Idaho Agriculture Global Exports, 2018

Xiaoxue Du, R. Garth Taylor, Norm Ruhoff
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Idaho Agriculture Global Exports, 2018\(^1\)

In 2017, Idaho's foreign exports totaled almost $3.9 billion. More than half of the exports comprised electric and industrial products. The second-largest category was food and agricultural products, which contributed 22% of Idaho's total exports (Figure 1).

Growth in US and Idaho agriculture is not tied to growth in US food consumption. An increase in the global population and food consumption has been the stimulus. Indeed, both US population growth (326 million in 2017, only 4% of the world's population) and per capita food consumption are leveling or declining, while both global population and per capita food consumption are on the increase. In 2017 the world's population topped out at 7.6 billion, with United Nations' experts expecting that figure to reach 11.2 billion by 2100 (United Nations, Department of Economic and Social Affairs, Population Division). With global income on the increase, diets once based on two skimpy daily meals should shift to more substantial ones that emphasize animal protein, thus increasing the demand for feed grains and meat. Because it is the largest exporter of food and agricultural products in the world, the United States is poised to meet the demand, as should Idaho. In 2017, approximately 28% of Idaho annual farm cash receipts involved exports, with the percentage share totaling no less than 25% between 2010 and 2017 (Figure 2). Thus to understand the health of Idaho agriculture, it is critical to understand exports.

Idaho farm gate cash receipts climbed steadily from $5.94 billion in 2010 to a high of $8.75 billion in 2014 before steadily decreasing to $7.2 billion by 2017. During that same period, the value of Idaho agricultural exports increased from $1.49 billion in 2010 to $2.29 billion in 2013 (Figure 2) before weathering a two-year decrease in 2014–15; it then rebounded over the next two years, increasing to $1.99 billion in 2017. Even though export percentage varies in a narrow band of 25%–28%, changes in exports do not follow changes in cash receipts. Different forces affect the two.

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\(^1\) The most recent state export data collected by the U.S. Department of Agriculture Economic Research Service is from the calendar year 2017. Although most of the data we use in this bulletin relies on that calendar year, we also use market year 2017/18 data for wheat in order to make the data comparable.

\(^2\) The U.S. Census Bureau collected the state export data shown in Figure 1, calculations which are based on the transportation origin of exports (Origin of Movement) rather than the product origin of exports. Many Idaho agriculture products (e.g., Idaho wheat exported to Asia) are credited to other states. Therefore, Idaho’s share of food and agriculture exports is presumably higher than 22%.
Idaho Agricultural Exports by Category

- Idaho's 2017 agricultural exports totaled nearly $2 billion. Over two-thirds of total agricultural exports came from plant products exports and the remaining one-third from animal products (USDA, Economic Research Service [ERS], State Export Data).

- Idaho's primary categories of agricultural exports share in 2017 were dairy products, 18%; processed vegetables, 15%; wheat, 15%; beef and beef products, 9%; and fresh vegetables, 8%.

- Compared with 2016, the total value of Idaho agricultural exports increased by 6% in 2017, given the increase in exports in the primary categories. Dairy exports increased by 11%, from $321 to $356 million. In 2017, processed vegetable exports equaled the value of wheat exports. Plant product exports outnumbered animal products exports by more than two to one (Table 1).


- In 2017, Idaho also ranked fourth in the nation in exports of both processed vegetables and fresh vegetables (USDA/ERS, State Export Data, U.S. Agricultural Exports, Commodity detail by state [New series]: Calendar years 2000–2017). Based on 2017 U.S. Census Bureau data for Idaho exports value by commodity, fresh potato exports accounted for 60% of fresh vegetable exports, with processed potato exports accounting for 42% of processed vegetable exports. Therefore, the total Idaho potato exports value accounted for 11% of total Idaho agricultural exports.

- In 2017, Idaho ranked sixth in wheat exports among U.S. states (USDA/ERS, State Export Data, U.S. Agricultural Exports, Commodity detail by state [New series]: Calendar years 2000–2017). Wheat was Idaho's leading commodity export for more than ten years until 2014, when dairy products exports surpassed it.
Top Destinations of Idaho Agricultural Exports, 2017

- The number one market for U.S. agricultural exports in 2017 was Canada, followed by China, Mexico, Japan, the European Union, and South Korea (Figure 6).

