



REPORT TO THE ORGANIC TRADE ASSOCIATION

## U.S. Organic Trade Data: 2011 to 2016

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### Abstract:

This report updates OTA-Penn State report “Preliminary Analysis of USDA’s Organic Trade Data: 2011 to 2014” from April 2015 (Jaenicke and Demko, 2015a). We analyze data from USDA's Global Agricultural Trade System (GATS) spanning 2011 through 2016 for the values, quantities and prices of organic exports and imports. Product-by-product reports on the top five products of organic exports and imports include information on non-organic product counterparts. This report also includes a comprehensive overview of organic equivalency arrangements in the world and their impacts on organic trade. Projected growth rates for export products are modest in comparison with the products of organic imports, and the market share of organic imports is higher than for organic exports. Finding that organic soybeans and corn imports exhibit strong growth provides further evidence of the needs for transition of domestic acres to organic production of these commodity crops.

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### Disclaimer:

Dr. Iryna Demko and Dr. Robert Dinterman contributed to this report in their personal capacity. The views expressed are their own and do not necessarily represent the views of the Ohio State University.



## About the Authors:



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**Monique Marez** is the Director of International Trade at the Organic Trade Association. Monique leads international market access, market promotion, trade policy, and technical assistance projects for OTA and the organic industry. Since joining OTA in the summer of 2014, Monique has led activities in 15 countries resulting in more than \$83,000,000 in projected export sales since January 2015. Monique graduated from Yale University with an undergraduate degree in Ethics, Politics, Economics, and International Studies. She has a master's degree from New York University in Food Systems.



**Edward Jaenicke** is a Professor of Agricultural Economics and has been at Penn State University since 2001. He has authored or co-authored more than 25 peer-reviewed research papers on economic and policy issues related to food and agriculture, as well as three reports for the Organic Trade Association.

## About the Organic Trade Association:

The Organic Trade Association (OTA) is a membership-based business association for organic agriculture and products. OTA is the leading voice for the organic trade in the United States, representing over 9,500 organic businesses across 50 states. Its members include growers, shippers, processors, certifiers, farmers' associations, distributors, importers, exporters, consultants, retailers and others. OTA's mission is to promote and protect ORGANIC with a unifying voice that serves and engages its diverse members from farm to marketplace.



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## SECTION 1: Introduction and Major Themes

### 1. Introduction

The U.S. is the largest organic market in the world representing more than half of all consumer sales for organic products globally. Consumers now enjoy all types of organic products from apples to ziti, but this abundance and variety are not possible without trade. The global organic industry continues to grow, with over \$81.6 billion USD in 2015. Over 179 countries around the world have organic activities with over 2.4 million organic producers worldwide (Willer, 2017). As the global industry matures, the importance of trade and tracking increases.

The following report represents an updated qualitative and quantitative analysis of the data for organic products contained in the U.S. Department of Agriculture's (USDA) Global Agricultural Trade System (GATS). USDA first added data for trade in organic products to this system in 2011. As of January 2017, there are 41 export and 47 import Harmonized System (HS) codes. We combine closely related products into one product category and analyze 31 different export products and 23 different aggregated import products with HS codes.

The USDA GATS data cover organic export products representing \$547.7 million in 2016. This figure compares to more than \$6.02 billion in non-organic exports for the same 31 products. The share of organic exports relative to total (organic plus non-organic) exports has increased from 7.1% in 2011 to 8.3% in 2016. More generally, the GATS reports that agricultural products exports were valued at \$135 billion in 2016. In dollar value, organic apples, lettuce, grapes, strawberries and spinach are the top five organic exports representing 55% of the value of U.S. organic exports in 2016.

Organic import products in the USDA GATS data represent over \$1.7 billion in 2016. This figure compares to more than \$18.28 billion in non-organic imports for the same 23 products. The share of organic imports in total imports grew by 2.1%, from 6.4% to 16%, during 2011-2016. More generally, the USDA reports that agricultural products imports were valued at \$114 billion in 2015. Organic coffee, soybeans, bananas, olive oil and corn are the top organic imports. They represent 68% of the value of organic imports in 2016.

### 2. Major Themes

- Overall, U.S. organic exports have remained stable over 2013-2016 years. Projected growth rates for export products are modest in comparison with the products of organic imports. The value of organic imports increased by 34.4% from 2014. Also, by 2016, the market share of organic imports was higher at 16% than for organic exports at 8.3%.
- The U.S. exports organic products to at least 104 different countries. The main recipients of these exports were Canada and Mexico. East Asia and the Middle East continue to gain market importance as more and more U.S. product is exported to these regions. For example, the value of measured organic exports to the United Arab Emirates has substantially increased during 2012- 2015 (from \$1.2 million to \$14.4 million).
- The U.S. imports organic products from at least 111 different countries. Mexico is the leading supplier of organic products to the U.S., while Peru is becoming more competitive with Mexico for numerous tropical organic exports to the U.S.
- For the first time, soybeans have overtaken coffee as the largest import for a single HS code. Organic soybean imports grew from just \$41.8 million in 2011 to \$250.5 million in 2016, and their projected



growth rate is 40.63% per year. However, there are multiple HS codes for coffee, and it remains the most imported organic product when these codes are aggregated.

- Organic corn imports quadrupled in four years: from \$36.6 million in 2013 to \$160.4 million in 2016. Import spikes in grains such as organic corn and soy are further evidence of the need for transition of domestic acres to organic production of these commodity crops. Note: these imports are largely for livestock feed.
- Thirty- seven percent of the value of organic corn and 26% of the value of organic soybean imports entered the U.S. from organic equivalency partners. When compared by the quantity of imports (not value), 30% of imports of organic corn and 25% of organic soybean come from countries with equivalencies.
- 61% of U.S. organic exports enter U.S. organic equivalency partners and 21% of U.S. organic imports come from countries with equivalencies.

Note that the organic export and import figures only capture international trade for organic products recorded by the U.S. government through the Harmonized Tariff Schedule System (HS). Very few new organic HS codes were added to the government system since the first edition of this report. Only one export code—for organic milk—was added to the Schedule B, in July 2016. Five import codes were added to the Harmonized Tariff Schedule in July 2016 as well. Since the data are only beginning to be tracked, no analysis is provided for these newly added products.

### **3. Limited visibility challenge with existing codes**

The Harmonized Tariff Schedule of the U.S. (HTS) was enacted by Congress and made effective on January 1, 1989, replacing the former Tariff Schedules of the United States. The U.S. International Trade Commission (USITC) publishes and maintains the U.S. Harmonized Tariff Schedule (HTS) and provides technical information on its structure and modification. USITC is independent, federal, and non-partisan. The Office of Tariff and Trade Affairs of the USITC manages the Harmonized Tariff Schedule for products imported to the U.S. and the Schedule B codes are used for products exported from the U.S. The primary function of this system is to access tariffs for internationally traded products. However, they serve as a statistical reference and serve as the data set for this report.

While technical and detailed, HTS codes are key in monitoring the success and growth of the organic industry over time. The unique code structure is based upon the international Harmonized Commodity Description and Coding System (HS) administered by the World Customs Organization in Brussels. The four and six digit HS product categories are subdivided into eight-digit tariff rate lines unique to the U.S. and 10-digit non-legal statistical reporting categories. These 10-digit codes help several federal organizations track the level of international trade for a specific product. There are thousands of HS codes in action today, but very few for organic-specific products.

Formal submission requests for new codes are accepted twice a year. Anyone can submit a new 10-digit statistical category through the submission request process. However, there are three key requirements for a new code request to even be considered:

1. There must be at least three importers or exporters.
2. Trade must be consistently publishable on a monthly basis.
3. The minimum level of trade must be \$1 million per year for each requested statistical breakout.

The review committee approves and denies code requests based on the following three criteria:

1. Nomenclature - The description should accurately reflect the product and the intent of the request.
2. Administrability - Customs must be able to administer the new annotation.



3. Disclosure - Data for any new statistical annotation must be publishable under Census rules for protecting Confidential Business Information.

Existing codes mostly cover fresh fruits and vegetables. Currently there are 88 organic specific codes, 47 import codes in the HTSUS, and 41 export codes in the Schedule B. Note that import and export codes do not necessarily match. For example, there is an import code for organic avocados, but no export code for organic avocados. Furthermore, much of the organic trade data is for raw or intermediary goods rather than processed products. There are only three export codes for processed organic products (tomato sauce, roasted coffee, and liquid milk). Euromonitor data indicate the processed organic product market in Japan, our third largest trading partner and first Asian equivalency partner, to be about \$645 million USD in 2015.<sup>1</sup> In-store photo evidence indicates that many of those products are from the U.S. However, none of that export activity is formally tracked.

HTS codes provide valuable information that enables the organic industry to understand international market behavior, develop policy priorities, compare with conventional competitors, and reference official government data for negotiations. To date, the Organic Trade Association has submitted all applications for organic HS codes in existence. The Organic Trade Association submits two requests each year for more and more organic codes. However, existing codes only cover a fraction of the organic export/import picture. Industry support is needed to add more codes to the U.S. HTS system. The association welcomes input from trade in creating new codes. A full list of existing codes is available in Table A-1 and A-2.

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<sup>1</sup> <http://globalorganictrade.com/country/japan>



## SECTION 2: U.S. Exports of Organic Products

### 1. U.S. Organic Export Products Highlights

This section describes U.S. organic exports. Table 1 lists the 31 products ranked by 2016 export values. For each product, except where data problems prevent it, the table also presents the estimated annual growth rates for the organic exports. Table 2 lists the product-by-product share of organic exports relative to total (organic plus non-organic) exports. Map 1 shows all U.S. organic export destination countries. Then, we analyze the top five organic export products and their non-organic product counterparts. We also estimate growth rates for the organic and non-organic exports. Technical details on how the growth rates are estimated can be found in Appendix E of the 2015 version of this report (Jaenicke and Demko, 2015a). Finally, we display price index for the top five U.S. organic exports in Appendix Graph 1.1. Labeling for the tables and figures follows the following scheme: “E.1.a” represents exports (E) of the number 1 ranked organic export, with “a” denoting the first table or figure of a series.

#### *Growth Rates*

- Annual growth rates were estimated for the 22 organic export products consolidated from 41 total export codes. Fourteen of these products show positive growth in organic exports. Among the top ten exports, the product with the highest growth rate is organic strawberries (17.27% annual growth), and organic spinach has the second highest annual growth rate (13.27%).

#### *Organic Exports' Market Share*

- The share of organic exports relative to total (organic plus non-organic) exports has increased from 7.1% in 2011 to 8.3% in 2016.
- Among the top ten exports, spinach and carrot exports have the highest shares of organic exports relative to total exports. Spinach has a 33% organic share of total spinach exports, and carrots is next with a 28% organic share.
- Spinach, carrots, onion sets and beet have an organic share of total exports equal to at least 20%.
- Over the past six years, the organic share of carrots has grown by 9% and of strawberries by 6%.

#### *Top Five Organic Exports*

- Exports of organic apples, the leading U.S. organic export product, have slowed down. Organic exports were particularly strong, maybe abnormally strong, in 2013. The overall decline in organic apple exports since 2013 may be attributable to a corresponding decline in exports to Mexico.
- Organic lettuce (head and non-head combined) was the second leading U.S. organic export in 2016. Whereas exports to Canada as the primary destination have significantly declined, exports to Taiwan have increased. The slow growth for organic head lettuce exports is consistent with domestic patterns for the product. Organic lettuce exports prices have been increasing since 2011, and dropped significantly in 2016.
- Organic grapes continue to be the third leading U.S. organic export product since 2011. In general, organic grape exports are highly cyclical and, on average, show modest growth over the six-year period, while the non-organic exports have declined. Mexico has become the leading destination for organic grapes, and Canada continues to be the top destination for non-organic grapes. Organic grape prices have been declining since 2011.
- Strawberries held the fourth leading U.S. organic export position in 2015 and 2016 and are expected to grow. The share of organic strawberry exports in total strawberry exports doubled during 2011 through 2016, and exports to Mexico rose dramatically.



