



# Grain Transportation Report

A weekly publication of the Agricultural Marketing Service  
[www.ams.usda.gov/GTR](http://www.ams.usda.gov/GTR)

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March 24 2016

## WEEKLY HIGHLIGHTS

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#### Panama Canal Trains Workforce on Operating New Locks...

On March 17, the Panama Canal Authority announced that over one thousand workers are receiving training on the operations of the new locks of the Panama Canal expansion. Personnel participating in the training include future operators and lockmasters of Agua Clara (Atlantic) and Cocoli (Pacific) Locks, engineers, systems reliability, and information technology personnel. The training is a requirement under the new lock's contract and will be offered by different projects' subcontractors responsible for the electrochemical equipment. The courses will be standardized and offered to additional personnel after the completion of the initial phase of the training. Human resources instructors will also attend the courses as they become certified in offering these courses to other Canal workers.

#### ... and Announces Draft Restrictions Due to El Niño Phenomenon

As previously anticipated in two earlier advisories (see 03/03/16 [Grain Transportation Report](#)), the Panama Canal Authority announced that draft restrictions will be imposed on vessels transiting the canal starting April 18, 2016. The restrictions are imposed as temporary and preventive measures to mitigate the effects of anticipated climatic variability related to El Niño. The maximum authorized transit draft is set at 11.89 meters (39.0 feet). The restrictions will be waived for vessels loaded over 11.89 meters (39.0 feet), prior to or on March 21. Vessels loaded after March 21, shall comply with the new draft limitation. Depending on the level of Gatun Lake at the time of transit, vessels may be required to trim or off-load cargo if they are over 11.89 meters (39.0) in draft. Draft restrictions will be implemented in 15-centimeter (6-inch) decrements at a time, with each restriction announced at least 4 weeks in advance. For more information, see <https://www.pancanal.com/common/maritime/advisories/2016/a-12-2016.pdf>

#### Mississippi Gulf Grain Inspections Rebound

For the week ending March 17, **total inspections of grain** (corn, wheat, soybeans) for export from all major export regions reached 2.1 million metric tons (mmt), up 5 percent from the past week, unchanged from last year, and 3 percent below the 3-year average. Wheat and corn inspections increased 15 and 23 percent, respectively, from the previous week. Soybean inspections, however, decreased 20 percent for the same period. Mississippi Gulf grain inspections rebounded, increasing 19 percent from the past week and 12 percent from the same time last year. Pacific Northwest (PNW) grain inspections were down 14 percent from the past week. Outstanding export sales (unshipped) of grain were up for corn but down for wheat and soybeans.

### Snapshots by Sector

#### **Export Sales**

During the week ending March 10, **unshipped balances** of wheat, corn, and soybeans totaled 20.6 mmt, down 21 percent from the same time last year. Net weekly **wheat export sales** of .213 mmt were down 35 percent from the previous week. Net **corn export sales** were 1.23 mmt, up 11 percent from the previous week, and net **soybean export sales** were .561 mmt, up 19 percent from the past week.

#### **Rail**

U.S. Class I railroads originated 21,802 **grain carloads** for the week ending March 12, down 2 percent from the previous week, down 4 percent from last year, and up 9 percent from the 3-year average.

Average April shuttle **secondary railcar bids/offers** per car were \$206 below tariff for the week ending March 17, down \$31 from last week, and \$138 lower than last year. There were no non-shuttle secondary railcar bids/offers this week.

#### **Barge**

For the week ending March 19, **barge grain movements** totaled 513,312 tons, 5 percent higher than last week, and down 8 percent from the same period last year.

For the week ending March 19, 327 grain barges **moved down river**, up 9 percent from last week; 579 grain barges were **unloaded in New Orleans**, up 9 percent from the previous week.

#### **Ocean**

For the week ending March 17, 36 **ocean-going grain vessels** were loaded in the Gulf, 9 percent more than the same period last year. Fifty-one vessels are expected to be loaded within the next 10 days, 6 percent less than the same period last year.

For the week ending March 17, the ocean freight rate for shipping bulk grain from the Gulf to Japan was \$23.00 per metric ton, 2 percent more than the previous week. The cost of shipping from the PNW to Japan was \$14.00 per metric ton, unchanged from the previous week.

#### **Fuel**

During the week ending March 21, U.S. average **diesel fuel prices** increased 2 cents from the previous week at \$2.12 per gallon, down \$0.75 from the same week last year.

# Feature Article/Calendar

## Canada Grain Transportation: A Comparative Look at Export Logistics and Impacts on U.S. Grain Transportation

### Background

The Canadian grain production system is dynamic and complex and transportation plays an important role. Canadian grain is produced in two major areas—about 58 percent in the Prairie Provinces of Western Canada (Alberta, Saskatchewan and Manitoba), and the other 42 percent in Quebec and Ontario (Figure 1).<sup>1</sup> The major grains produced in Canada are wheat, canola, barley, peas, soybeans and oats, which are usually planted in April and May, and harvested between August and September. The vast majority of Canadian grain is sold the year it is produced. Canada has a relatively small population that cannot use all the grain produced. Consequently, the majority of its grain is destined for export, including significant volumes transported by truck to U.S. millers, processors, feed manufacturers and other buyers. There is limited storage capacity in off-farm elevators and export grain is normally moved from the farms to ports as ships arrive. Canadian grain also moves by truck and rail to U.S. export facilities for re-export to foreign markets. Canadian growers export 70 percent of their wheat, 50 percent of their oilseeds, and 25 percent of their coarse grains.<sup>2</sup> Canada and the U.S. compete for the same major grain buyers: China, Japan and Mexico.

### Transportation Characteristics

According to the *Canada Transportation Act Review*, about 94 percent of all Canadian grain exports move by rail to port locations or to the U.S. and Mexico.<sup>3</sup> The rest is shipped by truck. Canadian shippers rely much more on rail than grain shippers in the U.S., where rail moves about 45 percent of grain exports to ports locations. The balance of U.S. export grain is moved by barge (45 percent) or truck (10 percent).<sup>4</sup>

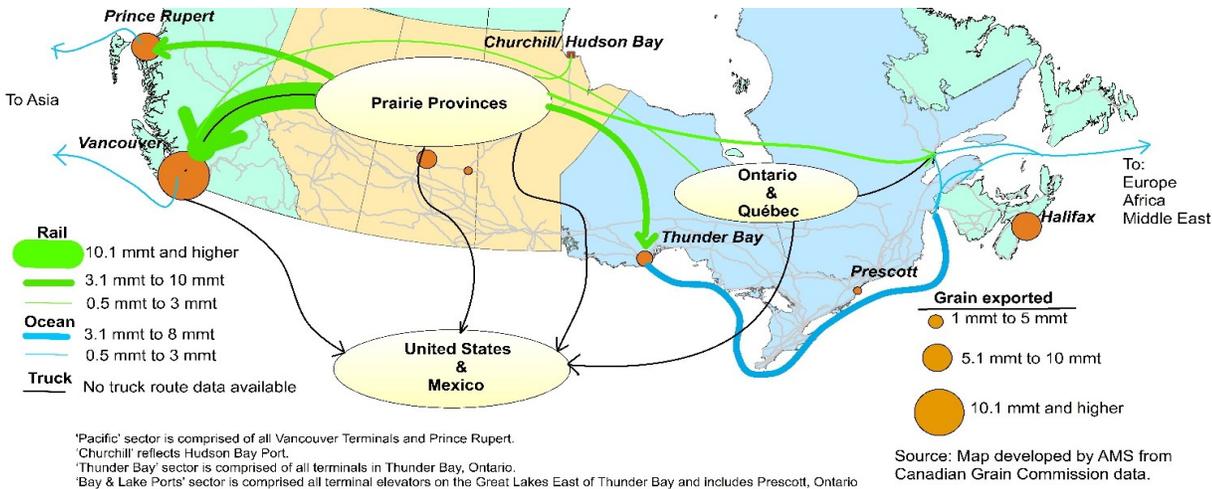
### Modal Flow to Export Ports

Canada has two Class I railroads, Canadian National (CN) and Canadian Pacific (CP). These two railroads control about 85 percent of the railroad tracks in Western Canada. In the U.S., seven Class I railroads (including CN and CP) share the grain market. Each Canadian railroad owns and operates its own rail lines in geographically distinct regions, and each company transports about half of the grain crops. CN operates mostly in the north, while CP has a strong presence in the south. Short line railroads haul the remaining 15 percent. According to the Canada Grain Commission, Canadian grain exported in 2014-2015 was shipped through several routes including: the Pacific West Coast route (Vancouver and Prince Rupert), at 26.7 million metric tons (mmt) or 67 percent; Thunder Bay at 2 mmt or 5 percent; the St. Lawrence Seaway to the east, at 6.8 mmt or 17 percent, and finally the south to the U.S. and Mexico, at 3 mmt or 8 percent, for a grand total of 39.7 mmt.<sup>5</sup> A smaller portion of the total shipments (about 1 percent each) is shipped through the Bay and Lakes ports and the northern ports of Churchill and Manitoba (see Figure 1 and Table 1). About 2 percent of Canadian grain is exported through American ports in the Pacific Northwest.

Table 1

| Canadian Grain Exported 2014/2015 |                  |       |
|-----------------------------------|------------------|-------|
| Export Ports Region               | In Thousand Tons | Share |
| Pacific                           | 26,720           | 67%   |
| Prairie Elevators                 | 3,050            | 8%    |
| Churchill                         | 525              | 1%    |
| Thunder Bay                       | 2,031            | 5%    |
| Bay & Lakes                       | 529              | 1%    |
| St. Lawrence                      | 6,817            | 17%   |
| Total                             | 39,671           | 100%  |

Figure 1: All Grains Modal Flow



<sup>1</sup> Transport Canada

<sup>2</sup> Transport Canada [http://www.tc.gc.ca/eng/ctareview2014/CTAR\\_Voll\\_EN.pdf](http://www.tc.gc.ca/eng/ctareview2014/CTAR_Voll_EN.pdf)

<sup>3</sup> Canada Transportation Act Review <http://www.tc.gc.ca/eng/ctareview2014/canada-transportation-act-review.html>

<sup>4</sup> <https://www.ams.usda.gov/sites/default/files/media/ModalJune2015.pdf> (5-year average)

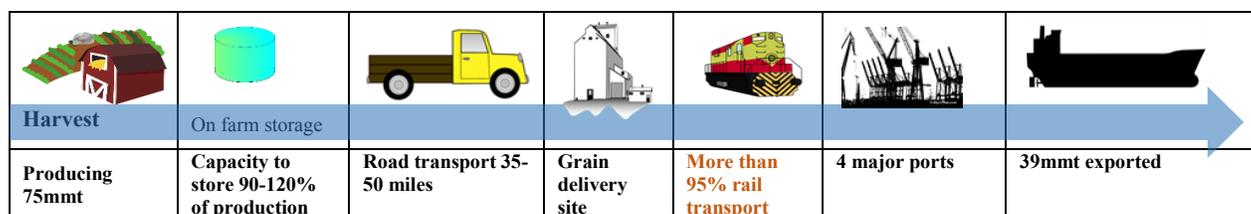
<sup>5</sup> Canadian Grain Commission [www.grainscanada.gc.ca](http://www.grainscanada.gc.ca)

## Supply Chain

Typically, Canadian farmers first move their harvest by truck to on-farm storage, and then later to inland elevators where it is moved to the ports by rail (Figure 2). Commercial grain handling systems in Canada have limited capacity to store crops at harvest. Western Canada relies on a delivery from farm to port to meet export demand on an as-needed basis.<sup>1</sup> In the Western region, the Canadian grain supply chain tends to operate a “pull” delivery system, where grain is moved from the farm to a delivery site and then directly to a port to be available for loading as the ship arrives. This “pull” delivery system is fostered by several factors, including a longer winter season that can restrict movements, varietal control on seeds planted in Canada, the lack of an inland waterway system and a high reliance on export markets to generate grain demand in the Western region. Meanwhile, Eastern Canada more closely resembles the United States in marketing export grain, although a greater percentage of Canadian exports are represented by specialty grains and container shipments than the United States.