- The United States-Mexico-Canada Agreement (USMCA)/North American Free Trade Agreement (NAFTA) countries of Canada and Mexico continue to be Idaho’s top agricultural export trading partners. Roughly 46% of the total value of Idaho’s agricultural exports is destined for Canada and Mexico (Figure 7).

- Asian countries constitute the second-largest group of Idaho’s agricultural export destination. China, South Korea, and Japan combined import about 20% of Idaho’s agricultural products (Figure 7).
Value of Exports Versus Value of Production for Leading Commodities

• By the share of Idaho agricultural exports by commodity in 2017, the top three were dairy products, 18%; wheat, 15%; and potatoes, 11% (both fresh and processed).

Dairy Products

• In 2017, Idaho ranked fourth in U.S. milk production and third in U.S. cheese production (Tables 2 and 3).

• In 2017, dry milk exports (60%) were Idaho’s leading dairy export, followed by cheese at 32% (Table 4).

• The top markets for Idaho’s dairy exports are South Korea, China, Mexico, the Netherlands³, Canada, Australia, Southeast Asia, Japan, and South America, respectively (Figure 8).

• In 2017, more than half of Idaho dry milk was exported to China (29%), the Netherlands (17%), and Japan (9%) (Figure 9).

• South Korea was the biggest market for Idaho cheese exports in 2017. Sixty percent of Idaho cheese was exported to South Korea, 18% to Mexico, and 15% to Australia (Figure 10).

Table 4. Idaho dairy exports, 2017 ($ Million).

<table>
<thead>
<tr>
<th></th>
<th>Idaho Exports</th>
<th>% Share</th>
<th>U.S. Exports</th>
<th>% Share</th>
<th>Idaho/US</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Dry Whey Types*</td>
<td>65.49</td>
<td>26%</td>
<td>714</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>Milk Albumin (WPI)</td>
<td>45.29</td>
<td>18%</td>
<td>303</td>
<td>6%</td>
<td>15%</td>
</tr>
<tr>
<td>Skim Milk Powder (NFLM)</td>
<td>20.55</td>
<td>8%</td>
<td>1,262</td>
<td>23%</td>
<td>2%</td>
</tr>
<tr>
<td>Lactose (Solid)</td>
<td>20.05</td>
<td>8%</td>
<td>357</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Whole Milk Powder</td>
<td>0.45</td>
<td>0%</td>
<td>72</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Preparations for Infant Use</td>
<td>0.04</td>
<td>0%</td>
<td>290</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>All Dry Milk Types Above</td>
<td>151.87</td>
<td>60%</td>
<td>2,998</td>
<td>55%</td>
<td>5%</td>
</tr>
<tr>
<td>Cheese</td>
<td>80.92</td>
<td>32%</td>
<td>1,448</td>
<td>26%</td>
<td>6%</td>
</tr>
<tr>
<td>Butter</td>
<td>8.9</td>
<td>4%</td>
<td>103</td>
<td>2%</td>
<td>9%</td>
</tr>
<tr>
<td>Fluid Milk and Cream</td>
<td>3.27</td>
<td>1%</td>
<td>113</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Other Dairy Products</td>
<td>6.51</td>
<td>3%</td>
<td>819</td>
<td>15%</td>
<td>1%</td>
</tr>
<tr>
<td>Total Dairy Exports</td>
<td>251.47</td>
<td>100%</td>
<td>5,481</td>
<td>100%</td>
<td>5%</td>
</tr>
</tbody>
</table>

*Idaho’s dry whey exports (all types) are estimated by the U.S. (dry whey exports [all types] × HS-10/HS-6 ratio in whey category)

Table 2. Top 5 U.S. states in milk production, 2017.