- Spinach has been the fifth leading U.S. organic export, exhibiting strong growth since 2011. Exports of organic and non-organic spinach are dominated by Canada and Mexico. Spinach has the highest share of organic exports among the top five products of organic exports. The price of organic spinach has declined since 2011.



**Table 1: Total U.S. Organic Exports (millions of \$), ranked by 2016 values**

Product	2011	2012	2013	2014	2015	2016	Est. Annual Growth Rate
1. Apples	46.2	91.9	136.6	115.4	95.7	82.8	9.96%#
2. Lettuce	87.1	83.2	86.1	75.7	59.9	70.4	-6.21%
3. Grapes Fresh	60.0	39.8	58.9	64.8	57.2	65.8	9.93%#
4. Strawberries	15.8	18.4	27.7	30.7	35.6	42.4	17.27%
5. Spinach	20.9	26.0	33.4	37.8	38.7	38.6	13.27%
6. Carrots	22.7	22.6	24.6	26.5	25.9	30.7	6.43%
7. Tomato Sauce	22.0	12.0	15.0	19.6	20.5	22.4	7.97%#
8. Coffee Roast (Not Decaf)	15.2	24.3	21.7	23.2	24.1	22.0	6.16%#
9. Cauliflower	18.0	24.0	16.8	24.5	21.0	21.5	3.22%#
10. Pears (and Quince)	8.9	20.6	19.0	18.3	18.1	18.4	1.05%#
11. Berries (Raspberries, Blackberries, Mulberries and Loganberries)	-	-	-	-	22.2	16.9	-22.06%
12. Blueberries	16.4	13.7	15.3	17.2	18.7	14.4	-0.82%#
13. Oranges	14.2	13.7	10.9	15.0	12.8	13.8	-2.72%#
14. Lemons	6.3	6.1	7.9	12.8	8.9	13.8	14.47%
15. Celery	7.1	6.6	7.5	10.1	9.6	12.6	12.56%
16. Onion Sets	2.2	3.5	8.5	10.3	10.7	11.1	missing values
17. Broccoli	9.9	13.6	15.6	14.4	10.7	10.3	-0.49%#
18. Peach/Nectarine	-	-	-	-	6.4	9.1	missing values
19. Tomato Fresh	5.1	6.6	7.6	11.6	19.2	6.5	12.28%#
20. Grapefruit	-	1.5	1.6	3.1	2.8	4.9	missing values
21. Cherries	30.6	6.4	8.8	11.6	6.4	4.2	missing values
22. Milk and Cream	-	-	-	-	-	3.0 <sup>(1)</sup>	missing values
23. Watermelon	-	-	-	-	1.6	3.3	missing values
24. Peas	-	-	-	-	7.6	2.9	-44.45%
25. Potatoes	1.6	1.8	1.7	2.9	2.1	2.3	11.17%
26. Peppers	2.0	2.5	3.7	5.0	3.8	2.3	5.75%#
27. Cabbage	-	1.1	3.5	2.7	2.2	1.4	missing values
28. Beet	-	-	-	-	1.1	1.1	-4.93%#
29. Asparagus	-	-	-	-	0.5	0.9	missing values
30. Limes	-	-	-	-	1.2	0.7	-39.56%
31. Cucumbers	-	0.0	0.0	0.0	0.0	0.2	missing values
<b>Total</b>	<b>412.0</b>	<b>440.1</b>	<b>532.4</b>	<b>553.1</b>	<b>545.0</b>	<b>547.7</b>	
<b>Total for products tracked from 2015</b>	-	-	-	-	<b>40.6</b>	<b>35.1</b>	

Notes:

#: not statistically significant results; <sup>(1)</sup> – HS-coded since July 2016; “missing values”: Estimation problems were encountered due to excessive zeros or missing data points.

Data Source: USDA Foreign Agricultural Service's Global Agricultural Trade System (GATS)



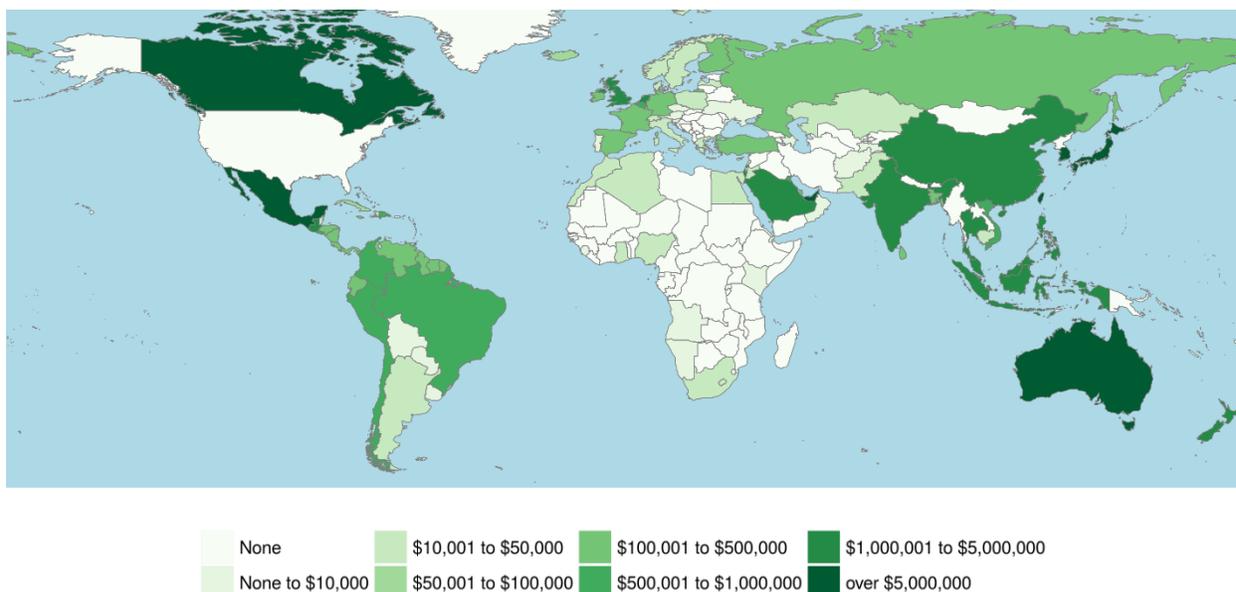
**Table 2: Organic Exports' Share of Total U.S. Exports (%)**

Product	2011	2012	2013	2014	2015	2016
1. Apples	5%	9%	12%	11%	9%	9%
2. Lettuce	19%	18%	17%	16%	12%	15%
3. Grapes Fresh	8%	5%	6%	7%	8%	8%
4. Strawberries	4%	5%	7%	8%	9%	10%
5. Spinach	29%	31%	33%	33%	32%	33%
6. Carrots	17%	19%	20%	23%	23%	28%
7. Tomato Sauce	11%	6%	6%	8%	9%	9%
8. Coffee Roast (Not Decaf)	2%	3%	3%	3%	3%	3%
9. Cauliflower	14%	19%	12%	18%	16%	16%
10. Pears (and Quince)	5%	10%	9%	8%	10%	11%
11. Berries (Raspberries, Blackberries, Mulberries and Loganberries)	-	-	-	-	14%	12%
12. Blueberries	17%	12%	13%	16%	19%	16%
13. Oranges	3%	3%	2%	3%	3%	2%
14. Lemons	5%	5%	5%	6%	5%	8%
15. Celery	9%	8%	8%	12%	11%	14%
16. Onion Sets	16%	14%	24%	27%	31%	25%
17. Broccoli	9%	10%	12%	11%	9%	9%
18. Peach/Nectarine	-	-	-	-	5%	6%
19. Tomato Fresh	3%	4%	5%	7%	14%	6%
20. Grapefruit	-	1%	1%	3%	2%	5%
21. Cherries	7%	1%	2%	3%	2%	1%
22. Milk and Cream	-	-	-	-	-	9%
23. Watermelon	-	-	-	-	2%	4%
24. Peas	-	-	-	-	24%	8%
25. Potatoes	1%	1%	1%	2%	1%	1%
26. Peppers	2%	3%	4%	6%	5%	3%
27. Cabbage	-	4%	8%	7%	6%	3%
28. Beet	-	-	-	-	23%	23%
29. Asparagus	-	-	-	-	2%	2%
30. Limes	-	-	-	-	26%	15%
31. Cucumbers	-	0.07%	0.05%	0.07%	0%	1%
<b>In total U.S. Exports</b>	<b>7.1%</b>	<b>6.8%</b>	<b>8.1%</b>	<b>8.5%</b>	<b>8.2%</b>	<b>8.3%</b>

Notes: (1) Based on authors' calculations using Table A-1: HS Export Code Correspondences in Appendix. (2) Durum Wheat did not have matching HS trade code to define non-organic product counterparts.



**Map 1: U.S. Organic Export Destination Countries, annualized from 2011 to 2016**



Map 1 shows U.S. organic export flows from 2011 to 2016 to at least 104 different countries. On average, the U.S. organic exports value was \$505 million per year – or a total of \$3.03 billion over these six years.

The main recipients of these exports were Canada and Mexico, which averaged over \$247 million and \$134 million in U.S. organic products per year respectively, and thus accounted for over 75% of U.S. organic exports. The other 102 countries received an average of \$7.2 million of U.S. organic products per year, although the median was much lower at \$758,500 annually, and the bottom 45 countries received fewer than \$50,000 annually. In total, there were 23 countries that imported an average of at least \$1 million U.S. organic products per year and accounted for more than 97% of total U.S. organic exports (Table A-3).

Access to ports, distance, political agreements, and country size (as measured in GDP) of the importing country are clear indicators of the volume U.S. organic products that they will receive. Aside from Canada and Mexico, the other top countries that the U.S. exports to are Japan, Taiwan, Australia, Hong Kong, South Korea, and United Arab Emirates – all of which averaged at least \$5 million in U.S. organic imports per year.

East Asian and the Middle East continue to gain market importance as more and more U.S. product is exported to these regions. For example, the value of measured organic exports to the United Arab Emirates substantially increased during 2012- 2015 (from \$1.2 million to \$14.4 million).



## 1. ORGANIC APPLE EXPORTS

Organic apples continue to be the leading U.S. organic export product since 2012. In general, organic and non-organic apple exports have slowed down. Organic exports were particularly strong, maybe abnormally strong, in 2013. The overall decline in organic apple exports since 2013 may be attributable to a corresponding decline in exports to Mexico.