In the United States, on-farm storage capacity – at about 13.2 billion bushels – is capable of storing approximately 55 percent of annual U.S. production. Another 11 billion bushels of storage is provided by off-farm commercial elevators.<sup>2</sup> From there, export grain is moved either by rail, truck, or barge to the export port. The combined elevator storage capacity in Canada (inland and at the ports) is no more than 20 percent of the average annual production.<sup>3</sup> In the United States, grain elevators can store up to 55 percent of the crop produced annually.<sup>4</sup> Most U.S. grain tends to move on a “push” system where typically a significant amount of grain is moved from a farm to a grain elevator or port storage immediately after harvest, waiting for a ship’s future arrival. In addition, domestic utilization of grains and oilseeds from the livestock, poultry, ethanol, grain processing and milling sectors represents major sources of demand in the United States that do not exist to the same degree in Canada. In the United States, elevator storage reduces risk for individual farms, lowers storage costs and provides good selling options to different buyers. These benefits to U.S. farmers are not available to Canadian farmers who store their grains on the farm. The U.S. export chains are also more flexible due to the availability of more export ports, thus increasing the option of using either road, rail or barge transport

**Figure 2: Grain flow for export supply chain in Canada**



Canada and the U.S. have common elements in the grain export scheme. Similar companies, buyers, and sellers operate on both sides of the border. However, there are differences in trading patterns, origin options, type of grain transported, and logistical options. There are also important differences in legislative and regulatory areas.

## Conclusion and Impacts on U.S. Grain Transportation

Although the United States and Canada are neighbors, their grain transportation systems are somewhat different. While the Canadian system relies more heavily on rail to move grain to export ports, the United States uses rail, barge, and truck to move its grain to the export ports. The use of storage is also different in the two countries. The Canadian transportation cost represents a larger portion of the total landed cost to Asia, compared to the United States. The two countries share the navigation through the Great Lakes and St. Lawrence Seaway, but both countries export relatively small quantities of their exports through the Seaway, thus exerting little or no significant impact on grain transportation and logistics. The countries share two Class I railroads (CN and CP) in the movement of their grains. Although the United States has five other Class I railroads, CN and CP move 17 percent of U.S. grains. Therefore, despite the fact that the railroads face different regulations in both countries, a significant disruption in Canadian railroad operations may also affect grain movements in the United States, especially in the regions served by the Canadian railroads. Usually, the Canadian rail system has complimented the extensive U.S. transportation network, making the U.S. landed costs to foreign markets competitive. [pierre.bahizi@ams.usda.gov](mailto:pierre.bahizi@ams.usda.gov), [surajudeen.olowolayemo@ams.usda.gov](mailto:surajudeen.olowolayemo@ams.usda.gov)

<sup>1</sup> Transport Canada [http://www.tc.gc.ca/eng/ctareview2014/CTAR\\_Vol1\\_EN.pdf](http://www.tc.gc.ca/eng/ctareview2014/CTAR_Vol1_EN.pdf)

<sup>2</sup> USDA, NASS

<sup>3</sup> Statistics Canada

<sup>4</sup> USDA, NASS - Grain Stocks

# 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 |    |
| 03/23/16            | 142   | 254  |       | 193     | 138   | 103     | 99 |
| 03/16/16            | 141   | 254  |       | 194     | 129   | 105     | 99 |

<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 | 3/18/2016 | 3/11/2016 |
|-----------|---------------------|-----------|-----------|
| Corn      | IL--Gulf            | -0.50     | -0.53     |
| Corn      | NE--Gulf            | -0.74     | -0.78     |
| Soybean   | IA--Gulf            | -1.05     | -1.00     |
| HRW       | KS--Gulf            | -1.12     | -1.22     |
| HRS       | ND--Portland        | -1.75     | -1.87     |

Note: nq = no quote

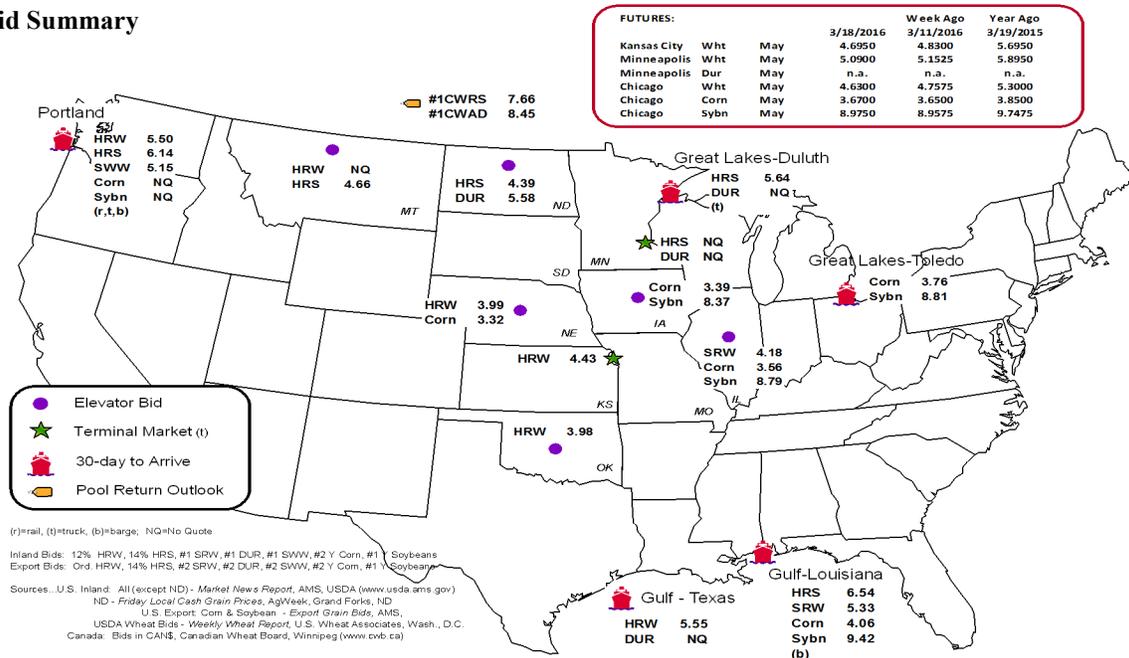
Source: Transportation & Marketing Programs/AMS/USDA

n/a: quotes are not available due to the holiday

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  |         |                  |                                  |
| 3/16/2016 <sup>p</sup>                        | 3           | 1,815      | 5,196     | 201        | 7,215   | 3/12/2016        | 1,862                            |
| 3/09/2016 <sup>r</sup>                        | 278         | 1,409      | 6,655     | 490        | 8,832   | 3/5/2016         | 1,936                            |
| 2016 YTD <sup>r</sup>                         | 5,072       | 16,897     | 65,777    | 6,879      | 94,625  | 2016 YTD         | 20,044                           |
| 2015 YTD <sup>r</sup>                         | 8,413       | 13,490     | 61,103    | 8,780      | 91,786  | 2015 YTD         | 17,627                           |
| 2016 YTD as % of 2015 YTD                     | 60          | 125        | 108       | 78         | 103     | % change YTD     | 114                              |
| Last 4 weeks as % of 2015 <sup>2</sup>        | 43          | 105        | 109       | 81         | 102     | Last 4wks % 2015 | 118                              |
| Last 4 weeks as % of 4-year avg. <sup>2</sup> | 42          | 137        | 127       | 73         | 113     | Last 4wks % 4 yr | 119                              |
| 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.

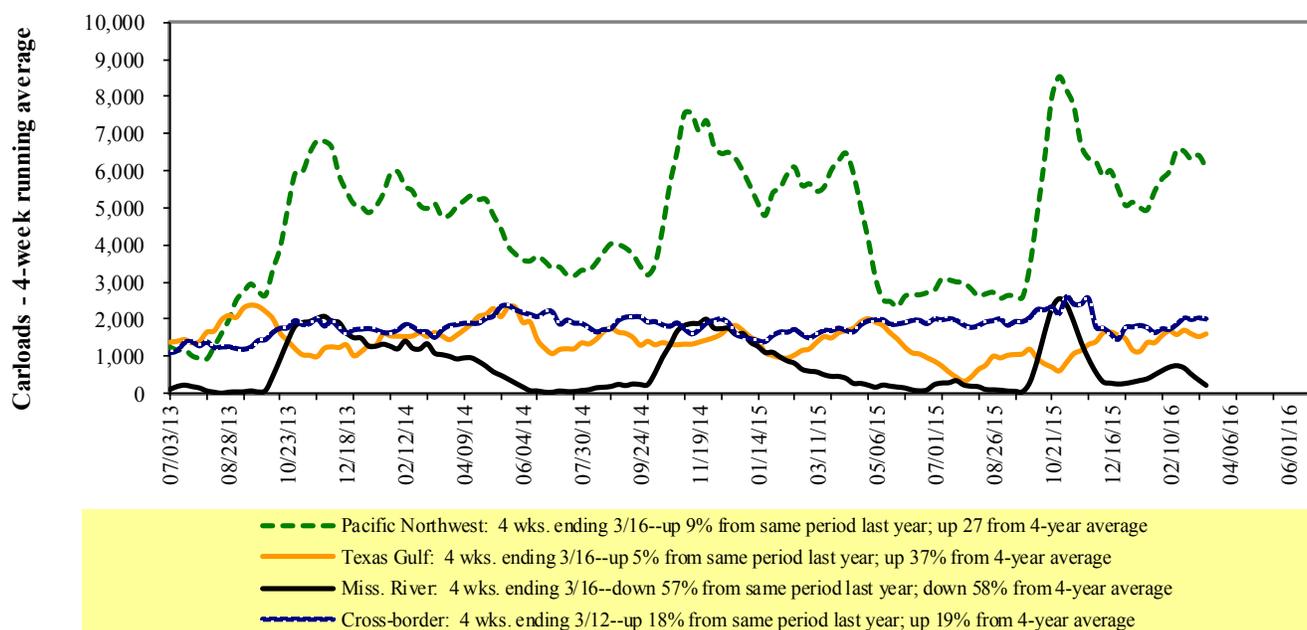
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