<table>
<thead>
<tr>
<th></th>
<th>Production (LB Million)</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>39.8</td>
<td>18%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>30.3</td>
<td>14%</td>
</tr>
<tr>
<td>New York</td>
<td>14.9</td>
<td>7%</td>
</tr>
<tr>
<td>IDAHO</td>
<td>14.6</td>
<td>7%</td>
</tr>
<tr>
<td>Texas</td>
<td>12.1</td>
<td>6%</td>
</tr>
<tr>
<td>U.S. Total</td>
<td>215.5</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3. Top 5 U.S. states in cheese production, 2017.

<table>
<thead>
<tr>
<th></th>
<th>Production (LB Million)</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin</td>
<td>3,366</td>
<td>1.6%</td>
</tr>
<tr>
<td>California</td>
<td>2,513</td>
<td>1.2%</td>
</tr>
<tr>
<td>IDAHO</td>
<td>959</td>
<td>0.4%</td>
</tr>
<tr>
<td>New York</td>
<td>861</td>
<td>0.4%</td>
</tr>
<tr>
<td>New Mexico</td>
<td>766</td>
<td>0.4%</td>
</tr>
<tr>
<td>U.S. Total</td>
<td>12,659</td>
<td>100%</td>
</tr>
</tbody>
</table>

³ Europe’s largest port is the Port of Rotterdam, the Netherlands. Therefore, Idaho’s dairy products are most likely exported all over Europe via the Netherlands.
Wheat

- Idaho ranked sixth in the value of wheat production among U.S. states in 2017. Hard Red Winter wheat, with production totals of 750 million bushels (43% share), led U.S. wheat production. In 2017, white wheat led Idaho’s production with 60.35 million bushels or 67% of total Idaho wheat (Table 5). In the general category of Idaho white wheat, soft white wheat, a favorite in Japan for use in noodles and sponge cake, comprised an 86% share. According to the Idaho Wheat Commission, much of Idaho’s soft white wheat is exported to the Asia-Pacific region.

- Idaho also grows hard red spring (HRS) wheat and hard red winter (HRW) wheat for hearth breads, rolls, and croissants. HRS is also used for bagels and pizza crust, and HRW for flatbreads, some types of Asian noodles, and all-purpose flour (U.S. Wheat Associates).

- Idaho wheat export value increased over the past two years. In 2017, Idaho exported $296 million of wheat, or 71% of the total value of Idaho wheat production ($416 million) (Figure 11).

- The top foreign markets in the Pacific Northwest (Idaho, Oregon, Washington, Montana, and North Dakota) for soft white wheat exports in 2017–18 were the Philippines (22%), Japan (15%), South Korea (12%), Indonesia (12%), Yemen (9%), and China (6%) (Figure 12).

Table 5. Idaho vs. U.S. wheat production (BU Million), 2017.

<table>
<thead>
<tr>
<th></th>
<th>Idaho Production (Million Bushels)</th>
<th>% Share</th>
<th>U.S. Production (Million Bushels)</th>
<th>% Share</th>
<th>Idaho/US</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Wheat</td>
<td>60.35</td>
<td>67%</td>
<td>258.19</td>
<td>15%</td>
<td>23%</td>
</tr>
<tr>
<td>Soft White Winter</td>
<td>43.42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft White Spring</td>
<td>8.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51.88</td>
<td>86%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard White Spring</td>
<td>8.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard Red Spring</td>
<td>18.34</td>
<td>20%</td>
<td>384</td>
<td>22%</td>
<td>5%</td>
</tr>
<tr>
<td>Hard Red Winter</td>
<td>10.18</td>
<td>11%</td>
<td>750</td>
<td>43%</td>
<td>1%</td>
</tr>
<tr>
<td>Spring Durum</td>
<td>1.85</td>
<td>2%</td>
<td>55</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Soft Red Winter</td>
<td></td>
<td></td>
<td>292</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Total Wheat</td>
<td>90.72</td>
<td>100%</td>
<td>1,740</td>
<td>100%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Figure 11. Idaho wheat value of production vs. value of exports.
Potatoes

- U.S. total potato production in 2017 was 442 million cwt. Over 90% of U.S. potatoes are fall potatoes, which totaled 401 million cwt in 2017. Idaho is the top state in the nation for fall potato production. One-third of U.S. fall potatoes are grown in Idaho. In 2017, Idaho produced 135 million cwt of fall potatoes, Washington 99 million cwt, and Oregon 21 million cwt. The combined fall potato production for the three Pacific Northwest states was 64% of U.S. total fall potato production (Table 6).

