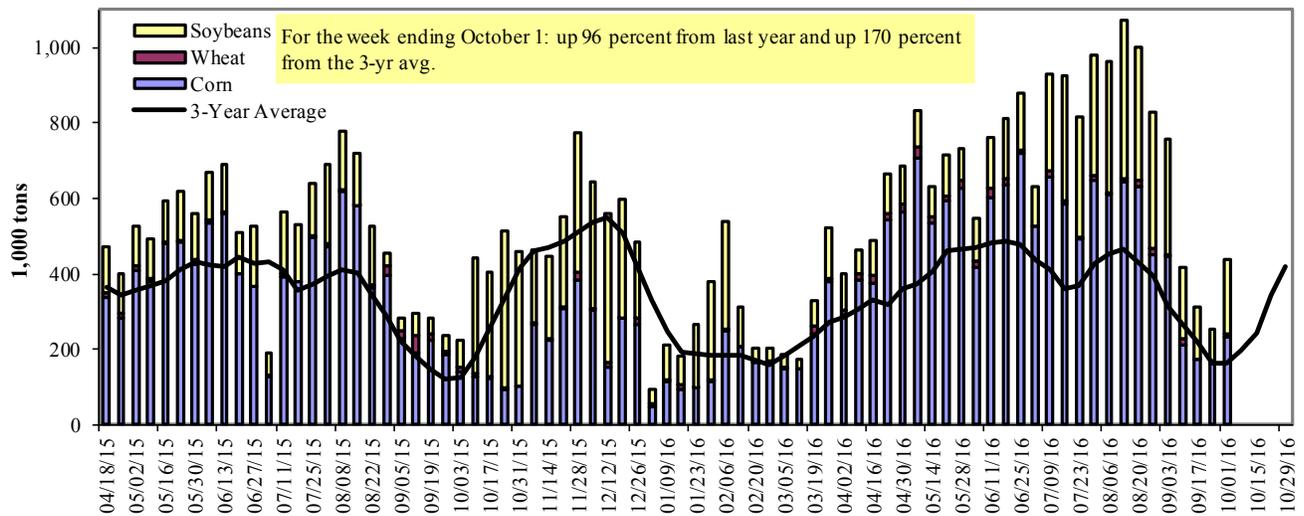


Figure 10

**Barge Movements on the Mississippi River<sup>1</sup> (Locks 27 - Granite City, IL)**



<sup>1</sup> 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 10/01/2016         | Corn   | Wheat | Soybeans | Other | Total  |
|--|--------|-------|----------|-------|--------|
| <b>Mississippi River</b>               |        |       |          |       |        |
| Rock Island, IL (L15)                  | 25     | 3     | 14       | 0     | 42     |
| Winfield, MO (L25)                     | 127    | 6     | 99       | 6     | 239    |
| Alton, IL (L26)                        | 207    | 6     | 188      | 6     | 408    |
| Granite City, IL (L27)                 | 232    | 8     | 196      | 6     | 442    |
| <b>Illinois River (L8)</b>             | 38     | 0     | 97       | 0     | 135    |
| <b>Ohio River (L52)</b>                | 112    | 0     | 60       | 0     | 172    |
| <b>Arkansas River (L1)</b>             | 4      | 11    | 62       | 4     | 81     |
| Weekly total - 2016                    | 348    | 19    | 318      | 11    | 695    |
| Weekly total - 2015                    | 324    | 25    | 527      | 6     | 882    |
| 2016 YTD <sup>1</sup>                  | 18,889 | 1,722 | 9,347    | 275   | 30,233 |
| 2015 YTD                               | 15,615 | 1,517 | 7,513    | 218   | 24,862 |
| 2016 as % of 2015 YTD                  | 121    | 114   | 124      | 126   | 122    |
| Last 4 weeks as % of 2015 <sup>2</sup> | 114    | 90    | 99       | 104   | 105    |
| Total 2015                             | 19,215 | 1,686 | 14,191   | 359   | 35,451 |

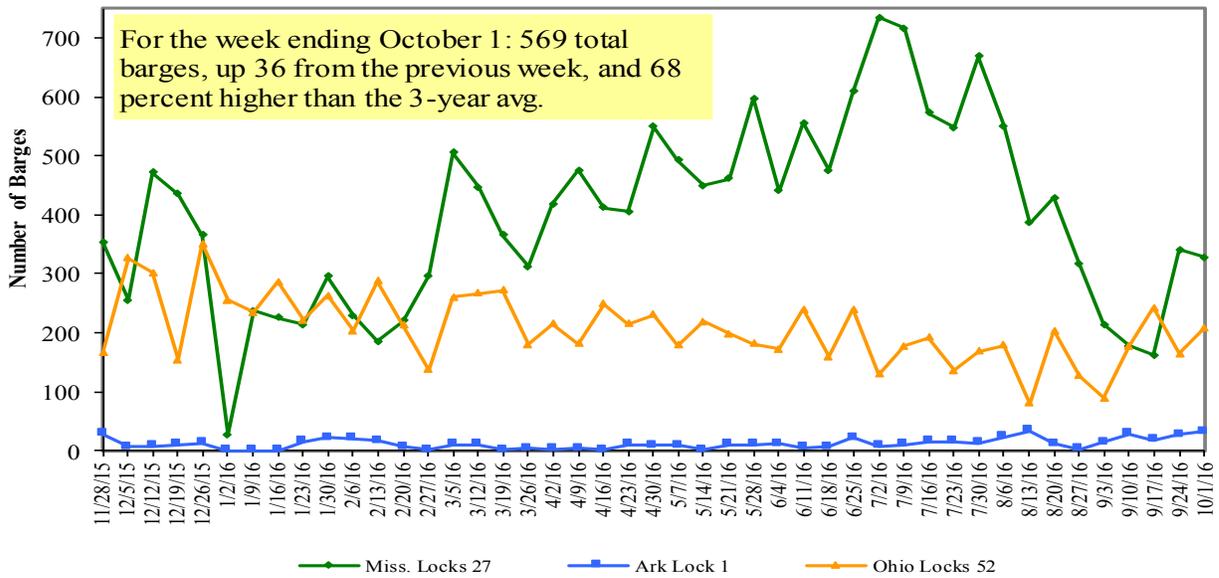
<sup>1</sup> Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/52, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