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

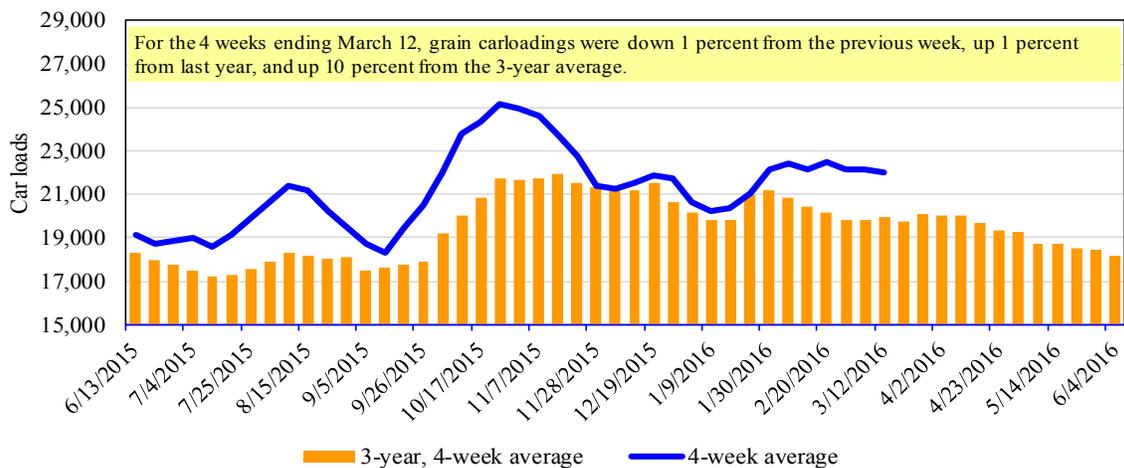
**Class I Rail Carrier Grain Car Bulletin (grain carloads originated)**

| For the week ending:             | East      |         | West    |         |        | U.S. total | Canada    |         |         |
|----------------------------------|-----------|---------|---------|---------|--------|------------|-----------|---------|---------|
|                                  | 3/12/2016 | CSXT    | NS      | BNSF    | KCS    |            | UP        | CN      | CP      |
| This week                        |           | 2,064   | 2,295   | 10,927  | 1,124  | 5,392      | 21,802    | 3,006   | 4,137   |
| This week last year              |           | 1,629   | 2,725   | 12,093  | 987    | 5,337      | 22,771    | 4,128   | 4,213   |
| 2016 YTD                         |           | 19,946  | 28,164  | 110,673 | 8,854  | 53,506     | 221,143   | 34,445  | 42,874  |
| 2015 YTD                         |           | 21,477  | 30,232  | 109,141 | 8,529  | 56,737     | 226,116   | 41,633  | 43,819  |
| 2016 YTD as % of 2015 YTD        |           | 93      | 93      | 101     | 104    | 94         | 98        | 83      | 98      |
| Last 4 weeks as % of 2015*       |           | 111     | 97      | 101     | 106    | 100        | 101       | 79      | 99      |
| Last 4 weeks as % of 3-yr avg.** |           | 111     | 97      | 114     | 122    | 109        | 110       | 89      | 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 Offerings<sup>1</sup> (\$/car)<sup>2</sup>**

| For the week ending: |                                   | Delivery period |         |         |         |         |         |         |           |
|----------------------|-----------------------------------|-----------------|---------|---------|---------|---------|---------|---------|-----------|
| 3/17/2016            |                                   | Apr-16          | Apr-15  | May-16  | May-15  | Jun-16  | Jun-15  | Jul-16  | Jul-15    |
| BNSF <sup>3</sup>    | COT grain units                   | no bids         | 12      | no bids | 6       | no bids | 5       | no bids | 59        |
|                      | COT grain single-car <sup>5</sup> | 0               | 6 .. 54 | 0       | 3 .. 11 | 0       | 2 .. 13 | 0       | 52 .. 135 |
| UP <sup>4</sup>      | GCAS/Region 1                     | no bids         | no bids | no bids | no bids | no bids | no bids | n/a     | n/a       |
|                      | GCAS/Region 2                     | no bids         | no bids | no bids | no bids | no bids | 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.

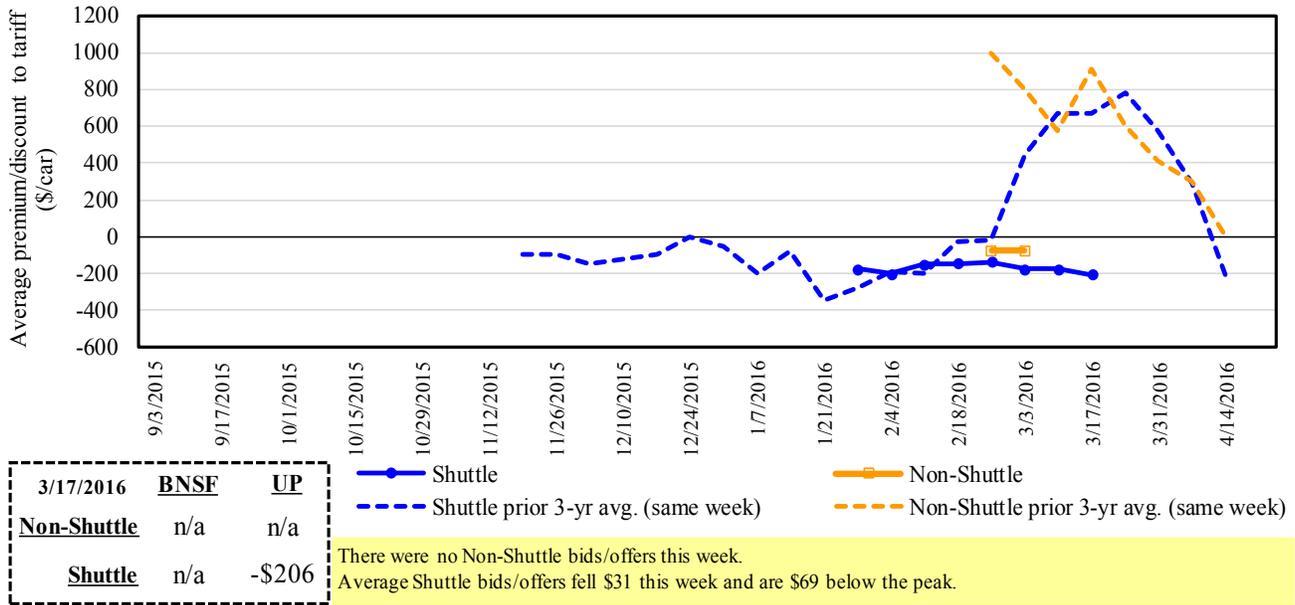
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

<sup>5</sup>Range is shown because average is not available. Not available = n/a.

Source: Transportation & Marketing Programs/AMS/USDA.

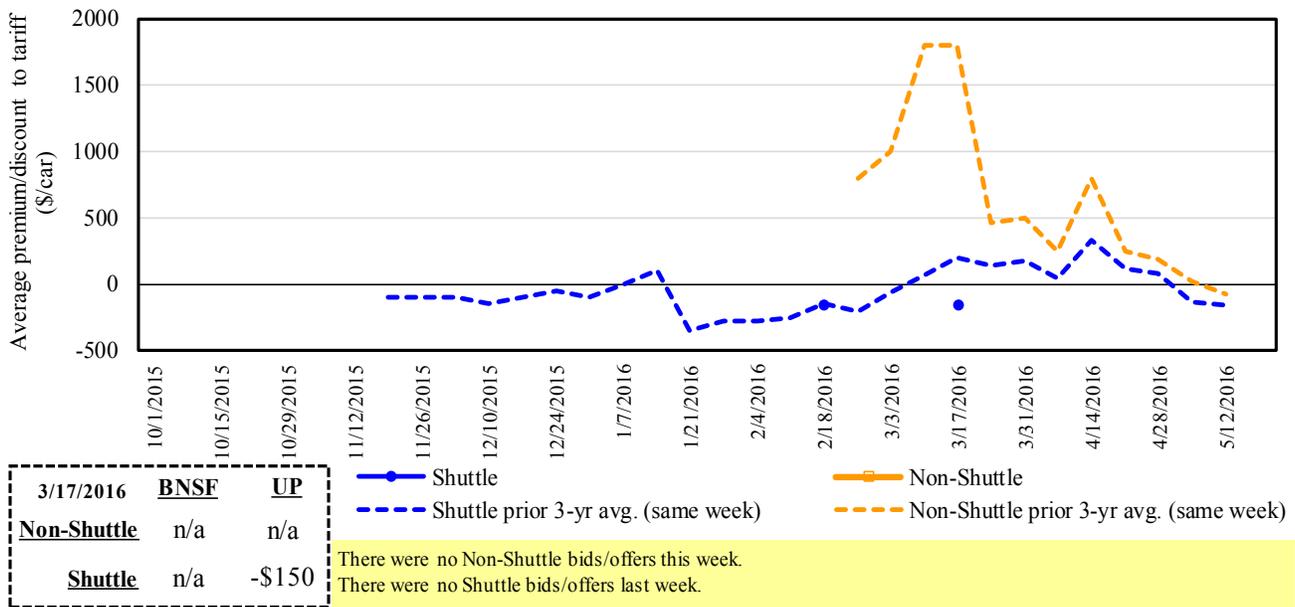
The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/supply.

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



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

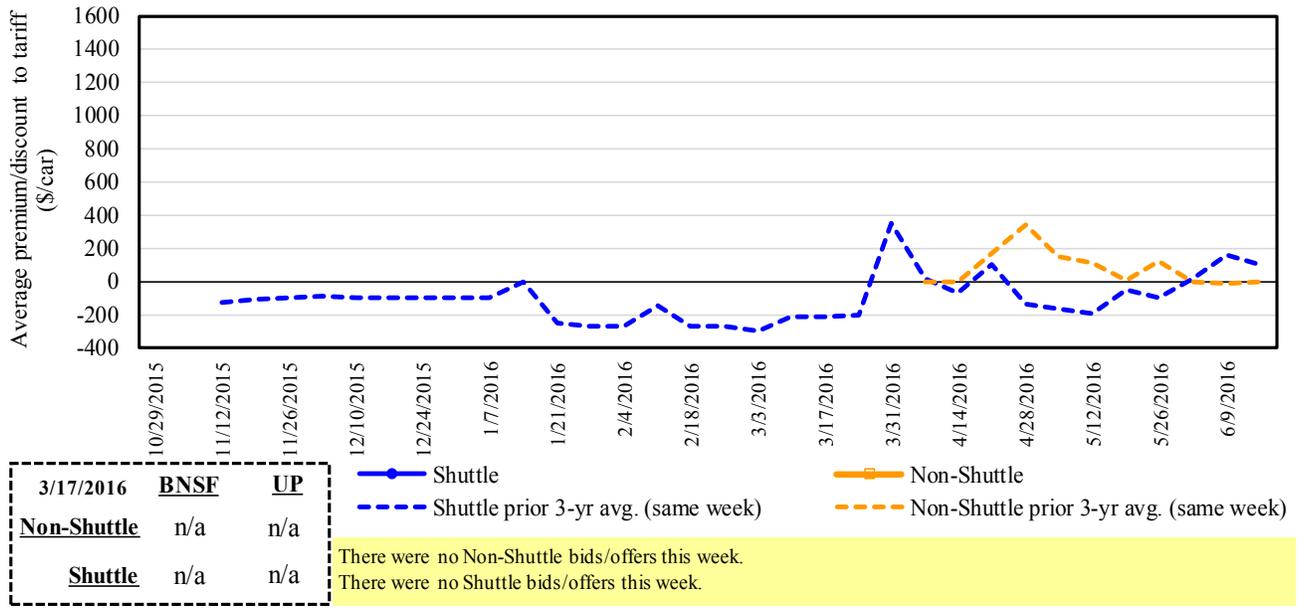
**Figure 5**  
**Bids/Offers for Railcars to be Delivered in May 2016, Secondary Market**