- Roughly 10% of U.S. potatoes are exported to foreign markets, with more than half converted into frozen products/French fries (Figure 13).

- U.S. potato exports values totaled $1.8 billion in 2017. The top three markets for U.S. potatoes were Japan, Canada, and Mexico. The combined export value for the top ten countries comprised 81% of the total exports value for U.S. potatoes (Figure 14).

- In 2017, the value of Idaho potato production totaled $975 million. Exports comprised nearly 10% of the production value; processed potatoes encompassed the remainder (91%) (Figure 15). Japan was the top foreign market for U.S. potato exports, while Canada was the top foreign market for Idaho potatoes. Ninety-two percent of Idaho potato exports value comprised five markets: Canada (44%), Mexico (27%), Japan (14%), the United Kingdom (4%), and Malaysia (3%) (Figure 16).

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Million CWT)</strong></td>
</tr>
<tr>
<td>IDAHO</td>
</tr>
<tr>
<td>Washington</td>
</tr>
<tr>
<td>Wisconsin</td>
</tr>
<tr>
<td>North Dakota</td>
</tr>
<tr>
<td>Oregon</td>
</tr>
<tr>
<td>Total US Fall Potato</td>
</tr>
<tr>
<td>Total US Potato</td>
</tr>
</tbody>
</table>

![Figure 13. Share of U.S. potato exports by product by volume, 2017.](image)

![Figure 14. Top 10 markets for U.S. potato exports, 2017.](image)

![Figure 15. Share of Idaho potato exports by product, 2017.](image)

![Figure 16. Top 5 markets for Idaho potato exports, 2017.](image)
Outlook for Idaho Agricultural Exports

Tariffs
In February 2018, the United States imposed additional tariffs on solar panels and washing machines (U.S. Customs and Border Protection, “Section 201 Trade Remedy”); additional tariffs on aluminum and steel from most countries followed in March (U.S. Customs and Border Protection, “Section 232 Tariffs”), and those on certain products from China followed in July and August (U.S. Customs and Border Protection, “Section 301 Trade Remedies”). In response to this series of U.S. tariffs, some of the major U.S. trade partners, Canada, Mexico, China, and the European Union, placed retaliatory tariffs on U.S. products. Agriculture exports, a sector for which the United States has a surplus, became an obvious target of retaliation. Idaho dairy products (25% added tariff from Mexico and China), wheat (25% added tariff from China), and potatoes (20% added tariff from Mexico) are affected due to the added tariffs (Idaho Commerce). Exports of these commodities will fall in those countries while exports to other countries may increase (Zheng et al., 2018).

Dairy Projections
• Price largely depends on export. USMCA countries continue to be important. The initial impact of opening the Canadian dairy market is projected to be mild. But the elimination of the Canadian Class 7 milk price is a key achievement in the USMCA agreement. Under the Class 7 regime, Canadian milk priced cheaper than the world market price. Eliminating it will increase the competitive advantage of the U.S. milk price in global markets. (Office of the U.S. Trade Representative).

Wheat Projections
• U.S. wheat exports will rise slightly as stocks increase and plantings decline.
• Russia will continue to be a strong competitor with the United States in global wheat markets.

Potato Projections
• The global French fry shortage will not translate into higher Idaho potato prices.
• Contract volumes for both chip and processing potatoes are likely to increase in 2019.

Exchange rates
Exchange rates play an important role in international trade. A weaker dollar lowers export prices, enabling U.S. farmers to compete better with overseas producers. Indeed, goods sold overseas become cheaper for foreign customers, which stimulates exports. In contrast, a stronger U.S. dollar can translate into weak export markets.
• The year 2016 was one of the strongest years for the U.S. dollar. The U.S. dollar index peaked in December 2016 and began to fall at the beginning of 2017, then bounced back in October 2017 and kept increasing in 2018. Careful monitoring of the exchange rate risk in the import/export market in the coming year is thus suggested.
Sources for Figures and Tables

Figure 1. Idaho’s Total Exports by Categories.