<sup>2</sup> As a percent of same period in 2015.

Note: Total may not add exactly, due to rounding

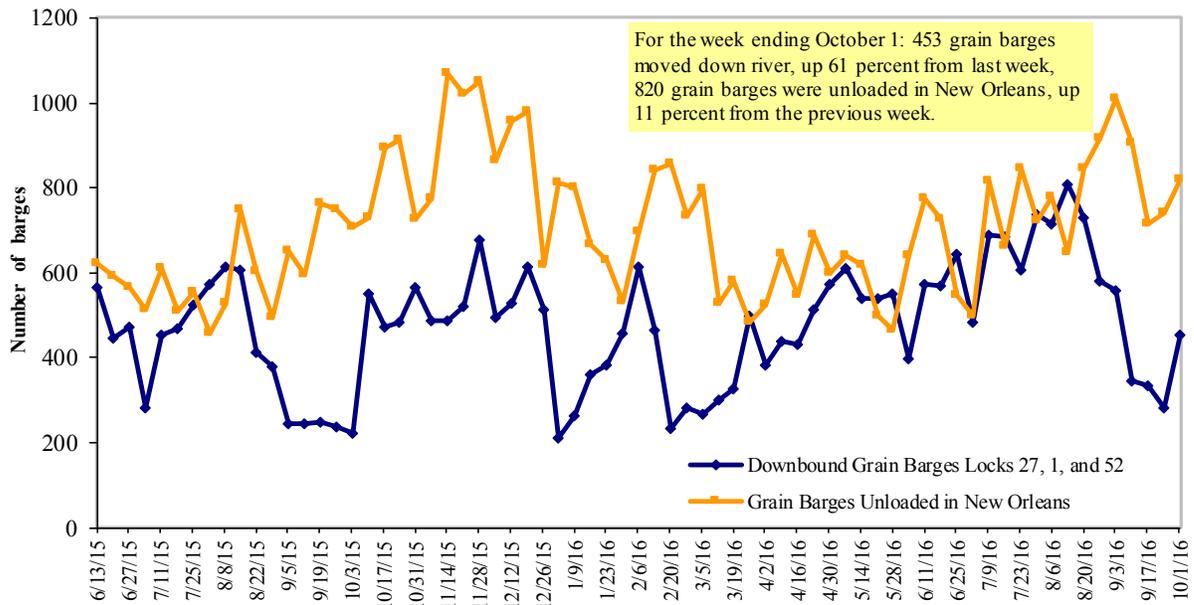
Source: U.S. Army Corps of Engineers

**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 Prices<sup>1</sup>, Week Ending 10/03/2016 (US \$/gallon)**

| Region | Location                   | Price | Change from |          |
|--------|----------------------------|-------|-------------|----------|
|        |                            |       | Week ago    | Year ago |
| I      | East Coast                 | 2.398 | 0.005       | -0.126   |
|        | New England                | 2.414 | 0.016       | -0.162   |
|        | Central Atlantic           | 2.486 | -0.003      | -0.145   |
|        | Lower Atlantic             | 2.327 | 0.009       | -0.105   |
| II     | Midwest <sup>2</sup>       | 2.356 | -0.003      | -0.133   |
| III    | Gulf Coast <sup>3</sup>    | 2.250 | 0.020       | -0.073   |
| IV     | Rocky Mountain             | 2.467 | 0.002       | -0.034   |
| V      | West Coast                 | 2.658 | 0.018       | -0.036   |
|        | West Coast less California | 2.524 | 0.009       | -0.036   |
|        | California                 | 2.766 | 0.027       | -0.037   |
| Total  | U.S.                       | 2.389 | 0.007       | -0.103   |