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 June 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 |        |        |        |        |        |
|----------------------|----------------------------|-----------------|--------|--------|--------|--------|--------|
|                      |                            | 3/17/2016       | Apr-16 | May-16 | Jun-16 | Jul-16 | Aug-16 |
| Non-shuttle          | BNSF-GF                    | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | Change from last week      | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | Change from same week 2015 | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | UP-Pool                    | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | Change from last week      | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | Change from same week 2015 | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
| Shuttle              | BNSF-GF                    | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | Change from last week      | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | Change from same week 2015 | n/a             | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | UP-Pool                    | (206)           | (150)  | n/a    | n/a    | n/a    | n/a    |
|                      | Change from last week      | 19              | n/a    | n/a    | n/a    | n/a    | n/a    |
|                      | Change from same week 2015 | (6)             | 75     | n/a    | 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> |
|----------------------|----------------------|-----------------------|---------------------|-----------------|------------------------|----------------------------|---------------------|---------------------------------|
| 3/1/2016             |                      |                       |                     |                 |                        | metric ton                 | bushel <sup>2</sup> |                                 |
| <b>Unit train</b>    |                      |                       |                     |                 |                        |                            |                     |                                 |
| Wheat                | Wichita, KS          | St. Louis, MO         | \$3,605             | \$0             | \$35.80                | \$0.97                     | 4                   |                                 |
|                      | Grand Forks, ND      | Duluth-Superior, MN   | \$3,563             | -\$24           | \$35.15                | \$0.96                     | -3                  |                                 |
|                      | Wichita, KS          | Los Angeles, CA       | \$6,950             | -\$122          | \$67.80                | \$1.85                     | 6                   |                                 |
|                      | Wichita, KS          | New Orleans, LA       | \$4,243             | \$0             | \$42.14                | \$1.15                     | 1                   |                                 |
|                      | Sioux Falls, SD      | Galveston-Houston, TX | \$6,486             | -\$100          | \$63.41                | \$1.73                     | 7                   |                                 |
|                      | Northwest KS         | Galveston-Houston, TX | \$4,511             | \$0             | \$44.80                | \$1.22                     | 1                   |                                 |
|                      | Amarillo, TX         | Los Angeles, CA       | \$4,710             | \$0             | \$46.77                | \$1.27                     | -1                  |                                 |
| Corn                 | Champaign-Urbana, IL | New Orleans, LA       | \$3,681             | \$0             | \$36.55                | \$0.93                     | 5                   |                                 |
|                      | Toledo, OH           | Raleigh, NC           | \$6,061             | \$0             | \$60.19                | \$1.53                     | 5                   |                                 |
|                      | Des Moines, IA       | Davenport, IA         | \$2,168             | \$0             | \$21.53                | \$0.55                     | -2                  |                                 |
|                      | Indianapolis, IN     | Atlanta, GA           | \$5,004             | \$0             | \$49.69                | \$1.26                     | 2                   |                                 |
|                      | Indianapolis, IN     | Knoxville, TN         | \$4,311             | \$0             | \$42.81                | \$1.09                     | 2                   |                                 |
| Soybeans             | Des Moines, IA       | Little Rock, AR       | \$3,444             | \$0             | \$34.20                | \$0.87                     | 1                   |                                 |
|                      | Des Moines, IA       | Los Angeles, CA       | \$5,052             | \$0             | \$50.17                | \$1.27                     | -2                  |                                 |
|                      | Minneapolis, MN      | New Orleans, LA       | \$3,929             | \$0             | \$39.02                | \$1.06                     | 0                   |                                 |
|                      | Toledo, OH           | Huntsville, AL        | \$5,051             | \$0             | \$50.16                | \$1.37                     | 5                   |                                 |
|                      | Indianapolis, IN     | Raleigh, NC           | \$6,178             | \$0             | \$61.35                | \$1.67                     | 6                   |                                 |
| Indianapolis, IN     | Huntsville, AL       | \$4,529               | \$0                 | \$44.98         | \$1.22                 | 1                          |                     |                                 |
| Champaign-Urbana, IL | New Orleans, LA      | \$4,395               | \$0                 | \$43.64         | \$1.19                 | 6                          |                     |                                 |
| <b>Shuttle Train</b> |                      |                       |                     |                 |                        |                            |                     |                                 |
| Wheat                | Great Falls, MT      | Portland, OR          | \$3,953             | -\$70           | \$38.56                | \$1.05                     | 2                   |                                 |
|                      | Wichita, KS          | Galveston-Houston, TX | \$3,871             | -\$55           | \$37.90                | \$1.03                     | 7                   |                                 |
|                      | Chicago, IL          | Albany, NY            | \$5,492             | \$0             | \$54.54                | \$1.48                     | 11                  |                                 |
|                      | Grand Forks, ND      | Portland, OR          | \$5,611             | -\$122          | \$54.51                | \$1.48                     | 2                   |                                 |
|                      | Grand Forks, ND      | Galveston-Houston, TX | \$5,931             | -\$127          | \$57.64                | \$1.57                     | -8                  |                                 |
|                      | Northwest KS         | Portland, OR          | \$5,478             | \$0             | \$54.40                | \$1.48                     | -1                  |                                 |
| Corn                 | Minneapolis, MN      | Portland, OR          | \$5,000             | -\$148          | \$48.18                | \$1.22                     | -7                  |                                 |
|                      | Sioux Falls, SD      | Tacoma, WA            | \$4,960             | -\$136          | \$47.91                | \$1.22                     | -7                  |                                 |
|                      | Champaign-Urbana, IL | New Orleans, LA       | \$3,481             | \$0             | \$34.57                | \$0.88                     | 5                   |                                 |
|                      | Lincoln, NE          | Galveston-Houston, TX | \$3,600             | -\$79           | \$34.96                | \$0.89                     | -3                  |                                 |
|                      | Des Moines, IA       | Amarillo, TX          | \$3,795             | \$0             | \$37.69                | \$0.96                     | -1                  |                                 |
|                      | Minneapolis, MN      | Tacoma, WA            | \$5,000             | -\$147          | \$48.19                | \$1.22                     | -7                  |                                 |
|                      | Council Bluffs, IA   | Stockton, CA          | \$4,640             | -\$152          | \$44.57                | \$1.13                     | -3                  |                                 |
| Soybeans             | Sioux Falls, SD      | Tacoma, WA            | \$5,490             | -\$136          | \$53.17                | \$1.45                     | -7                  |                                 |
|                      | Minneapolis, MN      | Portland, OR          | \$5,510             | -\$148          | \$53.25                | \$1.45                     | -7                  |                                 |
|                      | Fargo, ND            | Tacoma, WA            | \$5,380             | -\$121          | \$52.23                | \$1.42                     | -7                  |                                 |
|                      | Council Bluffs, IA   | New Orleans, LA       | \$4,425             | \$0             | \$43.94                | \$1.20                     | 10                  |                                 |
|                      | Toledo, OH           | Huntsville, AL        | \$4,226             | \$0             | \$41.97                | \$1.14                     | 6                   |                                 |
| Grand Island, NE     | Portland, OR         | \$5,360               | \$0                 | \$53.23         | \$1.45                 | -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              | 4                               |
|           | OK           | Cuautitlan, EM       | \$6,514                      | \$0                                 | \$66.55                    | \$1.81              | -4                              |
|           | KS           | Guadalajara, JA      | \$6,995                      | \$70                                | \$72.19                    | \$1.96              | -3                              |
|           | TX           | Salinas Victoria, NL | \$4,142                      | \$0                                 | \$42.32                    | \$1.15              | 4                               |
| Corn      | IA           | Guadalajara, JA      | \$8,397                      | \$49                                | \$86.30                    | \$2.19              | -2                              |
|           | SD           | Celaya, GJ           | \$7,840                      | \$0                                 | \$80.11                    | \$2.03              | -1                              |
|           | NE           | Queretaro, QA        | \$7,879                      | \$0                                 | \$80.50                    | \$2.04              | 0                               |
|           | SD           | Salinas Victoria, NL | \$6,545                      | \$0                                 | \$66.87                    | \$1.70              | 8                               |
|           | MO           | Tlalnepantla, EM     | \$7,238                      | \$0                                 | \$73.96                    | \$1.88              | 0                               |
|           | SD           | Torreon, CU          | \$7,240                      | \$0                                 | \$73.98                    | \$1.88              | 1                               |
| Soybeans  | MO           | Bojay (Tula), HG     | \$8,652                      | \$54                                | \$88.95                    | \$2.42              | 2                               |
|           | NE           | Guadalajara, JA      | \$9,142                      | \$52                                | \$93.93                    | \$2.55              | 0                               |
|           | IA           | El Castillo, JA      | \$9,470                      | \$0                                 | \$96.76                    | \$2.63              | 0                               |
|           | KS           | Torreon, CU          | \$7,439                      | \$30                                | \$76.31                    | \$2.07              | 1                               |
| Sorghum   | NE           | Celaya, GJ           | \$7,344                      | \$41                                | \$75.45                    | \$1.91              | -3                              |
|           | KS           | Queretaro, QA        | \$7,563                      | \$0                                 | \$77.27                    | \$1.96              | 8                               |
|           | NE           | Salinas Victoria, NL | \$6,168                      | \$0                                 | \$63.02                    | \$1.60              | 8                               |
|           | NE           | Torreon, CU          | \$6,672                      | \$25                                | \$68.42                    | \$1.74              | -1                              |

<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.

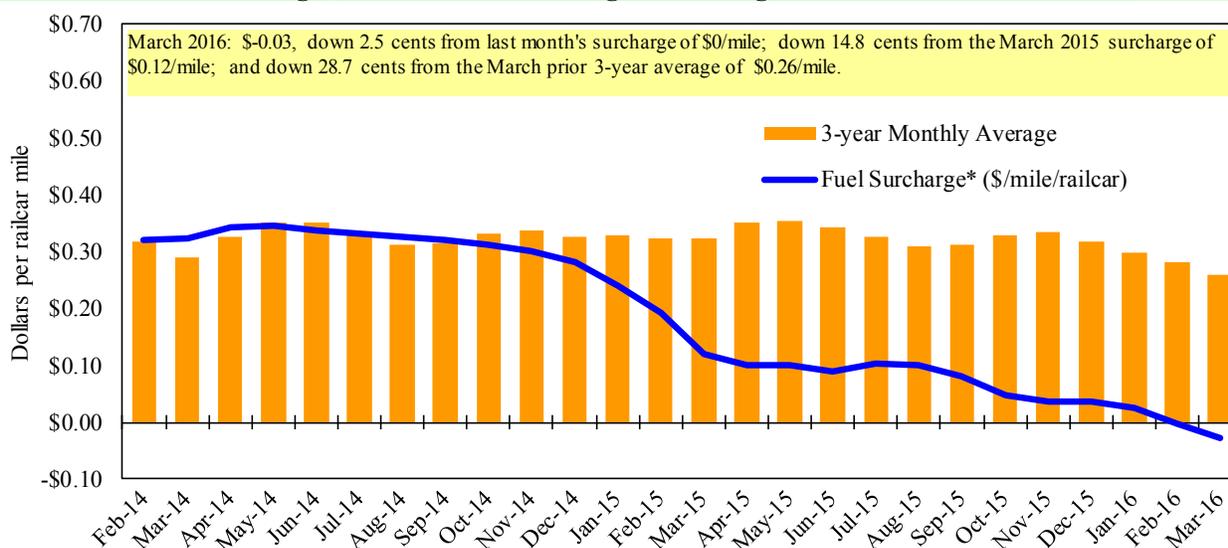
<sup>2</sup>Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009

<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.