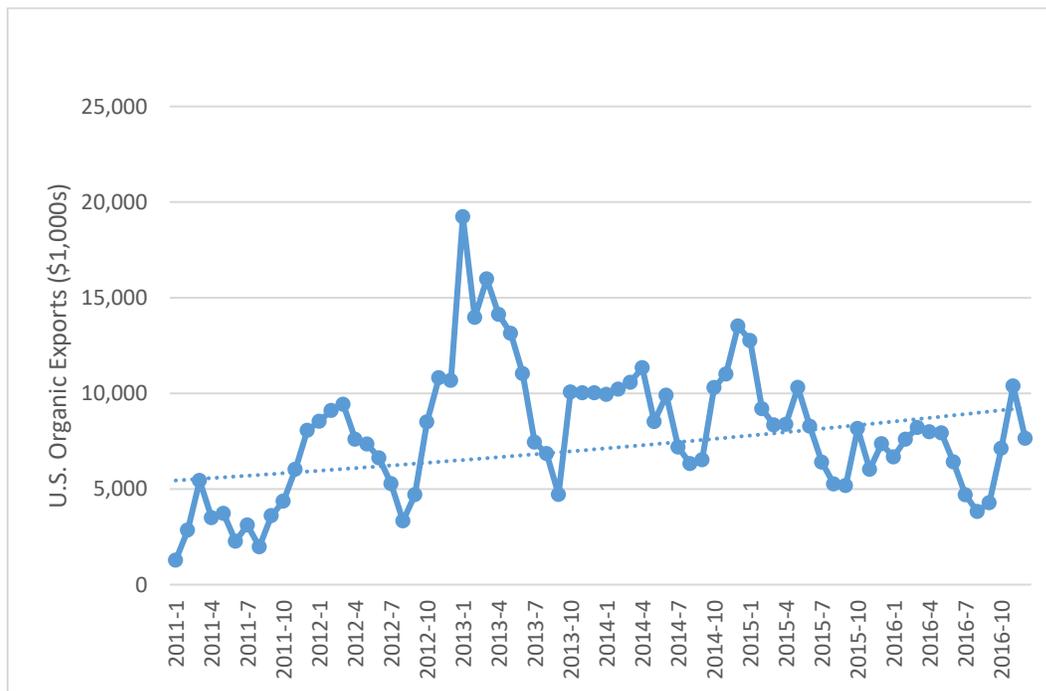
### *Monthly Export Data and Market Growth*

Based on six years (72 months) of export data, the annual growth rate for organic apple exports is estimated to be 9.96%. Table E.1.a shows that the annual growth rate for non-organic apples is substantially lower, actually declining over time at an estimated rate of 0.56% per year. Organic and conventional apple exports are found to have quarterly effects, with the second quarter exports significantly higher than the reference quarter. For organic apples, exports in the third quarter of each year (months 7 to 9) are significantly lower than those from the first quarter, which is the reference quarter. A cyclical pattern is noticeable in Figure E.1.a, the graph of monthly organic exports, where the third-quarter figures are generally below the general trend line.

**Table E.1.a: Total Organic and Non-Organic Apple Exports, Growth Rate and Quarterly Effects**

Exports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Apples	2011-Q1 to 2016-Q4	0.79%	No	<b>9.96%</b>	Yes: Q3 is significantly lower
Non-Organic Apples	2011-Q1 to 2016-Q4	-0.05%	No	<b>-0.56%</b>	Yes: Q2 and Q3 are significantly lower

**Figure E.1.a: Monthly Organic Apple Exports, with Exponential Trend Line**



Organic apple exports have been declining since 2013. At the same time, in 2016, the value of organic apples exported doubled the value in 2011. The organic export share rises dramatically from 2011 to 2013 and then declines to 9% in 2016. The unit value of organic exports averages \$1.24 per kilogram.

**Table E.1.b: Organic and Total Apple Exports**

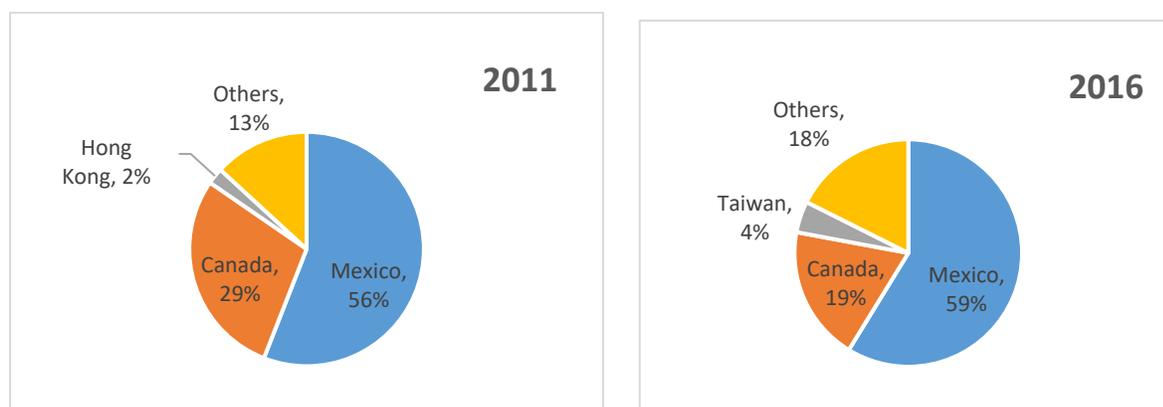
	2011	2012	2013	2014	2015	2016
Value of Organic Export, \$1,000s	46,181	91,948	136,605	115,370	95,670	82,755
Total Export, \$1,000s	941,713	1,072,676	1,106,953	1,074,916	1,018,663	921,571
Organic Share of Total	5%	9%	12%	11%	9%	9%
Organic Export Quantity, tons	36,687	70,946	103,625	90,411	94,133	66,292
Price of Organic Export, \$/kg	1.26	1.30	1.32	1.28	1.02	1.25

Note: 1 ton = 1,000 kg

**Country of Destination**

Major destination countries for U.S. organic and non-organic apples, shown in Figure E.1.b and Figure E.1.c, are dominated by Mexico and Canada. Mexico's share was 56% in 2011 and increased to 59% in 2016; Canada's share declined from 29% to 19% over the six-year period. Mexico and Canada continue to be the most important destinations of conventionally grown U.S. apples, but their relative shares are smaller: 22% for Mexico and 21% for Canada in 2016.

**Figure E.1.b: Organic Apple Export Destinations, by Share**



**Figure E.1.c: Non-Organic Apple Export Destinations, by Share**

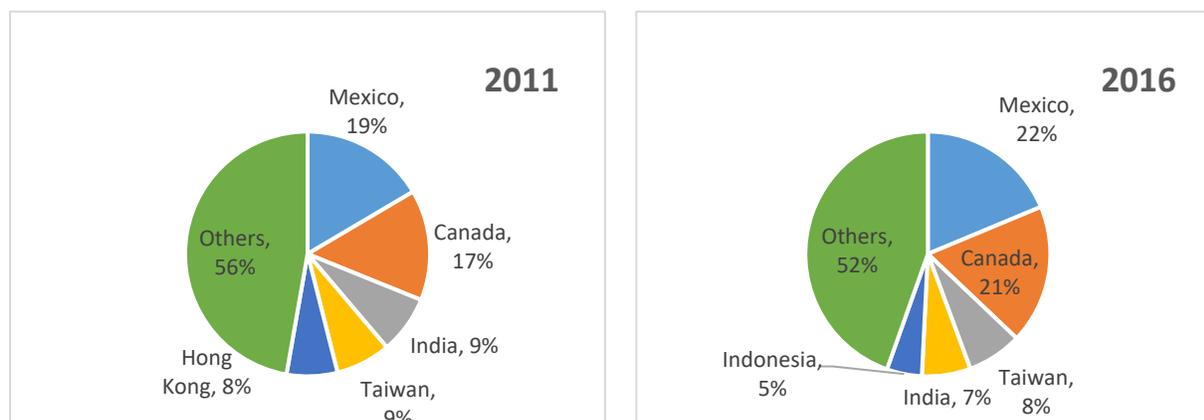


Table E.1.c for organic apples compared with Table E.1.d for non-organic apples clearly reveals that Mexico and Canada are the leading organic and non-organic apple export destination countries.

**Table E.1.c: Organic Apple Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Mexico	25,835	66,915	103,330	78,786	60,084	48,634
2. Canada	13,234	14,768	21,567	22,209	18,459	15,873
3. Taiwan	128	670	452	1,947	2,716	3,685
4. Israel	773	1,478	733	2,296	998	1,879
5. Indonesia	10	0	314	0	481	1,848
6. United Kingdom	418	1,462	2,208	1,229	24	1,764
7. India	995	372	1,418	1,295	321	1,083
8. Guatemala	0	0	329	946	22	1,082
9. China	418	53	39	344	1,162	1,036
10. Hong Kong	1,040	1,097	843	378	886	910
<b>Totals</b>	<b>42,851</b>	<b>86,815</b>	<b>131,233</b>	<b>109,430</b>	<b>85,153</b>	<b>77,794</b>

**Table E.1.d: Non-Organic Apple Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Mexico	173,742	217,584	228,797	188,083	213,498	181,897
2. Canada	154,009	178,323	191,733	177,158	149,827	178,612
3. Taiwan	76,407	84,347	82,140	88,755	75,378	70,635
4. India	80,747	96,334	68,548	66,710	100,738	62,445
5. Indonesia	64,987	64,884	41,029	49,863	28,328	45,092
6. Hong Kong	70,584	62,926	45,270	42,878	47,392	37,795
7. Vietnam	17,937	16,597	32,616	53,456	36,180	35,206
8. United Arab Emirates	31,452	38,415	57,787	59,765	46,277	26,959
9. Dominican Republic	11,974	15,308	12,953	16,919	17,797	23,064
10. China	6,588	4,663	1,021	3,596	23,162	20,128
<b>Totals</b>	<b>688,427</b>	<b>779,381</b>	<b>761,894</b>	<b>747,183</b>	<b>738,577</b>	<b>681,833</b>



## 2. ORGANIC LETTUCE EXPORTS

Organic lettuce (head and non-head combined) was the second leading U.S. organic export in 2016. After a drop in the value of exports in 2015, from \$75.7 million to \$59.9 million, a significant increase followed in 2016. The unit price of organic lettuce exports has been increasing since 2011 and dropped significantly in 2016. Whereas exports to Canada as the primary destination have significantly declined, exports to Taiwan have increased from \$0.2 million in 2015 to \$7.7 million in 2016. The slow growth for organic head lettuce exports is consistent with domestic patterns for the product. Whereas head lettuce is decreasing in popularity, salad mixes are increasing.

### *Monthly Export Data and Market Growth*

Based on six years (72 months) of export data, the annual growth rate for organic lettuce exports is estimated to be -6.21%. Table E.2.a also shows that non-organic lettuce had positive growth during the same time period. The table summarizes monthly and annual growth rates estimated with an exponential growth model, and shows that quarterly effects are significant for organic and non-organic lettuce. A cyclical pattern is not generally noticeable in Figure E.2.a, the graph of monthly organic exports.

**Table E.2.a: Total Organic and Non-Organic Lettuce Exports, Growth Rate and Quarterly Effects**

Exports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Lettuce	2011-Q1 to 2016-Q4	-0.53%	No	<b>-6.21%</b>	Yes: Q2 is significantly higher
Non-Organic Lettuce	2011-Q1 to 2016-Q4	0.27%	Yes	<b>3.29%</b>	Yes: Q3 is significantly lower

**Figure E.2.a: Monthly Organic Lettuce Exports, with Exponential Trend Line**



From Table E.2.b, the value and the quantity of organic lettuce exports have dropped in 2015, which is consistent with domestic patterns for the product. Whereas head lettuce is decreasing in popularity, salad mixes are increasing. Organic lettuce constitutes 15% of exports in 2016, which is a decline of 4% since 2011. The unit price of organic lettuce exports had been increasing since 2011 but dropped significantly in 2016.