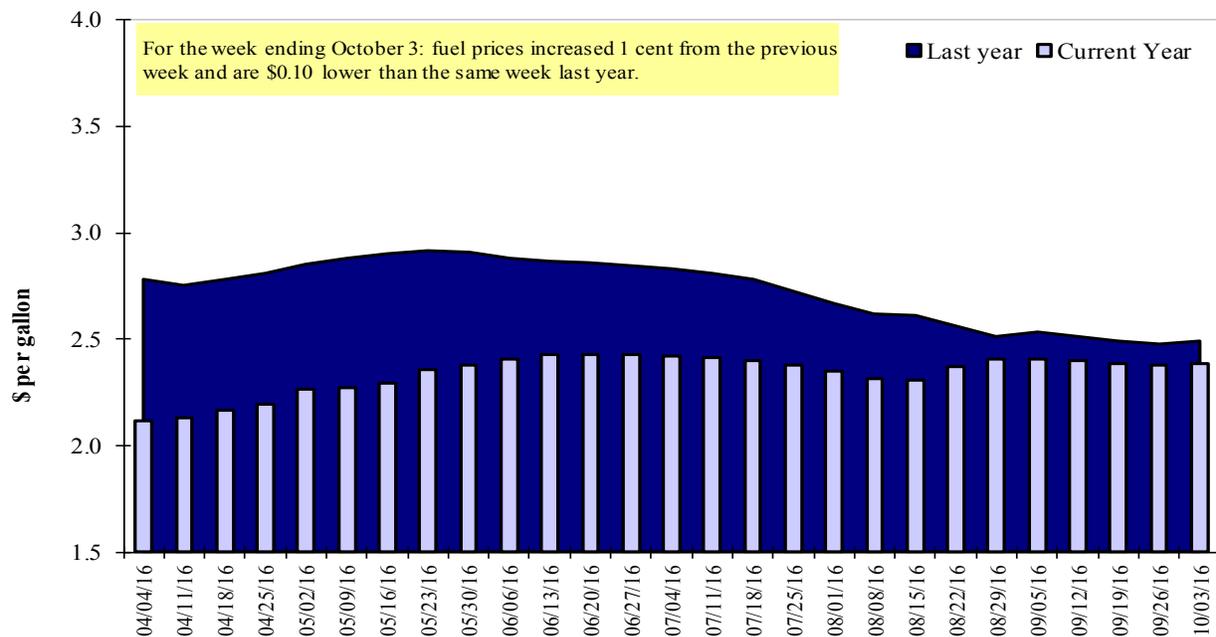
<sup>1</sup>Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

<sup>2</sup>Same as North Central <sup>3</sup>Same as South Central

Source: Energy Information Administration/U.S. Department of Energy ([www.eia.doe.gov](http://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 |        |          |         |
| <b>Export Balances<sup>1</sup></b>                   |       |       |       |       |     |           |        |          |         |
| 9/22/2016  | 2,115 | 457   | 1,460 | 979   | 67  | 5,078     | 14,501 | 23,701   | 43,280  |
| This week year ago                                   | 1,075 | 553   | 1,412 | 839   | 153 | 4,032     | 7,831  | 19,242   | 31,104  |
| <b>Cumulative exports-marketing year<sup>2</sup></b> |       |       |       |       |     |           |        |          |         |
| 2016/17 YTD  | 3,874 | 768   | 2,805 | 1,381 | 135 | 8,962     | 4,042  | 2,413    | 15,417  |
| 2015/16 YTD  | 1,986 | 1,444 | 2,142 | 1,105 | 348 | 7,024     | 2,683  | 1,359    | 11,066  |
| YTD 2016/17 as % of 2015/16                          | 195   | 53    | 131   | 125   | 39  | 128       | 151    | 178      | 139     |
| Last 4 wks as % of same period 2015/16               | 202   | 93    | 76    | 114   | 52  | 133       | 196    | 118      | 139     |
| 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 |

<sup>1</sup> Current unshipped (outstanding) export sales to date

<sup>2</sup> 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](http://www.fas.usda.gov))

Table 13

## Top 5 Importers<sup>1</sup> of U.S. Corn

| For the week ending 9/22/2016                                 | Total Commitments <sup>2</sup> |                    | % change<br>current MY<br>from last MY | Exports <sup>3</sup><br>3-year avg<br>2013-2015 |
|---|--------------------------------|--------------------|--|---|
|   | 2016/17<br>Current MY          | 2015/16<br>Last MY |  |   |
|   | - 1,000 mt -                   |                    |  | - 1,000 mt -                                    |
| Japan   | 2,432                          | 1,683              | 44                                     | 10,997  |
| Mexico  | 4,926                          | 4,360              | 13                                     | 11,542  |
| Korea   | 1,042                          | 124                | 744                                    | 3,933   |
| Colombia  | 1,045                          | 782                | 34                                     | 3,994   |
| Taiwan  | 656                            | 205                | 219                                    | 1,991   |
| <b>Top 5 Importers</b>  | <b>10,100</b>                  | <b>7,154</b>       | <b>41</b>                              | <b>32,457</b>                                   |
| <b>Total US corn export sales</b>                             | <b>18,543</b>                  | <b>10,514</b>      | <b>76</b>                              | <b>47,026</b>                                   |
| % of Projected  | 34%                            | 22%                |  |   |
| Change from prior week  | 575                            | 748                |  |   |
| <b>Top 5 importers' share of U.S.<br/>corn export sales</b>   | 54%                            | 68%                |  | 69%   |
| <b>USDA forecast, September 2016</b>                          | <b>55,344</b>                  | <b>48,728</b>      | <b>14</b>                              |   |
| <b>Corn Use for Ethanol USDA<br/>forecast, September 2016</b> | <b>133,985</b>                 | <b>132,080</b>     | <b>1</b>                               |   |

(n) indicates negative number.