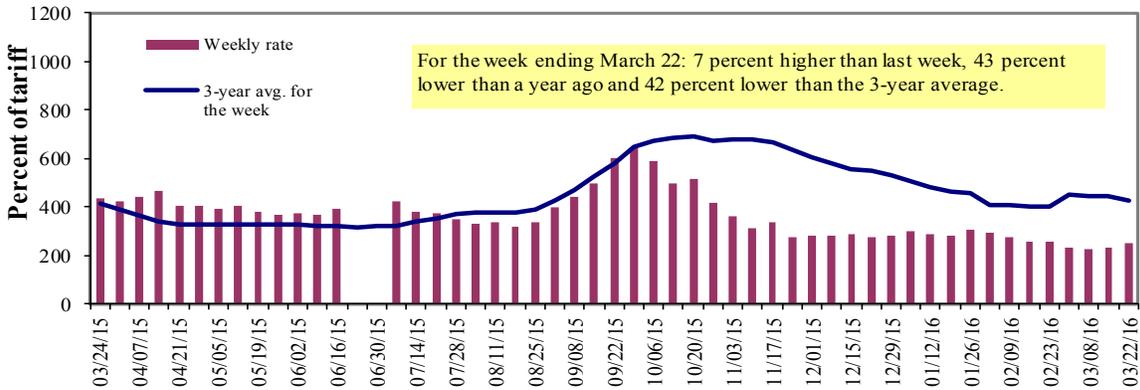
\*\*CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1, 2015.

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>                          | 3/22/2016                | 317         | 262             | 248                  | 178       | 197        | 187        | 167           |
|  | 3/15/2016                | 318         | 238             | 233                  | 160       | 180        | 180        | 153           |
| <b>\$/ton</b>                                    | 3/22/2016                | 19.62       | 13.94           | 11.51                | 7.10      | 9.24       | 7.55       | 5.24          |
|  | 3/15/2016                | 19.68       | 12.66           | 10.81                | 6.38      | 8.44       | 7.27       | 4.80          |
| <b>Current week % change from the same week:</b> |                          |             |                 |                      |           |            |            |               |
|  | Last year                | -           | -40             | -43                  | -54       | -39        | -42        | -43           |
|  | 3-year avg. <sup>2</sup> | -           | 43              | -42                  | -49       | -42        | -45        | -40           |
| <b>Rate<sup>1</sup></b>                          | April                    | 315         | 262             | 247                  | 173       | 193        | 183        | 163           |
|  | June                     | 315         | 262             | 247                  | 173       | 193        | 183        | 163           |

<sup>1</sup>Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); <sup>2</sup>4-week moving average; ton = 2,000 pounds; missing data due to winter closure or flooding

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.

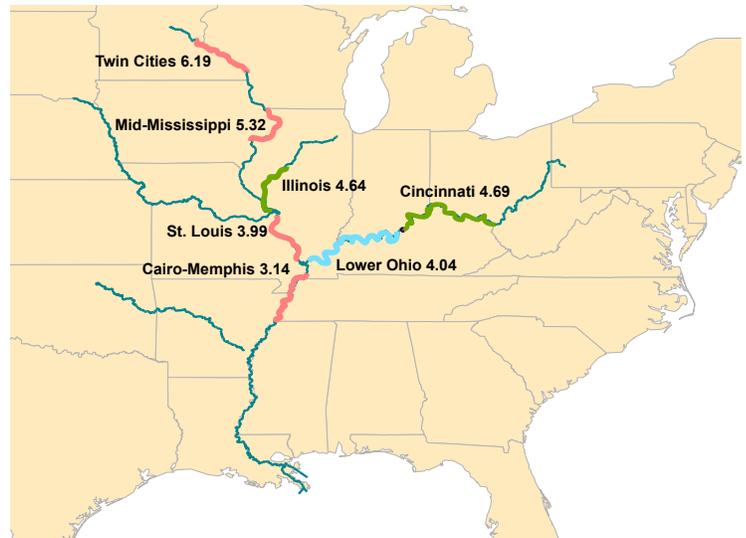
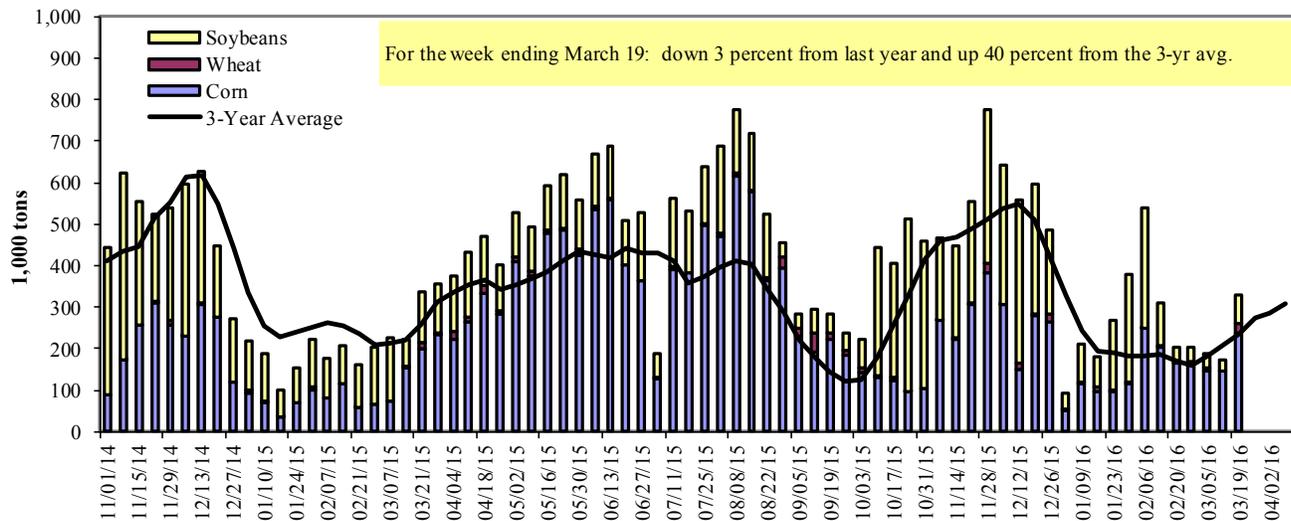


Figure 10

**Barge Movements on the Mississippi 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 3/19/2016          | Corn   | Wheat | Soybeans | Other | Total  |
|--|--------|-------|----------|-------|--------|
| <b>Mississippi River</b>               |        |       |          |       |        |
| Rock Island, IL (L15)                  | 54     | 2     | 19       | 2     | 76     |
| Winfield, MO (L25)                     | 140    | 5     | 48       | 3     | 195    |
| Alton, IL (L26)                        | 260    | 14    | 80       | 3     | 358    |
| Granite City, IL (L27)                 | 239    | 22    | 67       | 3     | 332    |
| <b>Illinois River (L8)</b>             | 153    | 3     | 37       | 0     | 193    |
| <b>Ohio River (L52)</b>                | 76     | 2     | 47       | 9     | 133    |
| <b>Arkansas River (L1)</b>             | 0      | 21    | 27       | 0     | 48     |
| Weekly total - 2016                    | 315    | 45    | 141      | 12    | 513    |
| Weekly total - 2015                    | 337    | 33    | 183      | 3     | 556    |
| 2016 YTD <sup>1</sup>                  | 3,237  | 268   | 2,805    | 45    | 6,356  |
| 2015 YTD                               | 2,827  | 237   | 2,871    | 47    | 5,981  |
| 2016 as % of 2015 YTD                  | 115    | 113   | 98       | 97    | 106    |
| Last 4 weeks as % of 2015 <sup>2</sup> | 122    | 159   | 66       | 532   | 100    |
| Total 2015                             | 19,215 | 1,686 | 14,191   | 359   | 35,451 |

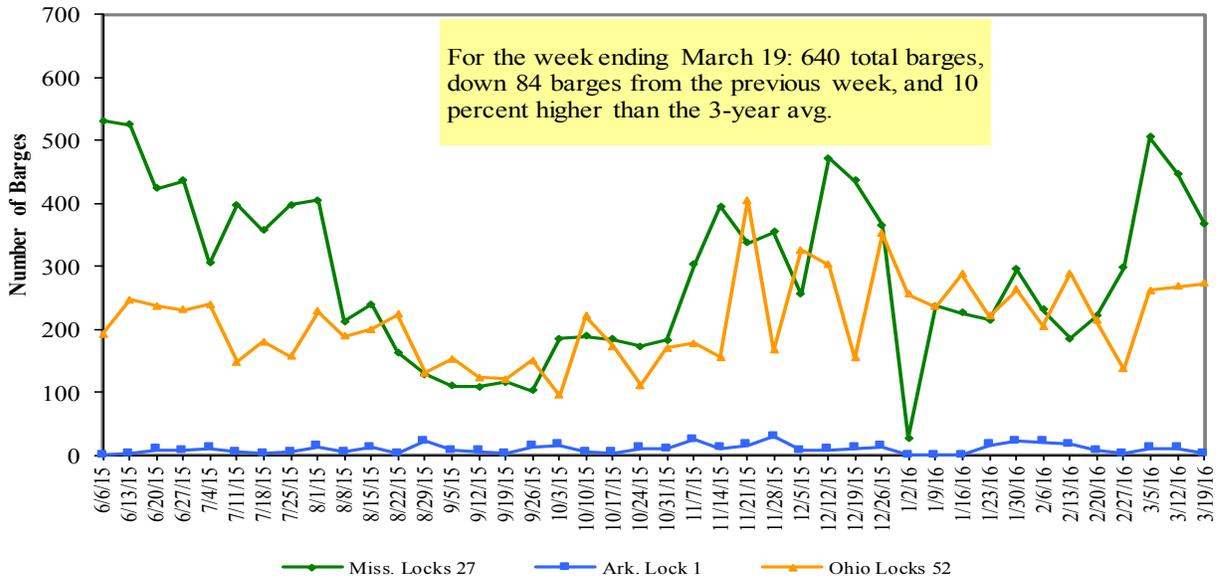
<sup>1</sup> Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/52, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