**Table E.2.b: Organic and Total Lettuce Exports**

	2011	2012	2013	2014	2015	2016
Value of Organic Export, \$1,000s	87,069	83,205	86,089	75,691	59,928	70,419
Total Export, \$1,000s	465,162	453,968	500,187	482,004	514,516	465,570
Organic Share of Total	19%	18%	17%	16%	12%	15%
Organic Export Quantity, tons	36,421	34,597	33,834	27,574	19,498	31,158
Price of Organic Export, \$/kg	2.39	2.41	2.54	2.75	3.07	2.26

Note: 1 ton = 1,000 kg

**Country of Destination**

Major destination countries for U.S. organic and non-organic lettuce, shown in Figure E.2.b and Figure E.2.c, are dominated by Canada and Taiwan. Taiwan’s share increased from 5% in 2011 to 11% in 2016. At the same time, Taiwan’s share in conventional lettuce exports was very small in 2011 (0.1%), but it increased to 2% in 2016. Meanwhile, Mexico’s share dropped from 11.7% to 1% over the six-year period. Canada continues to be the dominant destination for non-organic lettuce.

**Figure E.2.b: Organic Lettuce Export Destinations, by Share**



**Figure E.2.c: Non-Organic Lettuce Export Destinations, by Share**



Table E.2.c shows country-by-country exports of organic lettuce over the six-year period. Again, we see that Canada is the prominent destination. However, organic exports to Taiwan increased greatly in 2016. For non-organic lettuce, Canada has been the leading destination since 2011, followed by Taiwan and then Mexico.

**Table E.2.c: Organic Lettuce Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Canada	81,128	79,403	79,711	69,217	53,503	45,741
2. Taiwan	4,664	1,652	654	34	240	7,679
3. Mexico	483	1,179	4,307	5,228	5,626	5,019
4. Japan	79	290	312	171	13	3,783
5. Korea, South	248	327	0	271	6	2,968
6. Kuwait	0	9	4	0	0	1,668
7. Saudi Arabia	0	0	0	4	0	1,607
8. Hong Kong	4	0	103	187	41	655
9. Bahamas, The	3	16	6	0	0	404
10. Trinidad and Tobago	188	207	228	164	316	360
<b>Totals</b>	<b>86,797</b>	<b>83,083</b>	<b>85,325</b>	<b>75,276</b>	<b>59,745</b>	<b>69,884</b>

**Table E.2.d: Non-Organic Lettuce Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Canada	266,159	253,408	279,936	276,766	320,753	284,675
2. Taiwan	2,663	3,406	4,835	11,352	7,674	6,619
3. Mexico	3,552	5,830	6,319	5,563	3,942	3,310
4. Bermuda	20	1,952	2,531	2,832	3,011	3,287
5. Bahamas, The	1,160	1,096	1,684	1,811	2,185	1,755
6. Netherlands Antilles	507	271	537	541	1,645	1,407
7. Japan	1,172	1,819	1,688	787	381	1,301
8. Kuwait	87	168	40	379	1,069	992
9. Cayman Islands	34	64	532	566	745	767
10. Barbados	31	23	33	144	332	624
<b>Totals</b>	<b>275,385</b>	<b>268,037</b>	<b>298,135</b>	<b>300,741</b>	<b>341,737</b>	<b>304,737</b>



### 3. ORGANIC GRAPE EXPORTS

Organic grapes have been the third leading U.S. organic export since 2011. In general, organic grape exports are highly cyclical and, on average, show modest growth over the six-year period, while the non-organic exports have declined. The unit price of organic grapes has slightly declined between 2011 and 2016. Mexico has become the leading destination for organic grapes, and Canada continues to be the top destination for non-organic grapes.

#### *Monthly Export Data and Market Growth*

Based on six years (72 months) of export data, the annual growth rate for organic grape exports is estimated to be 9.93%. Table E.3.a shows that this annual growth rate is about 30% higher than the growth rate in non-organic grape exports, which we estimate to be 3.54% per year. The table summarizes the monthly and annual growth rates estimated with an exponential growth model, and it shows that quarterly effects are significant. For organic and non-organic organic grape exports, the third quarter of each year has significantly higher exports than the reference quarter. A cyclical pattern is noticeable in Figure E.3.a, the graph of monthly organic exports, in which the fourth-quarter figures are generally above the general trend line.

**Table E.3.a: Total Organic and Non-Organic Grape Exports, Growth Rate and Quarterly Effects**

Exports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Grapes	2011-Q1 to 2016-Q4	0.79%	No	<b>9.93%</b>	Yes: Q3 is significantly higher
Non-Organic Grapes	2011-Q1 to 2016-Q4	0.29%	No	<b>3.54%</b>	Yes: Q3 is significantly higher

**Figure E.3.a: Monthly Organic Grape Exports, with Exponential Trend Line**

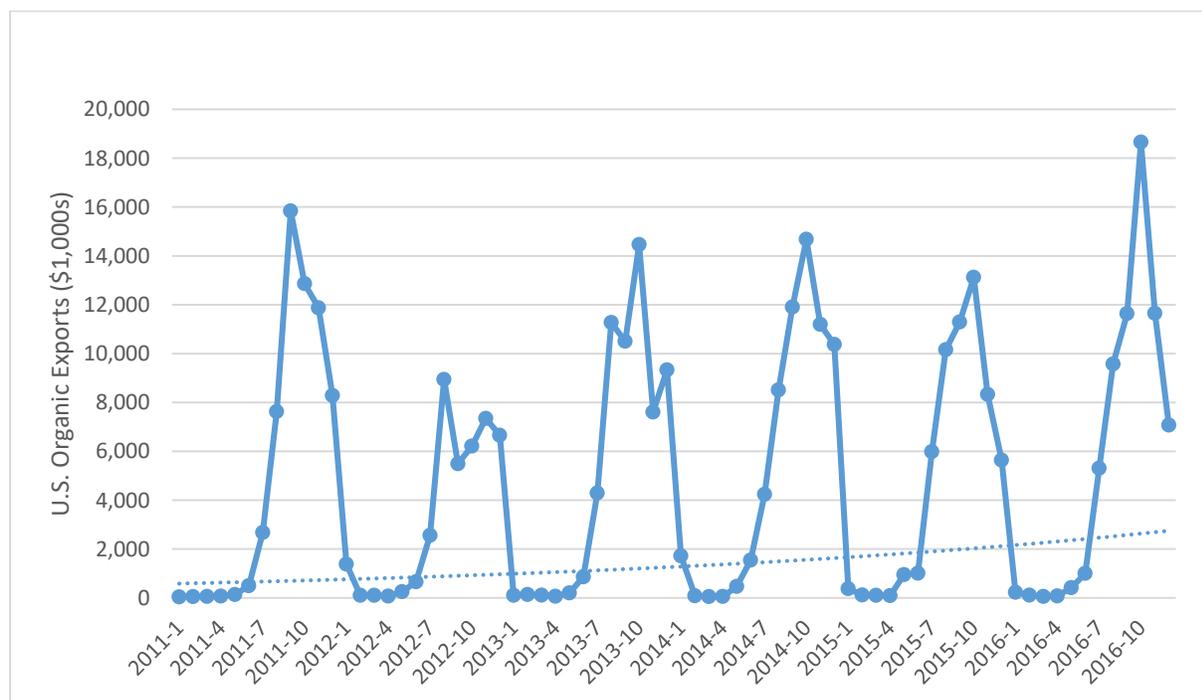


Table E.3.b shows a decrease in the value and quantity of organic grape exports in 2012. The organic exports share dips from 8% in 2011 to 5% in 2012, and then rises back to 8% in 2015 and 2016. The unit price of organic grapes declined from \$2.83 per kilogram in 2011 to \$2.08 in 2016.

**Table E.3.b: Organic and Total Grape Exports**

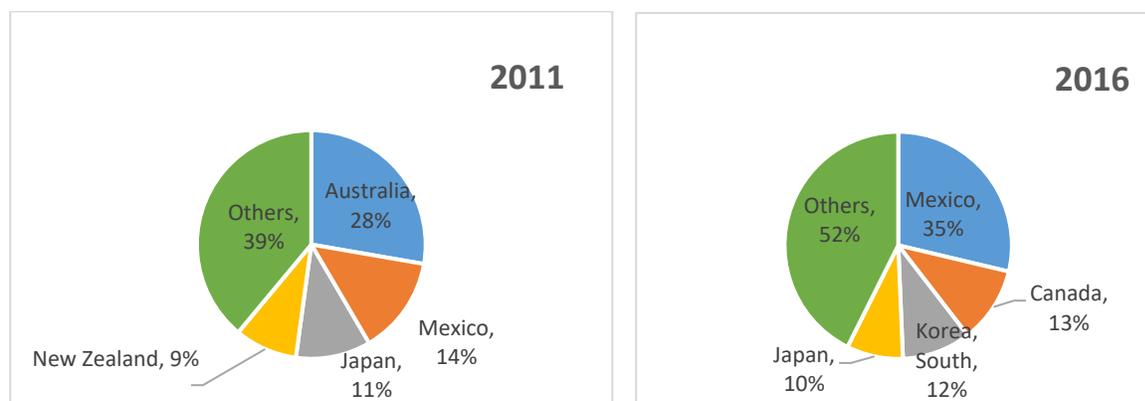
	2011	2012	2013	2014	2015	2016
Value of Organic Export,\$1,000s	60,007	39,784	58,941	64,815	57,176	65,795
Total Export, \$1,000s	719,407	799,450	912,035	873,920	750,421	785,752
Organic Share of Total	8%	5%	6%	7%	8%	8%
Organic Export Quantity, tons	21,214	16,916	27,703	30,618	26,179	31,627
Price of Organic Export, \$/kg	2.83	2.35	2.13	2.12	2.18	2.08

Note: 1 ton = 1,000 kg

### Country of Destination

As shown in Figure E.3.b, Australia, Mexico, and Japan were major destinations for organic grapes in 2011. By 2016, the share of Mexico has grown from 14% to 35%. Canada, Hong Kong and Mexico have been the leading destinations of non-organic grapes.

**Figure E.3.b: Organic Grape Export Destinations, by Share**



**Figure E.3.c: Non-Organic Grape Export Destinations, by Share**

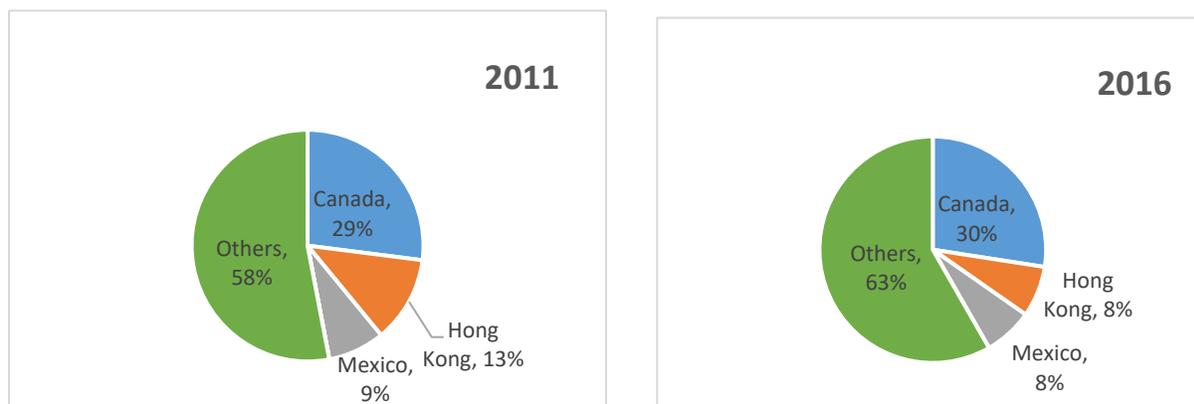


Table E.3.c for organic grapes reveals that Mexico's role had been increasing since 2015 but has declined in 2016. Table E.3.d for non-organic grapes shows that Canada was the leading destination.