<sup>1</sup>Based on FAS Marketing Year Ranking Reports - [www.fas.usda.gov](http://www.fas.usda.gov); Marketing year (MY) = Sep 1 - Aug 31.

<sup>2</sup>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  
Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--  
<http://www.fas.usda.gov/esrquery/>

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

Table 14

**Top 5 Importers<sup>1</sup> of U.S. Soybeans**

| For the week ending 9/22/2016                                  | Total Commitments <sup>2</sup> |                    | % change<br>current MY<br>from last MY | Exports <sup>3</sup><br>3-yr avg.<br>2013-2015 |
|--|--------------------------------|--------------------|--|--|
|  | 2016/17<br>Current MY          | 2015/16<br>Last MY |  |  |
|  | - 1,000 mt -                   |                    |  | - 1,000 mt -                                   |
| China  | 11,140                         | 8,469              | 32                                     | 29,033   |
| Mexico   | 1,141                          | 1,042              | 9                                      | 3,295  |
| Indonesia  | 330                            | 264                | 25                                     | 2,065  |
| Japan  | 648                            | 845                | (23)                                   | 1,994  |
| Taiwan   | 602                            | 332                | 82                                     | 1,226  |
| <b>Top 5 importers</b>   | <b>13,860</b>                  | <b>10,951</b>      | <b>27</b>                              | <b>37,614</b>                                  |
| <b>Total US soybean export sales</b>                           | <b>26,113</b>                  | <b>20,600</b>      | <b>27</b>                              | <b>39,169</b>                                  |
| % of Projected   | 48%                            | 39%                |  |  |
| Change from prior week   | <b>1,693</b>                   | <b>2,458</b>       |  |  |
| <b>Top 5 importers' share of U.S.<br/>soybean export sales</b> | 53%                            | 53%                |  | <b>96%</b>                                     |
| <b>USDA forecast, September 2016</b>                           | <b>54,087</b>                  | <b>52,861</b>      | <b>2</b>                               |  |

(n) indicates negative number.

<sup>1</sup> Based on FAS Marketing Year Ranking Reports - [www.fas.usda.gov](http://www.fas.usda.gov); Marketing year (MY) = Sep 1 - Aug 31.<sup>2</sup> 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<sup>3</sup> FAS Marketing Year Final Reports - [www.fas.usda.gov/export-sales/myfi\\_rpt.htm](http://www.fas.usda.gov/export-sales/myfi_rpt.htm). (Carryover plus Accumulated Exports)

Table 15

**Top 10 Importers<sup>1</sup> of All U.S. Wheat**

| For the week ending 9/22/2016                                 | Total Commitments <sup>2</sup> |                    | % change<br>current MY<br>from last MY | Exports <sup>3</sup><br>3-yr avg<br>2013-2015 |
|---|--------------------------------|--------------------|--|---|
|   | 2016/17<br>Current MY          | 2015/16<br>Last MY |  |   |
|   | - 1,000 mt -                   |                    |  | - 1,000 mt -                                  |
| Japan   | 1,179                          | 1,109              | 6                                      | 2,743   |
| Mexico  | 1,399                          | 1,120              | 25                                     | 2,660   |
| Nigeria   | 637                            | 919                | (31)                                   | 1,978   |
| Philippines   | 1,486                          | 1,071              | 39                                     | 2,156   |
| Brazil  | 896                            | 310                | 189                                    | 2,076   |
| Korea   | 727                            | 571                | 27                                     | 1,170   |
| Taiwan  | 463                            | 508                | (9)                                    | 1,005   |
| Indonesia   | 458                            | 193                | 137                                    | 776   |
| Colombia  | 424                            | 344                | 24                                     | 679   |
| Thailand  | 309                            | 137                | 126                                    | 618   |
| <b>Top 10 importers</b>                                       | <b>7,669</b>                   | <b>6,145</b>       | <b>25</b>                              | <b>15,861</b>                                 |
| <b>Total US wheat export sales</b>                            | <b>14,041</b>                  | <b>11,056</b>      | <b>27</b>                              | <b>24,485</b>                                 |
| % of Projected  | 54%                            | 52%                |  |   |
| Change from prior week  | <b>571</b>                     | <b>77</b>          |  |   |
| <b>Top 10 importers' share of U.S.<br/>wheat export sales</b> | 55%                            | 56%                |  | 65%   |
| <b>USDA forecast, September 2016</b>                          | <b>25,886</b>                  | <b>21,117</b>      | <b>23</b>                              |   |

(n) indicates negative number.