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

Note: Total may not add exactly, due to rounding

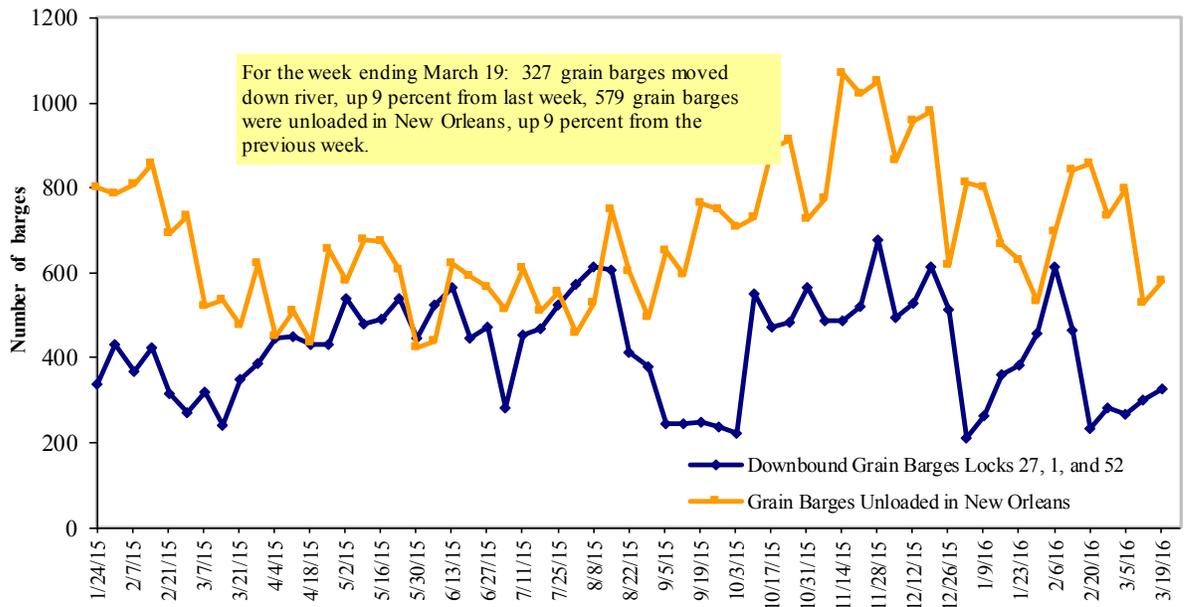
Source: U.S. Army Corps of Engineers

**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 3/21/2016 (US \$/gallon)

| Region | Location                   | Price | Change from |          |
|--------|----------------------------|-------|-------------|----------|
|        |                            |       | Week ago    | Year ago |
| I      | East Coast                 | 2.172 | 0.019       | -0.855   |
|        | New England                | 2.228 | 0.024       | -0.972   |
|        | Central Atlantic           | 2.280 | 0.031       | -0.951   |
|        | Lower Atlantic             | 2.079 | 0.009       | -0.758   |
| II     | Midwest <sup>2</sup>       | 2.090 | 0.025       | -0.678   |
| III    | Gulf Coast <sup>3</sup>    | 1.991 | 0.001       | -0.724   |
| IV     | Rocky Mountain             | 2.056 | 0.057       | -0.711   |
| V      | West Coast                 | 2.311 | 0.026       | -0.690   |
|        | West Coast less California | 2.179 | 0.026       | -0.636   |
|        | California                 | 2.418 | 0.028       | -0.734   |
| Total  | U.S.                       | 2.119 | 0.020       | -0.745   |

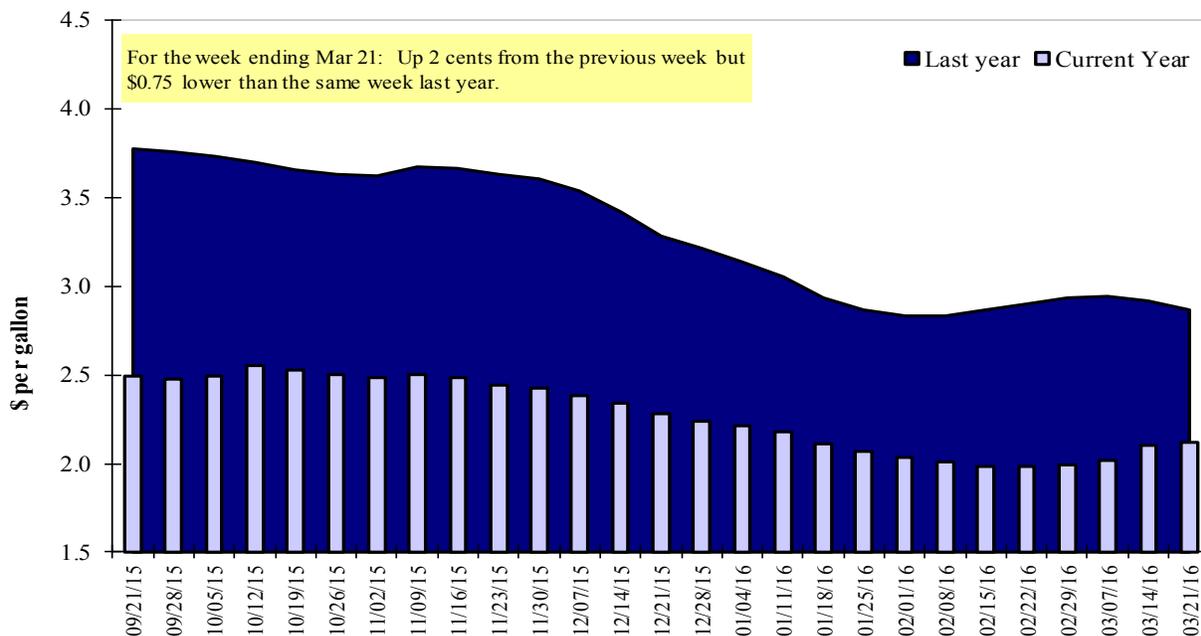
<sup>1</sup>Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

<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>                   |        |       |       |       |     |           |        |          |         |
| 3/10/2016  | 981    | 380   | 1,442 | 764   | 100 | 3,666     | 13,348 | 3,613    | 20,627  |
| This week year ago                                   | 1,656  | 744   | 1,732 | 656   | 136 | 4,924     | 15,807 | 5,497    | 26,228  |
| <b>Cumulative exports-marketing year<sup>2</sup></b> |        |       |       |       |     |           |        |          |         |
| 2015/16 YTD  | 4,304  | 2,601 | 4,661 | 2,767 | 571 | 14,904    | 16,701 | 39,804   | 71,409  |
| 2014/15 YTD  | 5,396  | 2,875 | 5,752 | 3,159 | 540 | 17,722    | 20,740 | 42,441   | 80,903  |
| YTD 2015/16 as % of 2014/15                          | 80     | 90    | 81    | 88    | 106 | 84        | 81     | 94       | 88      |
| Last 4 wks as % of same period 2014/15               | 66     | 55    | 87    | 116   | 75  | 79        | 82     | 77       | 80      |
| 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 |

<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 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 3/10/2016                               | Commitments <sup>2</sup> |                    | % change<br>current MY<br>from last MY | Exports <sup>3</sup><br>3-year avg<br>2011-2013 |
|---|--------------------------|--------------------|--|---|
|   | 2015/16<br>Current MY    | 2014/15<br>Last MY |  |   |
|   | - 1,000 mt -             |                    |  | - 1,000 mt -                                    |
| Japan   | 5,356                    | 7,783              | (31)                                   | 10,079  |
| Mexico  | 10,381                   | 8,710              | 19                                     | 8,145   |
| Korea   | 850                      | 2,384              | (64)                                   | 2,965   |
| Colombia  | 3,505                    | 3,109              | 13                                     | 3,461   |
| Taiwan  | 588                      | 1,143              | (49)                                   | 1,238   |
| <b>Top 5 Importers</b>                                      | <b>20,680</b>            | <b>23,129</b>      | <b>(11)</b>                            | <b>25,887</b>                                   |
| <b>Total US corn export sales</b>                           | <b>30,049</b>            | <b>36,547</b>      | <b>(18)</b>                            | <b>34,445</b>                                   |
| % of Projected  | 72%                      | 77%                |  |   |
| Change from prior week                                      | 1,227                    | 502                |  |   |
| <b>Top 5 importers' share of U.S.<br/>corn export sales</b> | 69%                      | 63%                |  | 75%   |
| <b>USDA forecast, March 2016</b>                            | <b>41,985</b>            | <b>47,430</b>      | <b>(11)</b>                            |   |
| <b>Corn Use for Ethanol USDA<br/>forecast, March 2016</b>   | <b>132,715</b>           | <b>132,309</b>     | <b>0</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/>