**Table E.3.c: Organic Grape Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Mexico	8,311	19,914	27,485	28,951	27,137	22,991
2. Canada	4,690	5,699	7,809	10,460	9,621	8,669
3. Korea, South	2,243	576	147	441	620	7,846
4. Japan	6,353	1,991	5,109	4,753	4,874	6,434
5. Guatemala	1,275	572	403	412	503	5,013
6. Hong Kong	121	48	96	128	0	3,630
7. Philippines	0	41	24	0	0	2,686
8. Taiwan	81	61	322	150	844	2,013
9. El Salvador	243	21	105	235	223	1,530
10. Indonesia	1,276	1,014	892	189	0	1,344
<b>Totals</b>	<b>24,593</b>	<b>29,937</b>	<b>42,392</b>	<b>45,719</b>	<b>43,822</b>	<b>62,156</b>

**Table E.3.d: Non-Organic Grape Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Canada	193,474	213,999	211,309	214,759	211,173	212,508
2. Hong Kong	86,254	76,124	138,060	96,969	75,100	56,272
3. Mexico	56,865	56,854	60,696	62,115	63,954	54,335
4. Philippines	27,438	38,325	44,071	41,425	32,873	42,964
5. Australia	18,146	43,056	40,554	47,572	34,259	42,153
6. Taiwan	16,740	21,295	30,187	28,448	33,781	41,414
7. Japan	13,617	24,854	22,683	17,482	17,075	37,261
8. Indonesia	36,793	41,520	23,927	37,070	29,689	28,383
9. China	22,271	23,937	38,074	22,825	11,195	25,814
10. Vietnam	15,790	17,708	20,972	20,235	15,418	23,064
<b>Totals</b>	<b>487,388</b>	<b>557,672</b>	<b>630,533</b>	<b>588,900</b>	<b>524,517</b>	<b>564,168</b>



#### 4. ORGANIC STRAWBERRY EXPORTS

Strawberries held the fourth leading U.S. organic export position in 2015 and 2016 and are expected to grow. The share of organic strawberry exports in total strawberry exports doubled during 2011 through 2016, and exports to Mexico rose dramatically. On the other hand, non-organic exports did not increase as much as organic exports over the same time..

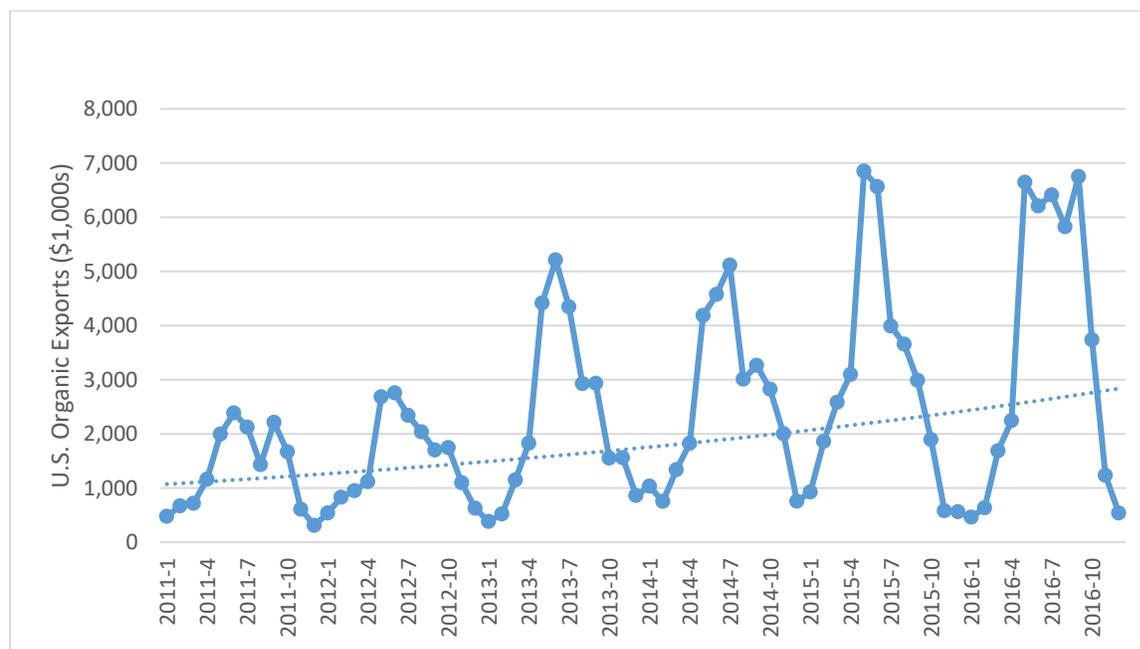
##### *Monthly Export Data and Market Growth*

Based on six years (72 months) of export data, the annual growth rate for organic strawberry exports is estimated to be 17.27%. Table E.4.a also shows that a projected growth rate for non-organic strawberry exports is negative. The table summarizes the monthly and annual growth rates estimated with an exponential growth model, and shows that quarterly effects are significant. For organic and non-organic strawberries, the second quarter has significantly higher exports than during the reference quarter. A cyclical pattern is noticeable in Figure E.5.a, the graph of monthly organic exports, in which the second-quarter figures are generally above the general trend line.

**Table E.4.a: Total Organic and Non-Organic Strawberry Exports, Growth Rate and Quarterly Effects**

Exports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Strawberries	2011-Q1 to 2016-Q4	1.34%	Yes	<b>17.27%</b>	Yes: Q2 is the highest
Non-Organic Strawberries	2011-Q1 to 2016-Q4	-0.04%	No	<b>-0.52%</b>	Yes: Q2 is the highest

**Figure E.4.a: Monthly Organic Strawberry Exports, with Exponential Trend Line**



While total strawberry exports show a modest growth, the organic export share has seen almost a three-fold increase since 2011: from \$15.8 million in 2011 to \$42.4 million in 2016. The share of organic strawberries in total exports has risen from 4% in 2011 to 10% in 2016. Also, the unit price of organic strawberries continues to be slightly higher than \$4 per kilogram whereas the quantity of organic exports has tripled between 2011 and 2016.

**Table E.4.b: Organic and Total Strawberry Exports**

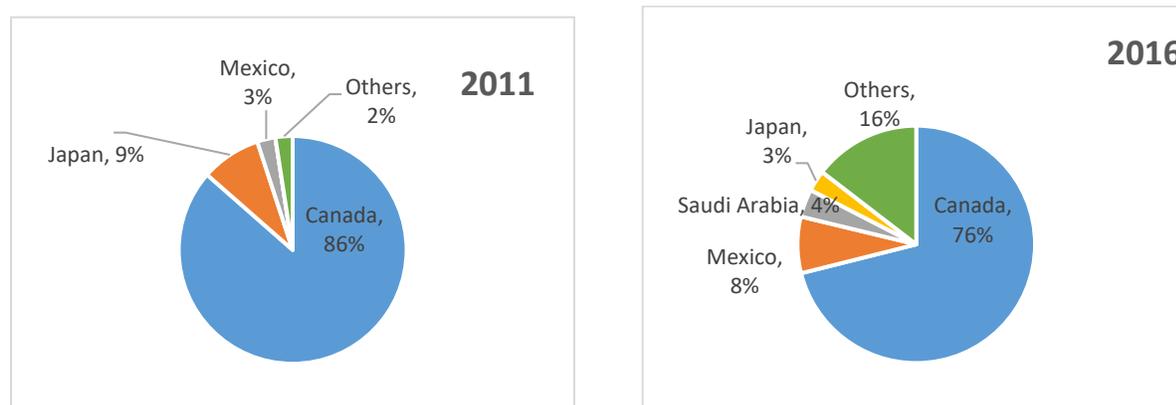
	2011	2012	2013	2014	2015	2016
Value of Organic Export, \$1,000s	15,770	18,423	27,687	30,671	35,550	42,374
Total Export, \$1,000s	360,005	386,503	412,533	405,439	395,054	406,051
Organic Share of Total	4%	5%	7%	8%	9%	10%
Organic Export Quantity, tons	3,713	4,195	6,698	7,280	8,087	10,167
Price of Organic Export, \$/kg	4.25	4.39	4.13	4.21	4.40	4.17

Note: 1 ton = 1,000 kg

### Country of Destination

From Figure E.4.b, Canada was the primary destination for organic strawberry exports in 2011; by 2016, its share declined from 86% to 76%. The share of organic strawberries exported to Mexico increased from 3% in 2011 to 8% by 2016. Figure E.4.c shows very similar patterns in non-organic exports of strawberries.

**Figure E.4.b: Organic Strawberry Export Destinations, by Share**



**Figure E.4.c: Non-Organic Strawberry Export Destinations, by Share**

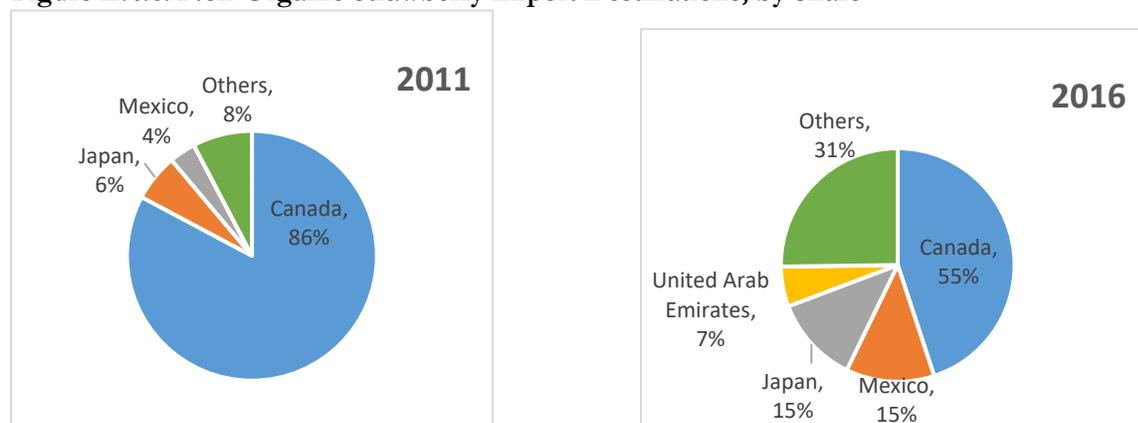


Table E.4.c for organic strawberries compared with Table E.4.d for non-organic strawberries clearly reveals that Canada and Mexico are the leading organic and non-organic strawberry export destination countries. Organic exports to Mexico have been increasing at a faster rate than to Canada. In 2016, Mexico imported \$6.3 million of organic and \$29.9 million of non-organic strawberries.