<sup>1</sup> Based on FAS Marketing Year Ranking Reports - [www.fas.usda.gov](http://www.fas.usda.gov); Marketing year = Jun 1 - May 31.<sup>2</sup> 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<sup>3</sup> FAS Marketing Year Final Reports - [www.fas.usda.gov/export-sales/myfi\\_rpt.htm](http://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<br>09/29/16 | Previous<br>Week* | Current Week<br>as % of Previous | 2016 YTD*     | 2015 YTD*     | 2016 YTD as<br>% of 2015 YTD | Last 4-weeks as % of: |                  | 2015 Total*    |
|--------------------------------|---------------------------------|-------------------|----------------------------------|---------------|---------------|------------------------------|-----------------------|------------------|----------------|
|                                |                                 |                   |                                  |               |               |                              | Last Year             | Prior 3-yr. avg. |                |
| <b>Pacific Northwest</b>       |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 252                             | 455               | 55                               | 9,865         | 8,670         | 114                          | 100                   | 94               | 10,985         |
| Corn                           | 479                             | 315               | 152                              | 10,312        | 6,936         | 149                          | 507                   | 642              | 7,232          |
| Soybeans                       | 279                             | 0                 | n/a                              | 5,543         | 4,259         | 130                          | 285                   | 828              | 11,809         |
| <b>Total</b>                   | <b>1,011</b>                    | <b>771</b>        | <b>131</b>                       | <b>25,720</b> | <b>19,865</b> | <b>129</b>                   | <b>187</b>            | <b>197</b>       | <b>30,027</b>  |
| <b>Mississippi Gulf</b>        |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 37                              | 104               | 36                               | 2,862         | 3,669         | 78                           | 54                    | 42               | 4,504          |
| Corn                           | 647                             | 773               | 84                               | 24,412        | 22,497        | 109                          | 178                   | 167              | 26,701         |
| Soybeans                       | 813                             | 375               | 217                              | 18,427        | 14,494        | 127                          | 121                   | 145              | 29,593         |
| <b>Total</b>                   | <b>1,497</b>                    | <b>1,253</b>      | <b>119</b>                       | <b>45,702</b> | <b>40,660</b> | <b>112</b>                   | <b>132</b>            | <b>136</b>       | <b>60,797</b>  |
| <b>Texas Gulf</b>              |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 272                             | 281               | 97                               | 4,318         | 3,033         | 142                          | 287                   | 159              | 3,724          |
| Corn                           | 95                              | 113               | 84                               | 1,389         | 520           | 267                          | 280                   | 550              | 596            |
| Soybeans                       | 0                               | 0                 | n/a                              | 92            | 210           | 44                           | n/a                   | 0                | 864            |
| <b>Total</b>                   | <b>367</b>                      | <b>393</b>        | <b>93</b>                        | <b>5,799</b>  | <b>3,763</b>  | <b>154</b>                   | <b>285</b>            | <b>193</b>       | <b>5,184</b>   |
| <b>Interior</b>                |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 39                              | 38                | 102                              | 1,110         | 1,145         | 97                           | 128                   | 131              | 1,388          |
| Corn                           | 178                             | 112               | 159                              | 5,425         | 4,821         | 113                          | 98                    | 127              | 6,201          |
| Soybeans                       | 57                              | 29                | 200                              | 2,908         | 2,319         | 125                          | 73                    | 111              | 3,518          |
| <b>Total</b>                   | <b>274</b>                      | <b>179</b>        | <b>153</b>                       | <b>9,444</b>  | <b>8,285</b>  | <b>114</b>                   | <b>97</b>             | <b>125</b>       | <b>11,106</b>  |
| <b>Great Lakes</b>             |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 75                              | 49                | 152                              | 801           | 786           | 102                          | 123                   | 129              | 997            |
| Corn                           | 0                               | 3                 | 0                                | 452           | 454           | 99                           | 154                   | 208              | 485            |
| Soybeans                       | 0                               | 0                 | n/a                              | 159           | 89            | 180                          | n/a                   | n/a              | 733            |
| <b>Total</b>                   | <b>75</b>                       | <b>52</b>         | <b>143</b>                       | <b>1,412</b>  | <b>1,329</b>  | <b>106</b>                   | <b>129</b>            | <b>142</b>       | <b>2,216</b>   |
| <b>Atlantic</b>                |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 0                               | 0                 | n/a                              | 201           | 475           | 42                           | 3                     | 2                | 520            |
| Corn                           | 41                              | 12                | 343                              | 138           | 196           | 70                           | 112                   | 106              | 277            |
| Soybeans                       | 13                              | 2                 | 663                              | 1,101         | 1,001         | 110                          | 369                   | 627              | 2,053          |
| <b>Total</b>                   | <b>54</b>                       | <b>14</b>         | <b>391</b>                       | <b>1,439</b>  | <b>1,672</b>  | <b>86</b>                    | <b>96</b>             | <b>77</b>        | <b>2,850</b>   |
| <b>U.S. total from ports**</b> |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 676                             | 928               | 73                               | 19,157        | 17,779        | 108                          | 115                   | 95               | 22,118         |
| Corn                           | 1,440                           | 1,328             | 108                              | 42,127        | 35,423        | 119                          | 197                   | 210              | 41,492         |
| Soybeans                       | 1,162                           | 406               | 286                              | 28,230        | 22,372        | 126                          | 129                   | 164              | 48,570         |
| <b>Total</b>                   | <b>3,278</b>                    | <b>2,662</b>      | <b>123</b>                       | <b>89,515</b> | <b>75,574</b> | <b>118</b>                   | <b>148</b>            | <b>151</b>       | <b>112,180</b> |