- Idaho Commerce/Top Export Destinations/Idaho global export statistics.  

Figure 2. Idaho Farm Gate Cash Receipts and Agricultural Exports.

- USDA, Economic Research Service (ERS), Farm Income and Wealth Statistics.  

- USDA, Economic Research Service (ERS), State Export Data, State Agricultural Exports, U.S.  
  agricultural cash receipts-based estimates (Calendar years). U.S. Agricultural Exports, State  

Figure 3. Idaho’s Agricultural Exports Share, 2017.

- USDA, Economic Research Service (ERS), State Export Data, State Agricultural Exports, U.S.  
  agricultural cash receipts-based estimates (Calendar years). U.S. Agricultural Exports, State  

Figure 4. Idaho’s Primary Categories of Agricultural Exports.

- USDA, Economic Research Service (ERS), State Export Data, State Agricultural Exports, U.S.  
  agricultural cash receipts-based estimates (Calendar years). U.S. Agricultural Exports, State  

Figure 5. Growth of Idaho’s Primary Agricultural Exports Categories (Based on the Export Value in 2000).

- USDA, Economic Research Service (ERS), State Export Data, State Agricultural Exports, U.S.  
  agricultural cash receipts-based estimates (Calendar years). U.S. Agricultural Exports, State  

Figure 6. Top Markets for U.S. Agricultural Exports, 2017.

- USDA, Foreign Agricultural Service (FAS)/Data & Analysis/Charts and Graphs. Top Markets for  

Figure 7. Idaho Top Destinations of Agricultural Exports, 2017.

- Idaho State Department of Agriculture/Marketing/International Services/Export Statistics.  
  “Idaho Agriculture: Growing for the World.”  

Figure 8. Top Markets for Idaho Dairy Exports, 2017.

- U.S. Census Bureau, USA Trade Online, State Export Data (Origin of Movement).  
  https://usatrade.census.gov/#!/.
Figure 9. Top 5 Markets for Idaho Dry Milk Exports, 2017.

- U.S. Census Bureau, USA Trade Online, State Export Data (Origin of Movement).
  https://usatrade.census.gov/?#.

Figure 10. Top Markets for Idaho Cheese Exports, 2017.

- U.S. Census Bureau, USA Trade Online, State Export Data (Origin of Movement).
  https://usatrade.census.gov/?#.

Figure 11. Idaho Wheat Value of Production vs. Value of Exports.

- USDA, National Agricultural Statistics Service (NASS), Quick Stats, Survey Data.

Figure 12. Top Destinations for Pacific Northwest Soft White Wheat Exports, Market Year 2017–18.

- Federal Grain Inspection Services Yearly Export Grain Totals.

Figure 13. Share of U.S. Potato Exports by Product by Volume, 2017.

  https://dataweb.usitc.gov/trade/search/Export/HTS.

Figure 14. Top 10 Markets for U.S. Potato Exports, 2017.

- U.S. Census Bureau, USA Trade Online, State Export Data (Origin of Movement).
  https://usatrade.census.gov/?#.

Figure 15. Share of Idaho Potato Exports by Product, 2017.

- U.S. Census Bureau, USA Trade Online, State Export Data (Origin of Movement).
  https://usatrade.census.gov/?#.

Figure 16. Top 5 Markets for Idaho Potato Exports, 2017.

- U.S. Census Bureau, USA Trade Online, State Export Data (Origin of Movement).
  https://usatrade.census.gov/?#.

Table 1. Idaho Agricultural Exports Value in 2017 Versus 2016.


Table 2. Top 5 U.S. States in Milk Production, 2017.

- USDA, National Agricultural Statistics Service (NASS), Quick Stats, Survey Data.
Table 3. Top 5 U.S. States in Cheese Production, 2017.


Table 4. Idaho Dairy Exports, 2017 ($ Million).

- U.S. Census Bureau, USA Trade Online, State Export Data (Origin of Movement). https://usatrade.census.gov/.

Table 5. Idaho vs. U.S. Wheat Production (BU Million), 2017.


References