**Table E.4.c: Organic Strawberry Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Canada	13,632	14,308	19,756	23,330	22,370	23,120
2. Mexico	408	519	3,994	2,841	3,114	6,291
3. Japan	1,341	1,186	1,428	127	85	6,200
4. United Arab Emirates	18	31	284	1,143	1,111	2,853
5. Hong Kong	0	893	100	47	5,496	1,342
6. Saudi Arabia	0	32	12	403	1,536	877
7. Qatar	0	0	0	0	63	800
8. Germany	0	0	94	26	0	381
9. Korea, South	7	0	0	0	0	153
10. Thailand	0	6	0	463	0	101
<b>Totals</b>	<b>15,406</b>	<b>16,975</b>	<b>25,668</b>	<b>28,380</b>	<b>33,775</b>	<b>42,118</b>

**Table E.4.d: Non-Organic Strawberry Exports by Destination Country (\$1,000s)**

<b>Country (2016 ranking)</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
1. Canada	295,085	308,312	315,036	295,425	280,155	277,004
2. Mexico	12,204	14,809	23,117	26,889	29,393	29,943
3. Saudi Arabia	59	1,045	2,995	5,332	11,003	14,798
4. Japan	21,732	24,008	23,005	24,483	18,353	11,200
5. Hong Kong	2,727	2,273	2,768	1,569	4,706	8,797
6. United Arab Emirates	2,885	7,390	6,538	7,718	6,736	6,566
7. Kuwait	47	600	767	973	45	3,831
8. United Kingdom	3,569	1,590	3,036	4,228	2,886	3,037
9. Qatar	52	867	885	543	849	944
10. The Bahamas	738	941	1,034	947	1,120	829
<b>Totals</b>	<b>339,098</b>	<b>361,835</b>	<b>379,181</b>	<b>368,107</b>	<b>355,246</b>	<b>356,949</b>



## 5. ORGANIC SPINACH EXPORTS

Spinach has been the fifth leading product of U.S. organic exports, exhibiting strong growth since 2011. The unit price of organic spinach exports has been declining since 2012. Exports of organic and non-organic spinach are dominated by Canada and Mexico. Spinach has the highest share of organic exports among analyzed products. For example, in 2016, almost 70% of all spinach exported to Canada was organic.

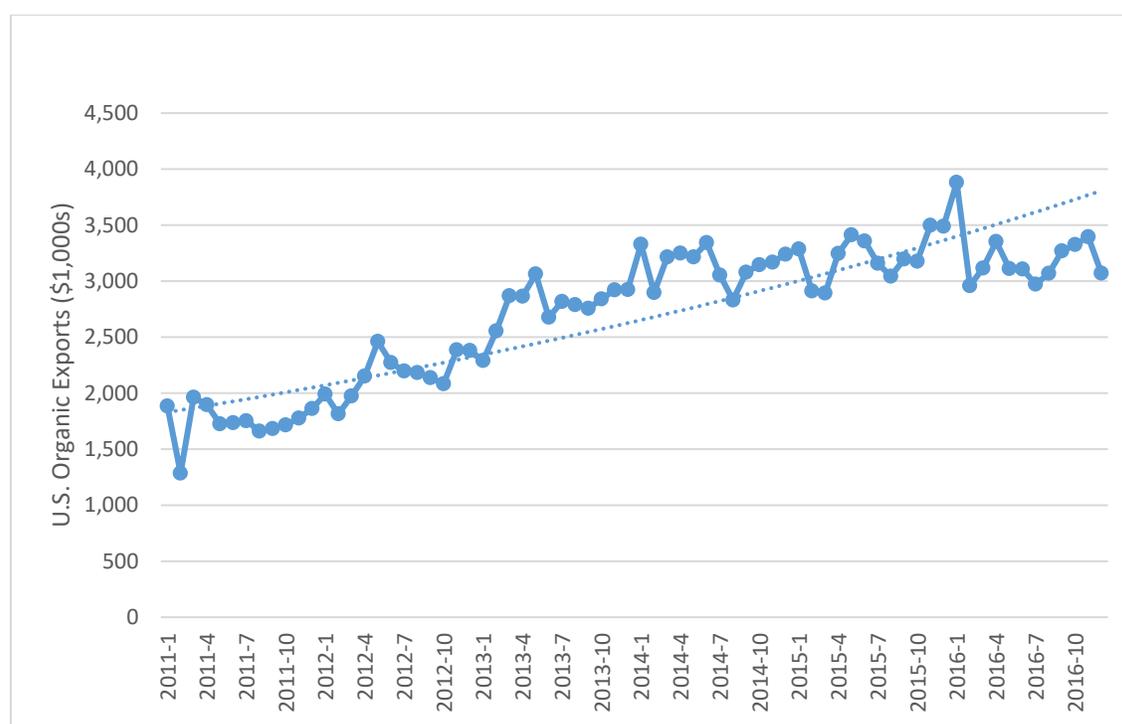
### *Monthly Export Data and Market Growth*

Based on four years (48 months) of export data, the annual growth rate for organic spinach exports is estimated to be more than 13%. Table E.5.a shows that this annual growth rate is higher than the growth rate in non-organic spinach exports, which we estimate to be almost 10% per year. The table summarizes the monthly and annual growth rates estimated with an exponential growth model and shows that quarterly effects are only significant for non-organic spinach. The overall growth in organic spinach exports is quite apparent in Figure E.4.a.

**Table E.5.a: Total Organic and Non-Organic Spinach Exports, Growth Rate and Quarterly Effects**

Exports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Spinach	2011-Q1 to 2016-Q4	1.04%	Yes	<b>13.27%</b>	No
Non-Organic Spinach	2011-Q1 to 2016-Q4	0.77%	Yes	<b>9.68%</b>	Yes: Q3 is significantly lower

**Figure E.5.a: Monthly Organic Spinach Exports, with Exponential Trend Line**



From Table E.5.b, organic and non-organic spinach exports have been increasing through time. Export of spinach is characterized by a high share of organic of at least 30%. The unit price of organic spinach exports has been declining since 2012 while the quantity of spinach exports show more than a two-fold increase: from 3,222 tons in 2011 to 7,325 tons in 2016.

**Table E.5.b: Organic and Total Spinach Exports**

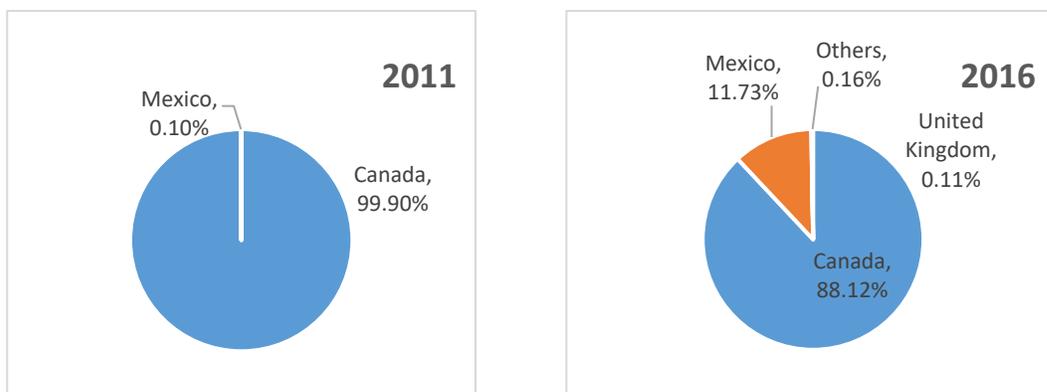
	2011	2012	2013	2014	2015	2016
Value of Organic Export, \$1,000s	20,943	26,033	33,369	37,763	38,672	38,630
Total Organic Export, \$1,000s	73,440	82,858	100,664	115,351	120,804	117,241
Organic Share of Total	29%	31%	33%	33%	32%	33%
Volumes, tons	3,222	3,773	5,451	6,326	7,013	7,325
Price, \$/kg	6.50	6.90	6.12	5.97	5.51	5.27

Note: 1 ton = 1,000 kg

**Country of Destination**

In 2011, Canada was the leading organic spinach export destination country. By 2016, its share has declined to 88% due to a substantial increase in the exports to Mexico. Canada continues to be the major destination country for non-organic spinach.

**Figure E.5.b: Organic Spinach Export Destinations, by Share**



**Figure E.5.c: Non-Organic Spinach Export Destinations, by Share**

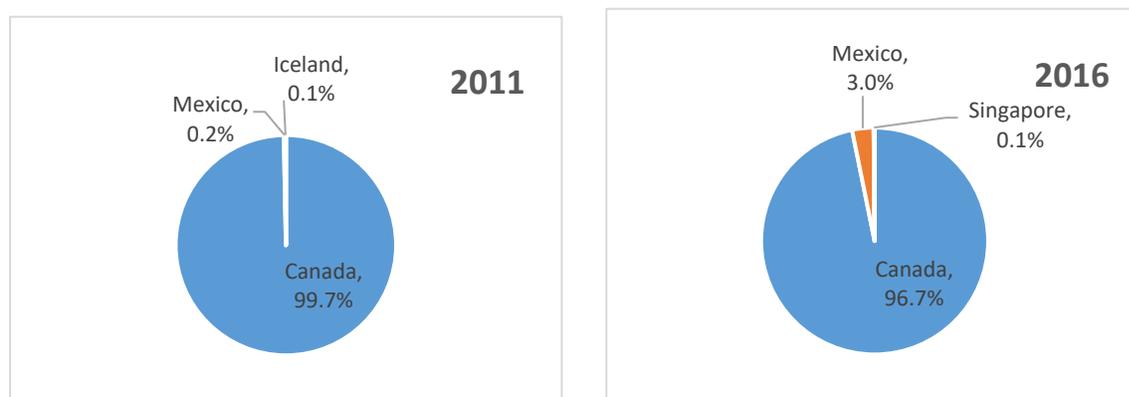


Table E.5.c compared with Table E.5.d shows the increasing exports of organic and non-organic spinach to both Canada and Mexico.

**Table E.5.c: Organic Spinach Exports by Destination Country (\$1,000s)**

Country (2016 ranking)	2011	2012	2013	2014	2015	2016
1. Canada	20,923	26,033	31,810	35,254	34,753	34,039
2. Mexico	20	0	1,478	2,482	3,897	4,530
3. United Kingdom	0	0	0	0	0	43
4. Netherlands	0	0	0	0	0	9
5. Iceland	0	0	6	6	0	3
6. China	0	0	0	0	0	3
7. Trinidad and Tobago	0	0	0	21	3	3
8. Netherlands Antilles	0	0	0	0	3	0
9. Japan	0	0	6	0	0	0
10. Israel	0	0	10	0	9	0
<b>Totals</b>	<b>20,943</b>	<b>26,033</b>	<b>33,310</b>	<b>37,763</b>	<b>38,665</b>	<b>38,630</b>

**Table E.5.d: Non-Organic Spinach Exports by Destination Country (\$1,000s)**

Country (2016 ranking)	2011	2012	2013	2014	2015	2016
1. Canada	52,327	56,431	66,610	76,116	80,235	76,048
2. Mexico	99	245	407	1,178	1,749	2,394
3. Singapore	0	0	0	0	10	111
4. Iceland	57	140	278	284	122	35
5. Saudi Arabia	0	0	0	0	0	14
6. United Kingdom	0	0	0	0	6	9
7. Taiwan	0	0	0	0	0	3
8. Jamaica	0	6	4	3	5	0
9. Australia	4	0	0	0	0	0
10. Japan	0	3	0	0	0	0
<b>Totals</b>	<b>52,487</b>	<b>56,825</b>	<b>67,299</b>	<b>77,581</b>	<b>82,127</b>	<b>78,614</b>



## SECTION 3: U.S. Imports of Organic Products

### 1. U.S. Organic Import Highlights

This section describes U.S. organic imports. Table 3 lists 23 products, consolidated from 41 codes, ranked by 2016 import values. For each product, except where data problems prevent it, the table also presents the estimated annual growth rates for the organic imports. Table 4 lists the product-by-product share of organic imports relative to total (organic plus non-organic) imports. Map 2 shows all countries of origin for U.S. organic imports. Then, we analyze the top five organic import products and their non-organic product counterparts. Same as for exports, we also estimate growth rates for the organic imports. Finally, we display price index for the top five U.S. organic imports in Appendix Graph 1.2 and 1.3. Labeling in this section follows the following scheme: “**I.1.a**” represents imports (I) of the number 1 ranked organic import, with “a” denoting the first table or figure of a series.