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

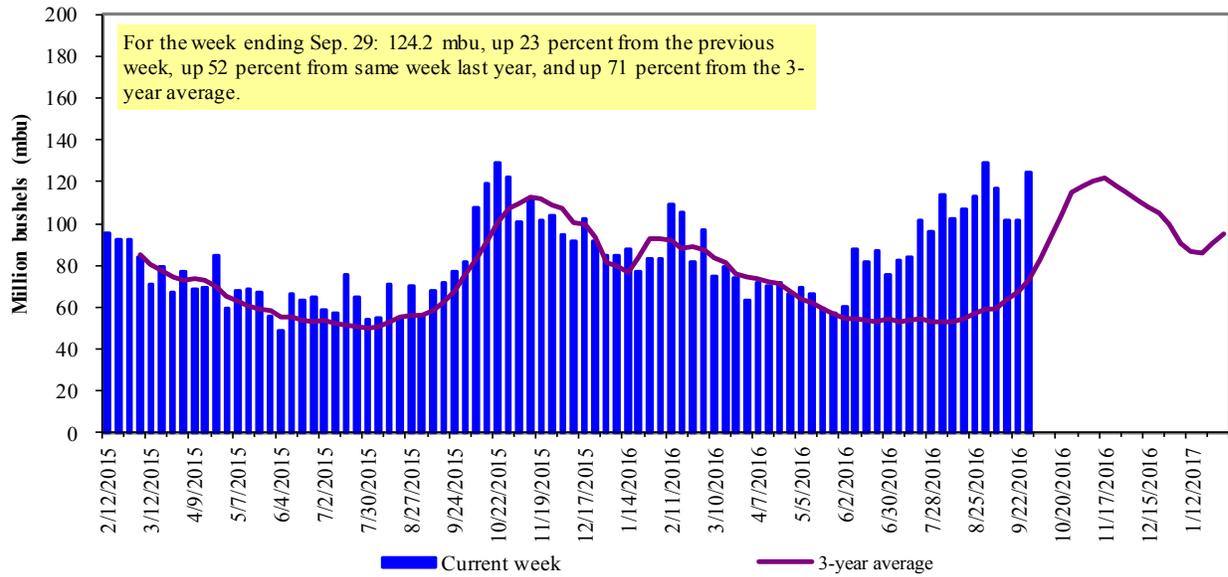
\*\*Total only includes regions shown above

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

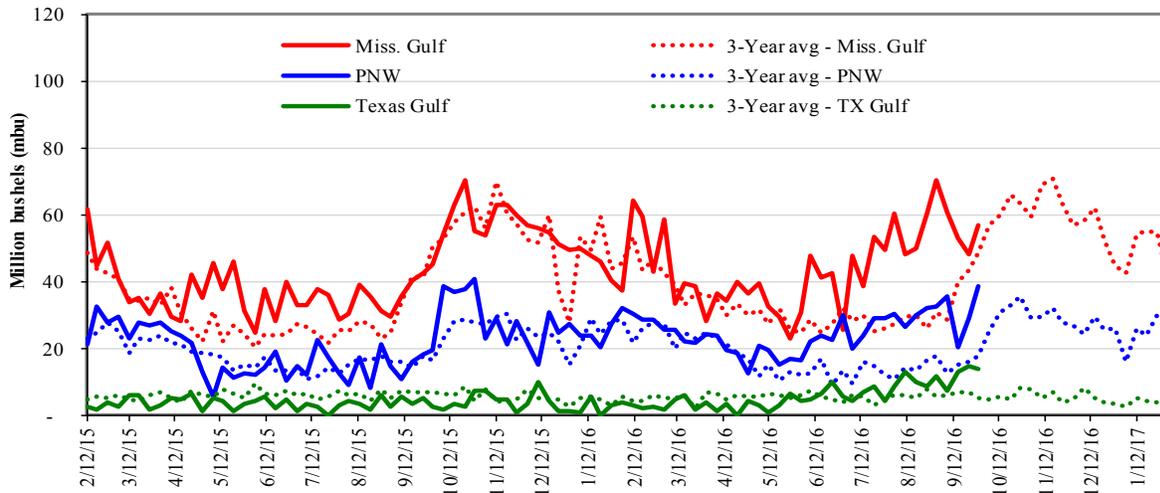
**U.S. grain inspected for export (wheat, corn, and soybeans)**



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 PNW<sup>1</sup> (wheat, corn, and soybeans)**



| Week ending 09/29/16 inspections (mbu): |      | Percent change from:        |               |                |                 |           |
|---|------|-----------------------------|---------------|----------------|-----------------|-----------|
| Mississippi Gulf:                       | 56.7 | Last Week:                  | MS Gulf up 18 | TX Gulf down 7 | U.S. Gulf up 12 | PNW up 32 |
| PNW:                                    | 38.4 | Last Year (same week):      | up 25         | up 400         | up 47           | up 95     |
| Texas Gulf:                             | 13.7 | 3-yr avg. (4-wk. mov. Avg): | up 42         | up 120         | up 52           | up 150    |