<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 3/10/2016                                  | Total Commitments <sup>2</sup> |                    | % change<br>current MY<br>from last MY | Exports <sup>3</sup><br>3-yr avg.<br>2011-13 |
|--|--------------------------------|--------------------|--|--|
|  | 2015/16<br>Current MY          | 2014/15<br>Last MY |  |  |
|  | - 1,000 mt -                   |                    |  | - 1,000 mt -                                 |
| China  | 26,934                         | 29,790             | (10)                                   | 24,211                                       |
| Mexico   | 2,570                          | 2,751              | (7)                                    | 2,971  |
| Indonesia  | 1,182                          | 1,379              | (14)                                   | 1,895  |
| Japan  | 1,672                          | 1,516              | 10                                     | 1,750  |
| Taiwan   | 1,091                          | 1,113              | (2)                                    | 1,055  |
| <b>Top 5 importers</b>   | <b>33,448</b>                  | <b>36,549</b>      | <b>(8)</b>                             | <b>31,882</b>                                |
| <b>Total US soybean export sales</b>                           | <b>43,416</b>                  | <b>47,938</b>      | <b>(9)</b>                             | <b>39,169</b>                                |
| % of Projected   | 94%                            | 95%                |  |  |
| Change from prior week   | 561                            | 342                |  |  |
| <b>Top 5 importers' share of U.S.<br/>soybean export sales</b> | 77%                            | 76%                |  | <b>81%</b>                                   |
| <b>USDA forecast, March 2016</b>                               | <b>46,049</b>                  | <b>50,218</b>      | <b>(8)</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/><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 3/10/2016                                 | Total Commitments <sup>2</sup> |                    | % change<br>current MY<br>from last MY | Exports <sup>3</sup><br>3-yr avg<br>2012-2014 |
|---|--------------------------------|--------------------|--|---|
|   | 2015/16<br>Current MY          | 2014/15<br>Last MY |  |   |
|   | - 1,000 mt -                   |                    |  | - 1,000 mt -                                  |
| Japan   | 2,271                          | 2,940              | (23)                                   | 3,113   |
| Mexico  | 2,110                          | 2,642              | (20)                                   | 2,807   |
| Nigeria   | 1,389                          | 1,903              | (27)                                   | 2,512   |
| Philippines   | 1,934                          | 2,194              | (12)                                   | 2,105   |
| Brazil  | 386                            | 1,508              | (74)                                   | 2,091   |
| Korea   | 1,097                          | 1,201              | (9)                                    | 1,273   |
| Taiwan  | 937                            | 979                | (4)                                    | 1,007   |
| Indonesia   | 491                            | 629                | (22)                                   | 751   |
| Colombia  | 585                            | 559                | 5                                      | 662   |
| Thailand  | 449                            | 606                |  | 618   |
| <b>Top 10 importers</b>                                       | <b>11,200</b>                  | <b>14,555</b>      | <b>(23)</b>                            | <b>16,939</b>                                 |
| <b>Total US wheat export sales</b>                            | <b>18,569</b>                  | <b>22,646</b>      | <b>(18)</b>                            | <b>26,361</b>                                 |
| % of Projected  | 88%                            | 97%                |  |   |
| Change from prior week  | 213                            | 392                |  |   |
| <b>Top 10 importers' share of U.S.<br/>wheat export sales</b> | 60%                            | 64%                |  | 64%   |
| <b>USDA forecast, March 2016</b>                              | <b>21,117</b>                  | <b>23,270</b>      | <b>(9)</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/><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>03/17/16 | 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                          | 261                             | 211               | 124                              | 2,434         | 2,755         | 88                           | 98                    | 97               | 10,985         |
| Corn                           | 121                             | 179               | 68                               | 1,237         | 1,920         | 64                           | 54                    | 94               | 7,232          |
| Soybeans                       | 207                             | 296               | 70                               | 4,101         | 3,267         | 126                          | 170                   | 118              | 11,809         |
| <b>Total</b>                   | <b>589</b>                      | <b>685</b>        | <b>86</b>                        | <b>7,772</b>  | <b>7,942</b>  | <b>98</b>                    | <b>96</b>             | <b>104</b>       | <b>30,027</b>  |
| <b>Mississippi Gulf</b>        |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 60                              | 94                | 64                               | 765           | 827           | 93                           | 115                   | 71               | 4,504          |
| Corn                           | 660                             | 491               | 134                              | 5,226         | 5,911         | 88                           | 92                    | 106              | 26,701         |
| Soybeans                       | 314                             | 285               | 110                              | 7,777         | 8,114         | 96                           | 136                   | 132              | 29,593         |
| <b>Total</b>                   | <b>1,033</b>                    | <b>870</b>        | <b>119</b>                       | <b>13,768</b> | <b>14,851</b> | <b>93</b>                    | <b>109</b>            | <b>111</b>       | <b>60,797</b>  |
| <b>Texas Gulf</b>              |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 133                             | 101               | 132                              | 620           | 780           | 80                           | 64                    | 54               | 3,724          |
| Corn                           | 31                              | 30                | 104                              | 189           | 126           | 150                          | 301                   | 277              | 596            |
| Soybeans                       | 0                               | 0                 | n/a                              | 92            | 210           | 44                           | n/a                   | n/a              | 864            |
| <b>Total</b>                   | <b>164</b>                      | <b>130</b>        | <b>125</b>                       | <b>901</b>    | <b>1,116</b>  | <b>81</b>                    | <b>79</b>             | <b>67</b>        | <b>5,184</b>   |
| <b>Interior</b>                |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 38                              | 23                | 167                              | 272           | 271           | 100                          | 96                    | 130              | 1,388          |
| Corn                           | 169                             | 99                | 172                              | 1,227         | 1,190         | 103                          | 108                   | 134              | 6,201          |
| Soybeans                       | 73                              | 95                | 77                               | 918           | 930           | 99                           | 130                   | 94               | 3,518          |
| <b>Total</b>                   | <b>280</b>                      | <b>216</b>        | <b>130</b>                       | <b>2,417</b>  | <b>2,392</b>  | <b>101</b>                   | <b>113</b>            | <b>116</b>       | <b>11,106</b>  |
| <b>Great Lakes</b>             |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 0                               | 0                 | n/a                              | 0             | 12            | 0                            | n/a                   | 0                | 997            |
| Corn                           | 0                               | 0                 | n/a                              | 0             | 0             | n/a                          | n/a                   | n/a              | 485            |
| Soybeans                       | 0                               | 0                 | n/a                              | 0             | 0             | n/a                          | n/a                   | 0                | 733            |
| <b>Total</b>                   | <b>0</b>                        | <b>0</b>          | <b>n/a</b>                       | <b>0</b>      | <b>12</b>     | <b>0</b>                     | <b>n/a</b>            | <b>0</b>         | <b>2,216</b>   |
| <b>Atlantic</b>                |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 0                               | 0                 | n/a                              | 99            | 136           | 72                           | 31                    | 33               | 520            |
| Corn                           | 0                               | 0                 | n/a                              | 9             | 9             | 97                           | 97                    | 109              | 277            |
| Soybeans                       | 12                              | 78                | 15                               | 697           | 767           | 91                           | 103                   | 77               | 2,053          |
| <b>Total</b>                   | <b>12</b>                       | <b>78</b>         | <b>16</b>                        | <b>805</b>    | <b>913</b>    | <b>88</b>                    | <b>74</b>             | <b>64</b>        | <b>2,850</b>   |
| <b>U.S. total from ports**</b> |                                 |                   |                                  |               |               |                              |                       |                  |                |
| Wheat                          | 492                             | 428               | 115                              | 4,190         | 4,781         | 88                           | 89                    | 79               | 22,118         |
| Corn                           | 981                             | 798               | 123                              | 7,888         | 9,156         | 86                           | 84                    | 108              | 41,492         |
| Soybeans                       | 605                             | 753               | 80                               | 13,585        | 13,288        | 102                          | 142                   | 120              | 48,570         |
| <b>Total</b>                   | <b>2,078</b>                    | <b>1,980</b>      | <b>105</b>                       | <b>25,662</b> | <b>27,225</b> | <b>94</b>                    | <b>102</b>            | <b>105</b>       | <b>112,180</b> |

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

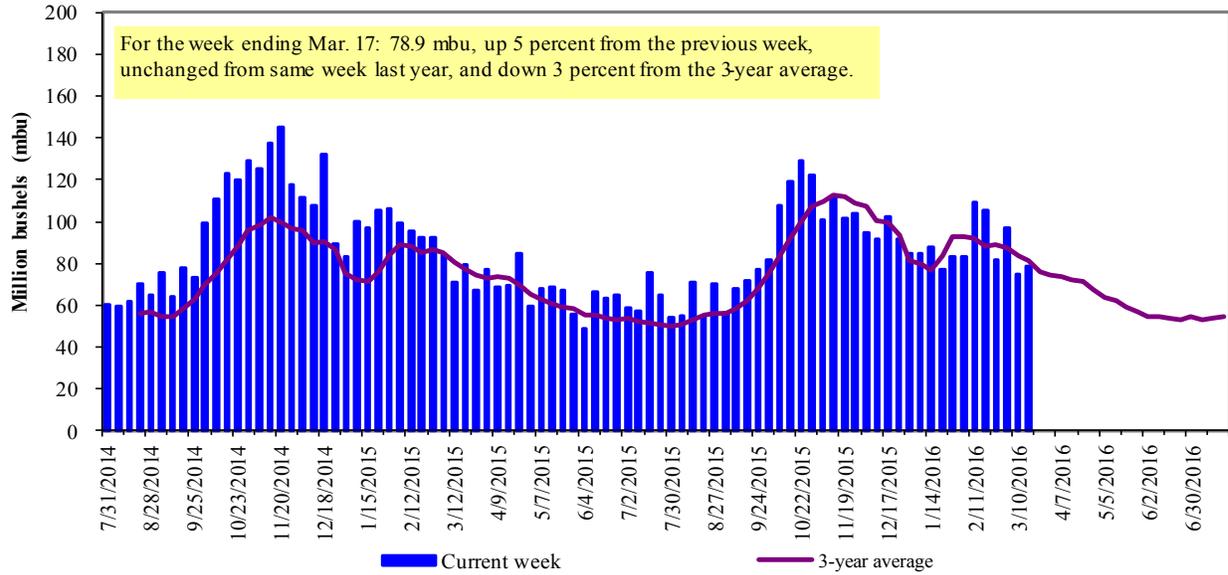
\*\*Total only includes regions shown above

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

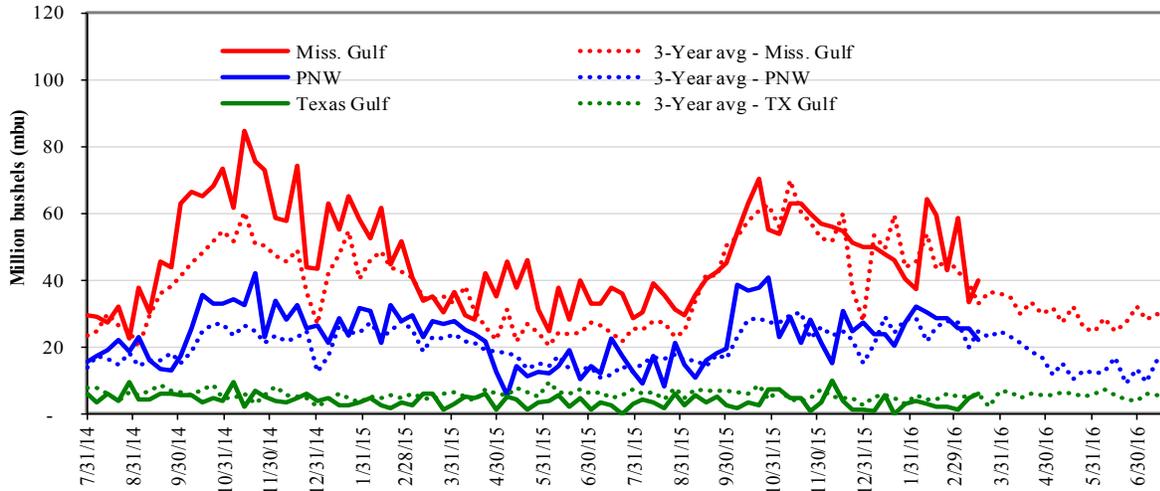
**U.S. grain inspected for export (wheat, corn, and soybeans)**



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 03/17/16 inspections (mbu): |      | Percent change from:        |         |         |           |         |
|---|------|-----------------------------|---------|---------|-----------|---------|
| Mississippi Gulf:                       | 39.7 | Last Week:                  | MS Gulf | TX Gulf | U.S. Gulf | PNW     |
| PNW:                                    | 22.0 | Last Year (same week):      | up 19   | up 25   | up 20     | down 14 |
| Texas Gulf:                             | 6.1  | 3-yr avg. (4-wk. mov. Avg): | up 13   | up 2    | up 11     | down 21 |
|   |      |                             | down 1  | up 7    | unchanged | down 12 |