#### *Growth Rates*

- Annual growth rates were estimated for 15 of the 23 organic import products. Of these, 11 products have positive growth rates for organic imports. Four organic imports, including one of the top five in terms of value, have negative growth rates. Imports with the largest declining rates are mangoes (–38.73% annual growth) and wine (–28.55% annual growth). The products with the highest annual growth rates are corn for livestock feed (111.09% annual growth), flaxseed oil (67.41% annual growth), and honey (64.83% annual growth).

#### *Organic Imports’ Market Share*

- The share of organic imports for selected products relative to total imports has increased from 6% in 2011 to 16% in 2016.
- Organic corn won more than 50% of the market share by 2016: an increase from 19% in 2013 to 56% in 2015 and 54% in 2016.
- Organic share of honey in imports has grown by 15%: from 3% in 2012 to 18% in 2016.
- In 2016, nearly half of the imports of organic flaxseed oil were organic, an increase of 45% since 2012.
- Organic almonds steadily constitute more than 50% market share of total almonds imports.

#### *Top Five Organic Imports*

- Coffee, when combined as a single import product, has been the leading U.S. organic import by far since 2011. Over the past three years, imports of organic coffee have remained stable and averaged \$330 million per year representing 6% of total coffee imports. The unit price of organic coffee has been declining since 2011.
- Organic soybeans is now the top single coded product of U.S. organic import primarily used for livestock feed, has shown strong growth overall and projected to grow. Turkey emerged as a leading country exporting organic soybean to the U.S. with 43% of the market share in 2016. The unit value of imported organic soybeans has decreased from 22.22 to 16.90 dollars per bushel since 2013.
- In 2016, organic bananas held the third-most valued U.S. organic product imported. Organic banana imports had a tremendous decline during the first part of 2013, but grew modestly after that. Organic imports of bananas are projected to increase.
- After a decline in 2014, organic olive oil averaged almost \$200 million in imports in 2015 and 2016. Steady growth in organic olive oil imports is attributable to an increase in organic (and non-organic) imports from Spain in 2016.



- Organic corn imports quadrupled in four years: from \$36.6 million in 2013 to \$160.4 million in 2016 and became the fifth ranked organic import product. Turkey now holds a 74% share of organic corn exports to the U.S. The unit value of imported organic corn has decreased from 11.59 to 7.4 dollars per bushel from 2014 to 2016. Organic corn imports projected to increase 111.09% per year and provide further evidence of the need for transition of domestic acres to organic production.



**Table 3: Total U.S. Organic Imports (millions of \$), ranked by 2016 values**

Product	2011	2012	2013	2014	2015	2016	Est. Annual Growth Rate
1. Coffee	526.1	282.9	253.3	332.6	344.5	313.1	-4.28%#
2. Soybeans	41.8	90.2	110.2	184.2	240.2	250.5	40.63%
3. Bananas	-	-	258.8	122.6	198.4	209.9	11.49%#
4. Olive Oil	-	-	165.6	148.6	197.2	191.8	7.85%
5. Corn	-	-	36.6	35.7	112.7	160.4	111.09%
6. Wine	-	-	256.0	121.5	90.8	87.1	-28.55%
7. Honey	-	11.2	13.2	46.1	47.5	73.6	64.83%
8. Avocado	17.2	13.1	18.9	37.1	45.1	72.7	42.83%
9. Apples	5.7	12.1	14.9	29.8	67.8	63.7	33.63%
10. Bell Peppers	8.0	9.3	18.1	19.4	25.1	49.4	missing values
11. Sugar	-	-	-	-	-	47.7 <sup>(1)</sup>	missing values
12. Almonds	-	-	16.7	41.6	58.7	39.6	31.77%#
13. Tea	37.2	34.8	42.1	31.4	37.8	39.6	0.93%#
14. Blueberries	2.9	3.5	6.0	6.2	8.4	25.4	missing values
15. Rice	24.4	25.4	30.1	24.1	24.4	22.1	-2.30%#
16. Mangoes	-	-	100.7	38.5	28.8	17.1	-38.73%
17. Pears	3.7	4.0	6.0	11.5	21.0	13.1	missing values
18. Durum Wheat	0.7	9.5	16.0	16.7	15.7	12.7	missing values
19. Ginger	-	-	9.6	19.0	12.2	10.7	0.16%#
20. Flaxseed Oil	-	-	2.4	5.5	6.9	9.0	67.41%
21. Garlic	-	-	1.4	2.7	2.0	5.0	missing values
22. Barley	-	-	-	-	-	0.8 <sup>(1)</sup>	missing values
23. Quinces	-	0.2	0.0	0.1	0.0	0.0	missing values
<b>Total</b>	<b>667.7</b>	<b>496.3</b>	<b>1,376.8</b>	<b>1,274.8</b>	<b>1,585.1</b>	<b>1,714.4</b>	
<b>Total for products tracked from 2013</b>	-	-	<b>847.9</b>	<b>535.8</b>	<b>707.8</b>	<b>778.4</b>	

Notes:

#: not statistically significant results; <sup>(1)</sup> – HS-coded since July 2016; “Missing values”: Estimation problems due to excessive zeros or missing data points.

Data Source: USDA Foreign Agricultural Service's Global Agricultural Trade System (GATS)



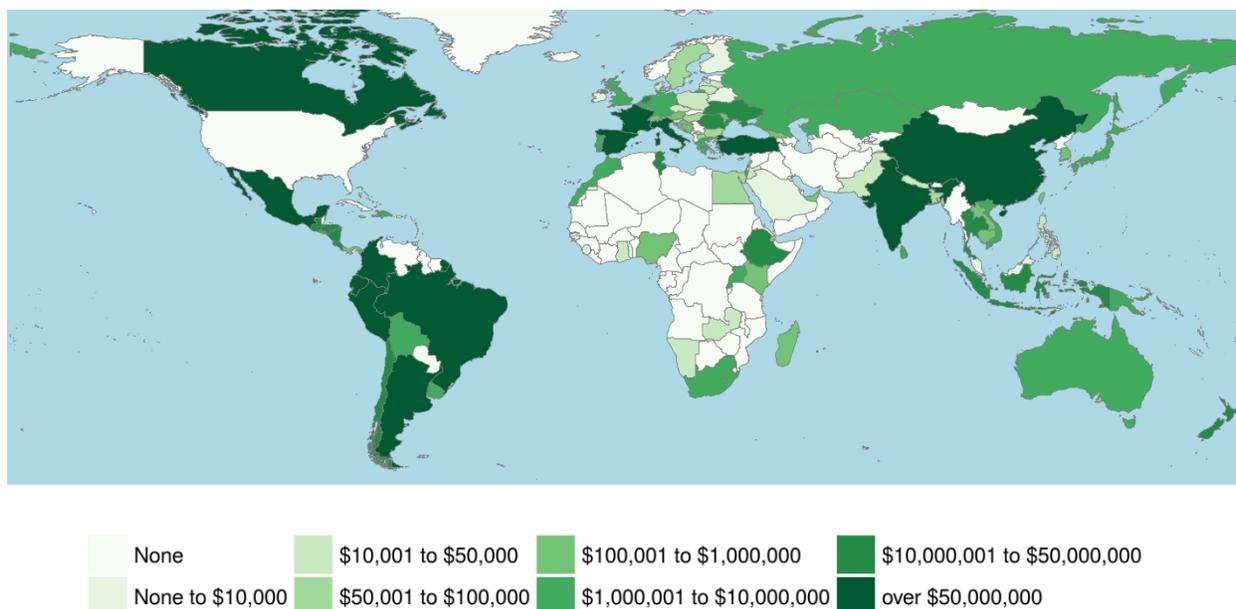
**Table 4: Organic Imports' Share of Total U.S. Imports (%)**

Product	2011	2012	2013	2014	2015	2016
1. Coffee	7%	4%	5%	6%	6%	6%
2. Bananas	-	-	13%	6%	10%	10%
3. Olive Oil	-	-	22%	19%	22%	20%
4. Corn	-	-	19%	33%	56%	54%
5. Wine	-	-	6%	3%	2%	2%
6. Honey	-	3%	3%	8%	8%	18%
7. Avocado	2%	2%	2%	2%	3%	4%
8. Apples	4%	7%	7%	12%	32%	24%
9. Bell Peppers	2%	2%	3%	3%	3%	5%
10. Almonds	-	-	49%	54%	59%	57%
11. Tea	21%	20%	21%	18%	19%	18%
12. Blueberries	1%	1%	1%	1%	1%	3%
13. Rice	4%	5%	5%	4%	4%	4%
14. Mangoes	-	-	26%	10%	7%	4%
15. Pears	4%	5%	5%	9%	16%	11%
16. Ginger	-	-	14%	16%	13%	14%
17. Flaxseed Oil	-	-	4%	9%	21%	49%
18. Garlic	-	-	2%	4%	2%	5%
19. Barley	-	-	-	-	-	9%
20. Quinces	-	3%	0%	22%	0%	0%
<b>Total</b>	<b>6%</b>	<b>5%</b>	<b>11%</b>	<b>13%</b>	<b>15%</b>	<b>16%</b>

Notes: (1) Based on authors' calculations using Table A-2 : HS Import Code Correspondences in Appendix. (2) Soybeans and Sugar did not have matching HS trade code to define non-organic product counterparts.



**Map 2: Countries of Origin for U.S. Organic Imports, annualized from 2013 to 2016**



Map 2 shows countries of U.S. organic import flows from 2013 to 2016 from at least 111 different countries. The market for tracked organic imports to the U.S. is larger than the export market. On average, the U.S. organic imports value was \$1,476 million per year – or a total of \$5.9 billion over these four years. Note that for organic imports, we focus on the past four years. Although organic data collection in the U.S. started in 2011, large categories of organic imports were added in 2013, which makes the data prior to 2013 incomplete.

Table A-4 shows the leading countries exporting organics to the U.S. The country which the U.S. has imported the most organic products from since 2013 is Mexico, which makes up less than 10% of the entire import share at \$144 million annually. Both Italy (\$137 million annually) and Peru (\$101 million annually) follow Mexico closely as the top exporters of organic products to the U.S. The top three countries make up a little bit more than 25% of the U.S. imports of organic products.

Since 2013, a little over half of all the U.S. organic imports came from North and South America. Exports from Mexico and Canada represent \$324 million annually on average. Exports from South America represent \$423 million annually on average from five main countries: Peru (\$92.9 million), Ecuador (\$71.6 million), Colombia (\$64.4 million), Brazil (\$64.1 million) and Argentina (\$55.3 million). As with exports, proximity is clearly a major factor when it comes to trade of organic products.



## 1. ORGANIC COFFEE IMPORTS

Coffee, when combined as a single import product, has been the leading U.S. organic import by far since 2011. Over the past three years, imports of organic coffee have remained stable and averaged \$330 million per year. In general, organic coffee appears to have a steady demand in the U.S. market and represents 6% of total imports over the past three years. Peru has been the primary origin of organic coffee, whereas Colombia and Brazil have been the leading exporting countries of non-organic coffee. The unit price of organic coffee has been declining since 2011.

### *Monthly Import Data and Market Growth*

Based on six years (72 months) of import data, the annual growth rate for organic coffee imports is estimated to be  $-4.28\%$ , as shown in Table I.1.a. The table summarizes the monthly and annual growth rates estimated with an exponential growth model. Organic coffee imports during the second quarter of each year are significantly higher than during the first quarter, which is the reference quarter. A cyclical pattern is only mildly noticeable in Figure I.1.a, the graph of monthly organic imports.