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

# Ocean Transportation

Table 17

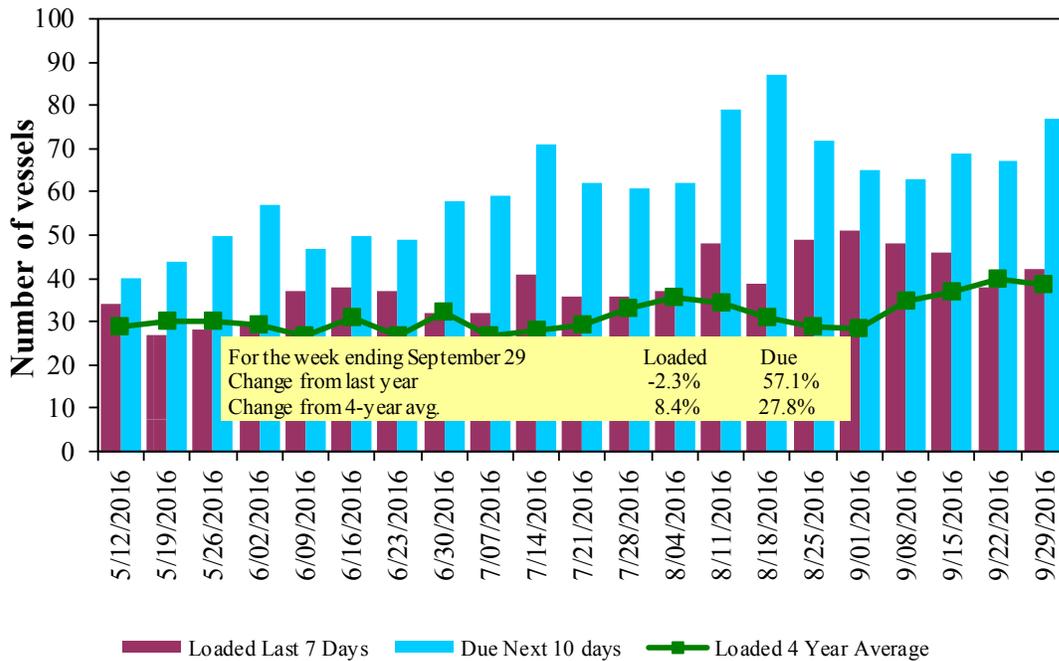
**Weekly Port Region Grain Ocean Vessel Activity (number of vessels)**

| Date       | Gulf     |               |                  | Pacific Northwest | Vancouver B.C. |
|------------|----------|---------------|------------------|-------------------|----------------|
|            | In port  | Loaded 7-days | Due next 10-days | In port           | In port        |
| 9/29/2016  | 53       | 42            | 77               | 14                | n/a            |
| 9/22/2016  | 52       | 38            | 67               | 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