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

# Ocean Transportation

Table 17

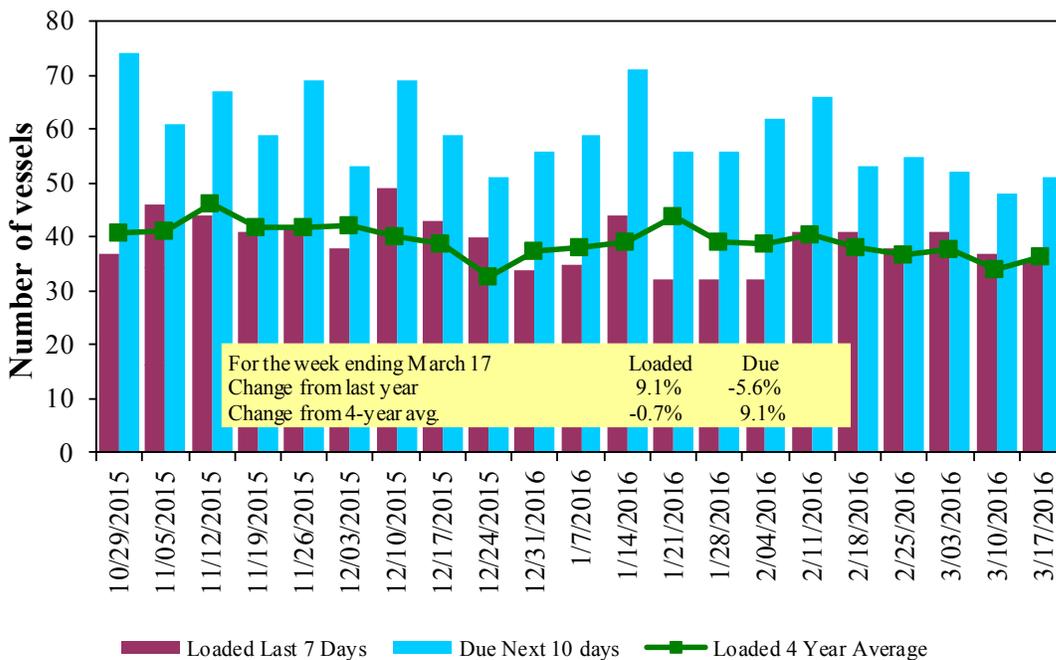
**Weekly Port Region Grain Ocean Vessel Activity (number of vessels)**

| Date       | Gulf     |               |                  | Pacific Northwest | Vancouver B.C. |
|------------|----------|---------------|------------------|-------------------|----------------|
|            | In port  | Loaded 7-days | Due next 10-days | In port           | In port        |
| 3/17/2016  | 40       | 36            | 51               | 16                | n/a            |
| 3/10/2016  | 40       | 37            | 48               | 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<sup>1</sup> Vessel Loading Activity**

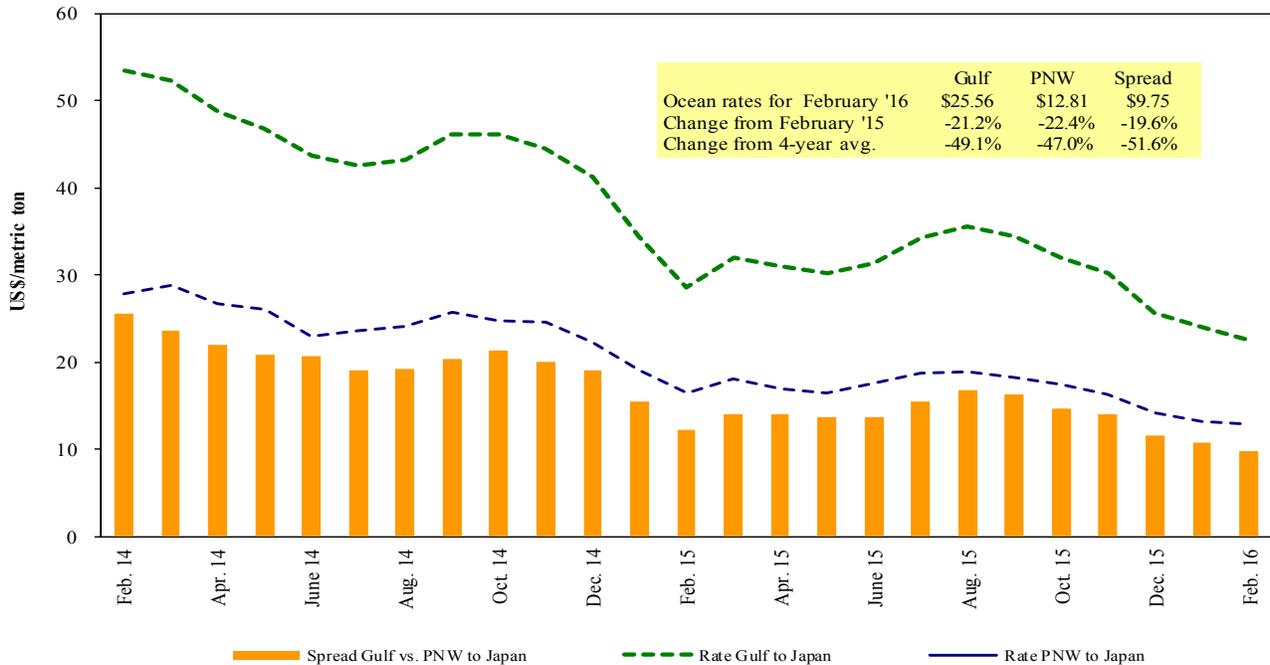


Source: Transportation & Marketing Programs/AMS/USDA

<sup>1</sup>U.S. Gulf includes Mississippi, Texas, and East Gulf.

Figure 17

**Grain Vessel Rates, U.S. to Japan**



Data Source: O'Neil Commodity Consulting

Table 18

**Ocean Freight Rates For Selected Shipments, Week Ending 03/19/2016**

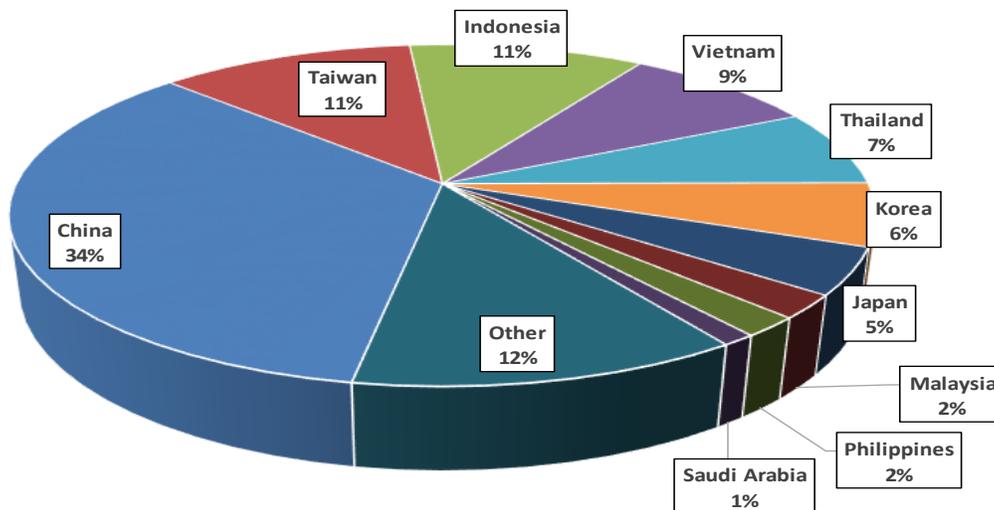
| Export region | Import region | Grain types        | Loading date | Volume loads (metric tons) | Freight rate (US\$/metric ton) |
|---------------|---------------|--------------------|--------------|----------------------------|--------------------------------|
| U.S. Gulf     | Japan         | Heavy Grain        | April 5/18   | 52,000                     | 21.25                          |
| U.S. Gulf     | Japan         | Heavy Grain        | Apr 1/5      | 50,000                     | 22.20                          |
| U.S. Gulf     | China         | Heavy Grain        | Feb 15/20    | 53,000                     | 20.50                          |
| U.S. Gulf     | Djibouti      | Wheat <sup>1</sup> | Apr 4/14     | 34,000                     | 128.76                         |
| U.S. Gulf     | Djibouti      | Wheat              | Mar 8/18     | 50,000                     | 37.00                          |
| PNW           | Algeria       | Wheat              | Feb 10/20    | 51,500                     | 13.15                          |
| Brazil        | China         | Heavy Grain        | May 1/6      | 60,000                     | 14.75                          |
| Brazil        | China         | Heavy Grain        | Apr 1/10     | 60,000                     | 14.00                          |
| Brazil        | China         | Heavy Grain        | Apr 1/10     | 60,000                     | 13.90                          |
| Brazil        | China         | Heavy Grain        | Mar 15/30    | 60,000                     | 13.75                          |
| Brazil        | China         | Heavy Grain        | Mar 15/30    | 60,000                     | 13.25                          |
| Brazil        | China         | Heavy Grain        | Mar 1/10     | 60,000                     | 13.25                          |
| Brazil        | China         | Heavy Grain        | Feb 20/29    | 60,000                     | 13.85 op 14.60                 |
| Brazil        | China         | Heavy Grain        | Feb 22/25    | 60,000                     | 14.00                          |
| EC S America  | China         | Heavy Grain        | May/June     | 60,000                     | 14.75                          |
| EC S America  | China         | Heavy Grain        | Feb/Mar 16   | 60,000                     | 18.50                          |
| France        | Algeria       | Wheat              | Mar 20/23    | 31,500                     | 12.75                          |
| Odessa        | Ghent         | Grain              | Feb 10/14    | 60,000                     | 7.35                           |
| River Plate   | Algeria       | Corn               | Mar 15/25    | 40,000                     | 18.75                          |

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

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–December 2015**

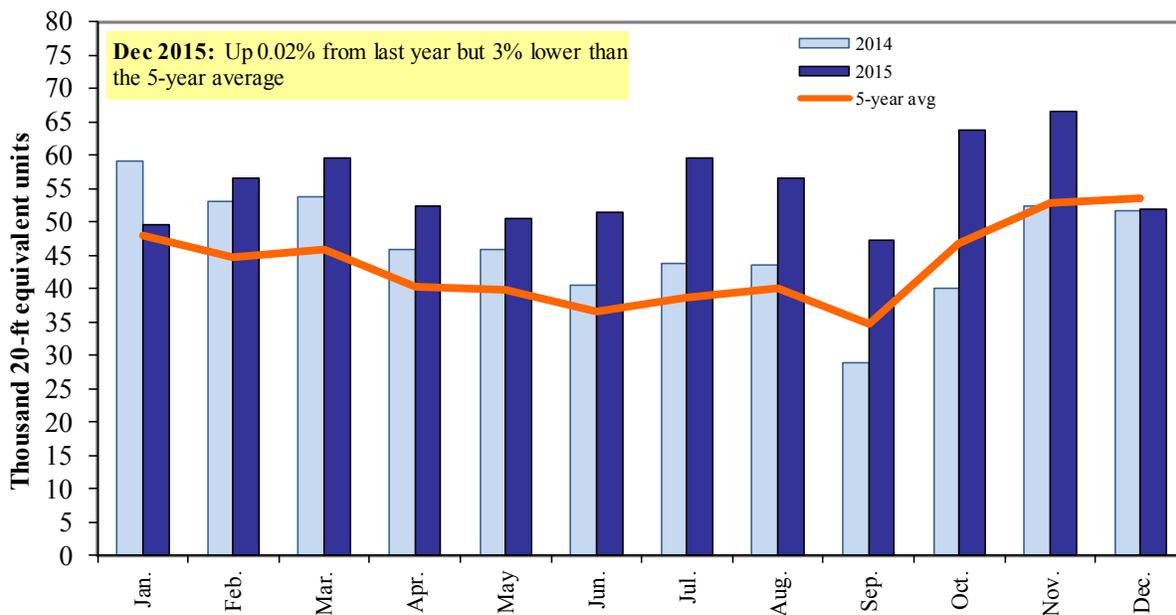


Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data

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*. March 24, 2016. Web: <http://dx.doi.org/10.9752/TS056.03-24-2016>

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