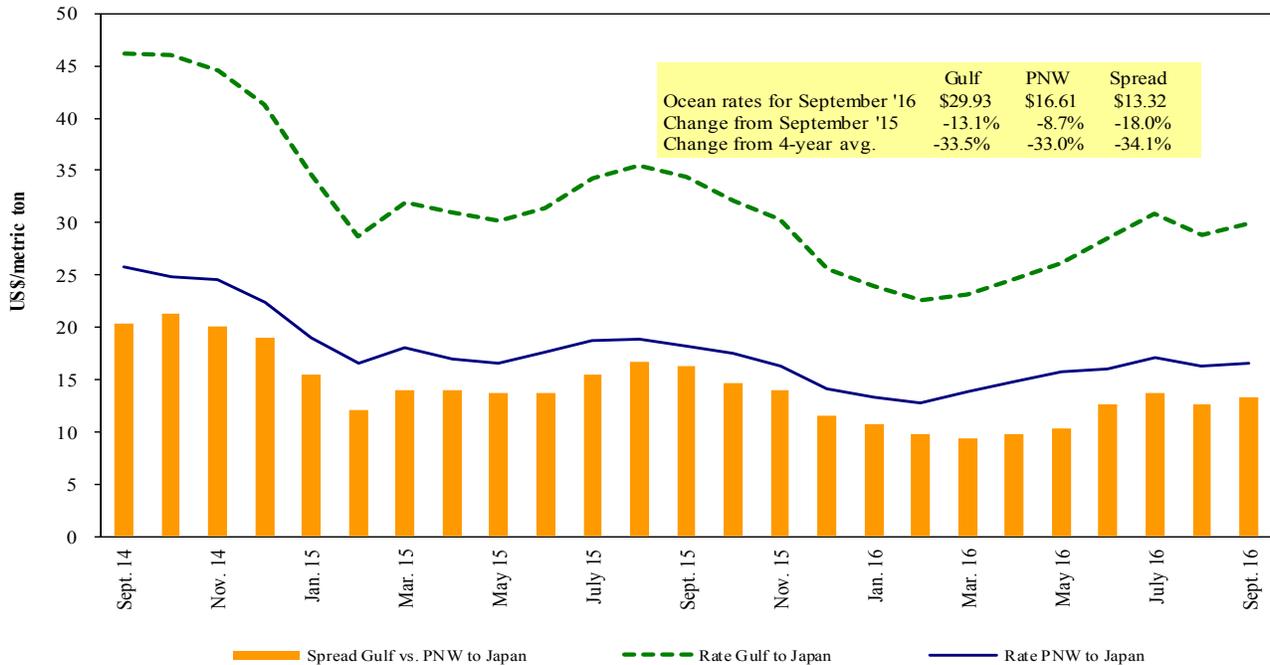
**U.S. Gulf Vessel Loading Activity**



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 10/01/2016**

| Export region | Import region | Grain types | Loading date | Volume loads (metric tons) | Freight rate (US\$/metric ton) |
|---------------|---------------|-------------|--------------|----------------------------|--------------------------------|
| U.S. Gulf     | China         | Heavy Grain | Oct 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     | China         | Heavy Grain | Aug 15/25    | 60,000                     | 26.75                          |
| 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                          |
| 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                          |
| River Plate   | Algeria       | Corn        | Sep 24/28    | 40,000                     | 19.50                          |
| 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

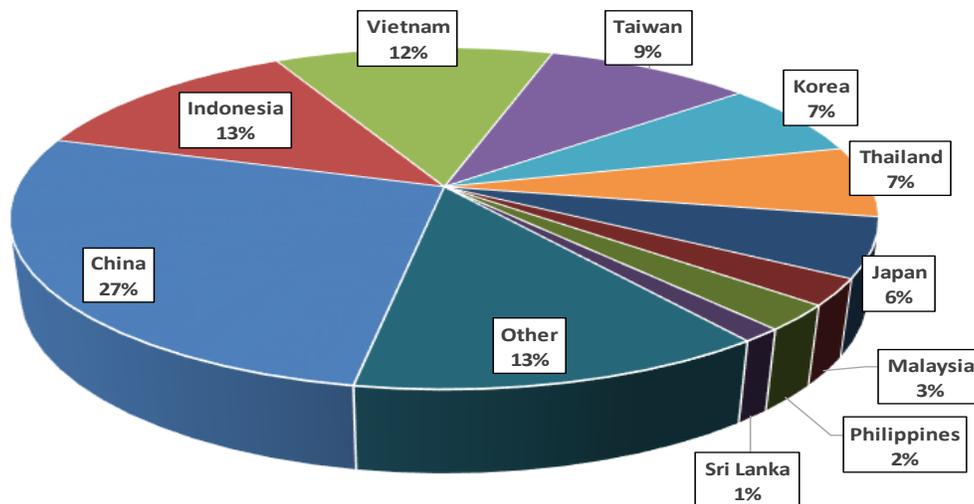
\*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

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**

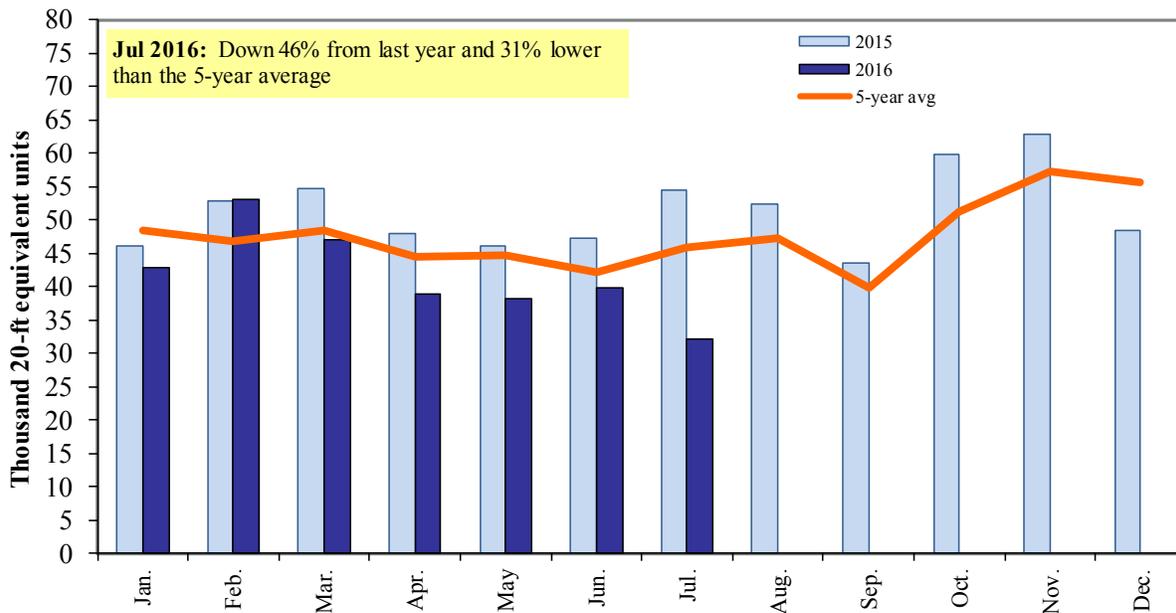


Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data

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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Preferred citation: U.S. Dept. of Agriculture, Agricultural Marketing Service. *Grain Transportation Report*. October 6, 2016. Web: <http://dx.doi.org/10.9752/TS056.10-06-2016>

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