**Table I.1.a: Total Organic Coffee Imports, Growth Rate and Quarterly Effects**

Imports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Coffee	2011-Q1 to 2016-Q4	$-0.36\%$	No	$-4.28\%$	Yes: Q2 is the highest

**Figure I.1.a: Monthly Organic Coffee Imports, with Exponential Trend Line**

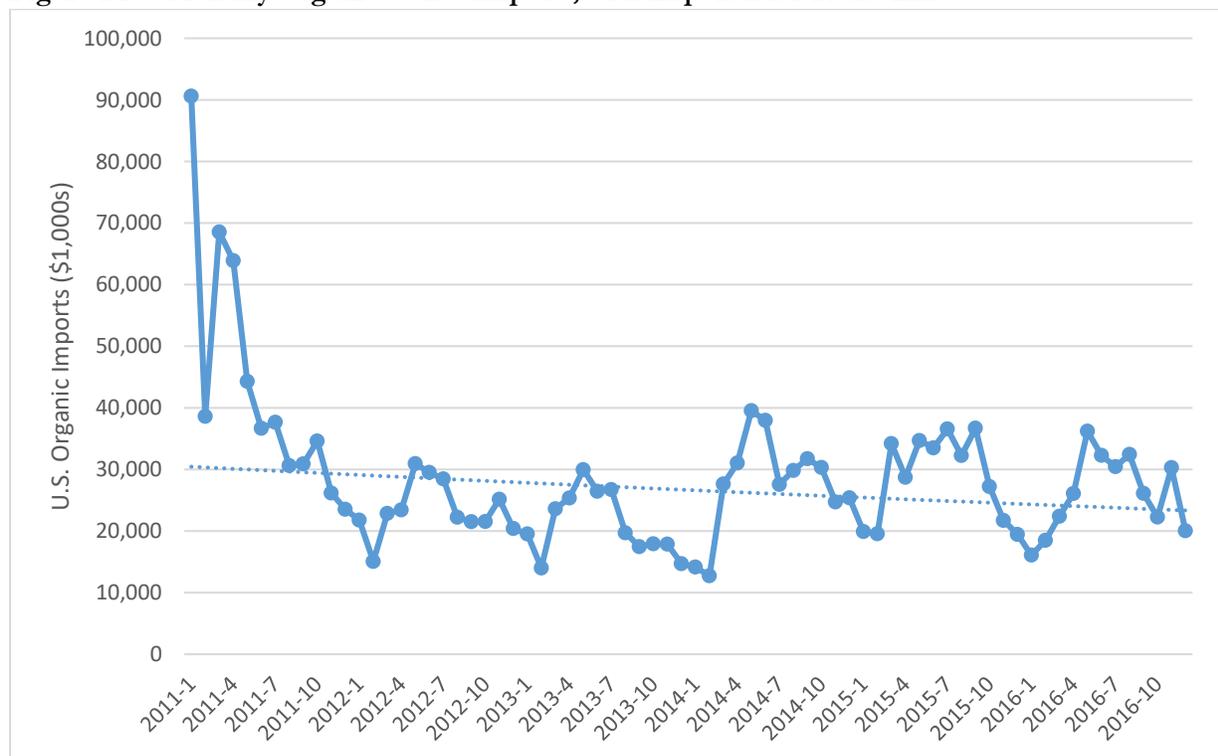


Table I.1.b shows the progression of organic coffee imports over the six-year period juxtaposed with total coffee (both organic and non-organic) over the same period. Over the past three years, 6% of coffee imported to the U.S. was organic. In 2011, the U.S. imported a record amount of organic coffee at the picking price – 83,719 tons at \$6.28 per kilogram. The unit price of organic coffee has been decreasing since then.

**Table I.1.b: Organic and Total Coffee Import**

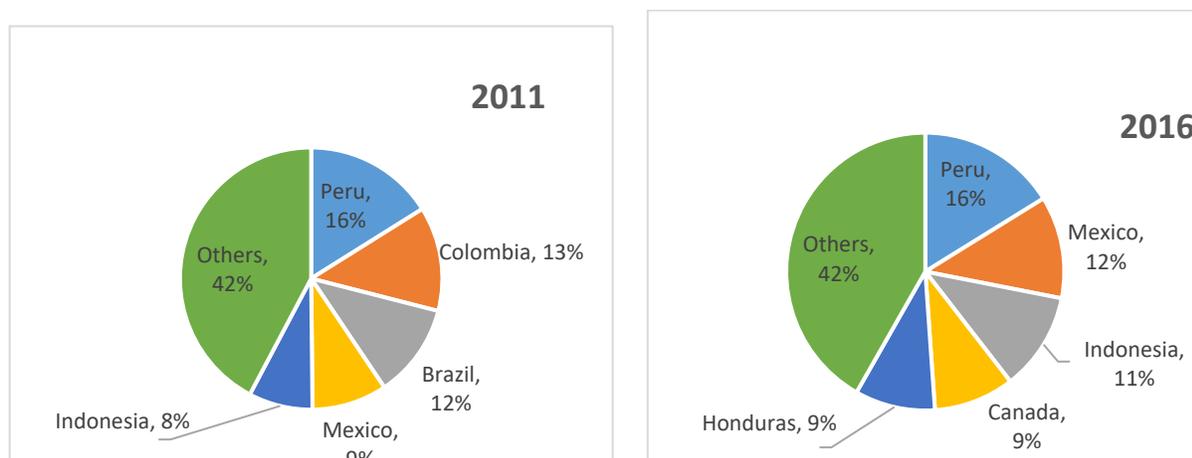
	2011	2012	2013	2014	2015	2016
Value of Organic Import, \$1,000s	526,076	282,888	253,327	332,577	344,461	313,063
Total Import, \$1,000s	7,584,207	6,477,237	5,298,940	5,867,478	5,882,810	5,598,747
Organic Share of Total	7%	4%	5%	6%	6%	6%
Organic Import Quantity, tons	83,719	48,265	55,888	69,371	68,963	63,420
Price of Organic Import, \$/kg	6.28	5.86	4.53	4.79	4.99	4.94

Note: 1 ton = 1,000 kg

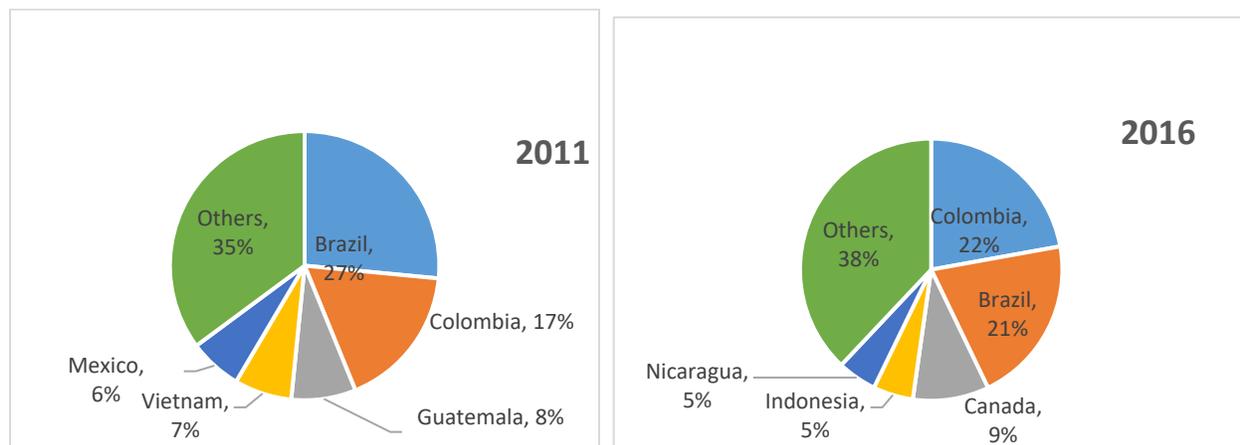
**Countries of Origin**

Organic and non-organic coffee exporting countries prominently feature South American and Central American countries. Peru is the primary origin of organic coffee but with a relatively small share of 16%. Colombia and Brazil lead non-organic coffee exports.

**Figure I.1.b: Countries of Origin for Organic Coffee Imports, by Share**



**Figure I.1.c: Countries of Origin for Non-Organic Coffee Imports, by Share**



Tables I.1.c and I.1.d show the level of organic and non-organic imports from the top countries of origin for organic coffee for all six years of data. Peru has been more competitive than Mexico in the market of organic coffee. Imports from non-organic coffee leading destinations appear to exhibit declines in 2016.

**Table I.1.c: Organic Coffee Imports from Top Countries of Origin (\$1,000s)**

Country (2016 ranking)	2011	2012	2013	2014	2015	2016
1. Peru	84,663	67,794	54,643	62,841	59,835	50,630
2. Mexico	48,715	42,562	35,450	38,623	38,867	37,297
3. Indonesia	41,593	34,557	36,379	50,668	51,220	35,786
4. Canada	9,917	9,336	6,596	8,501	16,764	29,340
5. Honduras	27,552	16,125	12,135	20,222	34,348	29,275
6. Guatemala	29,892	18,713	14,658	19,723	27,642	26,691
7. Ethiopia(*)	18,208	18,327	15,450	16,575	25,107	25,518
8. Colombia	67,809	11,450	21,560	27,735	29,500	22,087
9. Brazil	61,011	19,463	14,195	27,913	16,534	15,213
<b>Total</b>	<b>389,360</b>	<b>238,327</b>	<b>211,066</b>	<b>272,801</b>	<b>299,817</b>	<b>271,837</b>

**Table I.1.c: Non-Organic Coffee Imports from Top Countries of Origin (\$1,000s)**

Country (2016 ranking)	2011	2012	2013	2014	2015	2016
1. Colombia	1,222,973	872,979	908,162	1,135,710	1,201,494	1,038,371
2. Brazil	1,871,354	1,326,996	1,067,251	1,312,897	1,323,934	970,682
3. Canada	385,332	389,166	368,484	369,872	405,446	439,565
4. Indonesia	283,010	363,333	253,813	272,558	288,287	231,840
5. Nicaragua	197,816	208,556	154,950	214,683	215,410	226,856
6. Vietnam	487,173	606,292	467,846	490,724	360,180	219,361
7. Guatemala	547,204	546,788	395,888	340,235	296,228	203,200
8. Honduras	203,429	265,625	146,506	178,513	179,000	197,562
9. Costa Rica	222,960	243,895	191,635	174,250	166,332	168,638
10. Peru	285,332	173,938	118,380	146,515	117,192	163,091
<b>Total</b>	<b>5,706,583</b>	<b>4,997,568</b>	<b>4,072,915</b>	<b>4,635,957</b>	<b>4,553,503</b>	<b>3,859,166</b>



## 2. ORGANIC SOYBEAN IMPORTS

Soybeans are the second leading U.S. organic import, and the level of organic soybean imports has shown strong growth overall that is projected to grow. Note that these imports are largely for livestock feed because of limited domestic supply. Turkey emerged as a leading country exporting soybeans to the U.S. The unit value of imported organic soybean has been decreasing since 2013 while domestic organic soybean prices averaged at least \$10 per bushel more than conventional soybeans.

### *Monthly Import Data and Market Growth*

Based on six years (72 months) of import data, the annual growth rate for organic soybean imports is estimated to be 40.63%, as shown in Table I.2.a. While Figure I.2.a shows fluctuations from the overall trend of organic imports, these fluctuations do not appear to follow quarterly patterns.

**Table I.2.a: Total Organic Soybean Imports, Growth Rate and Quarterly Effects**

Imports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Soybean	2011-Q1 to 2016-Q4	2.88%	Yes	40.63%	No

**Figure I.2.a: Monthly Organic Soybean Imports, with Exponential Trend Line**

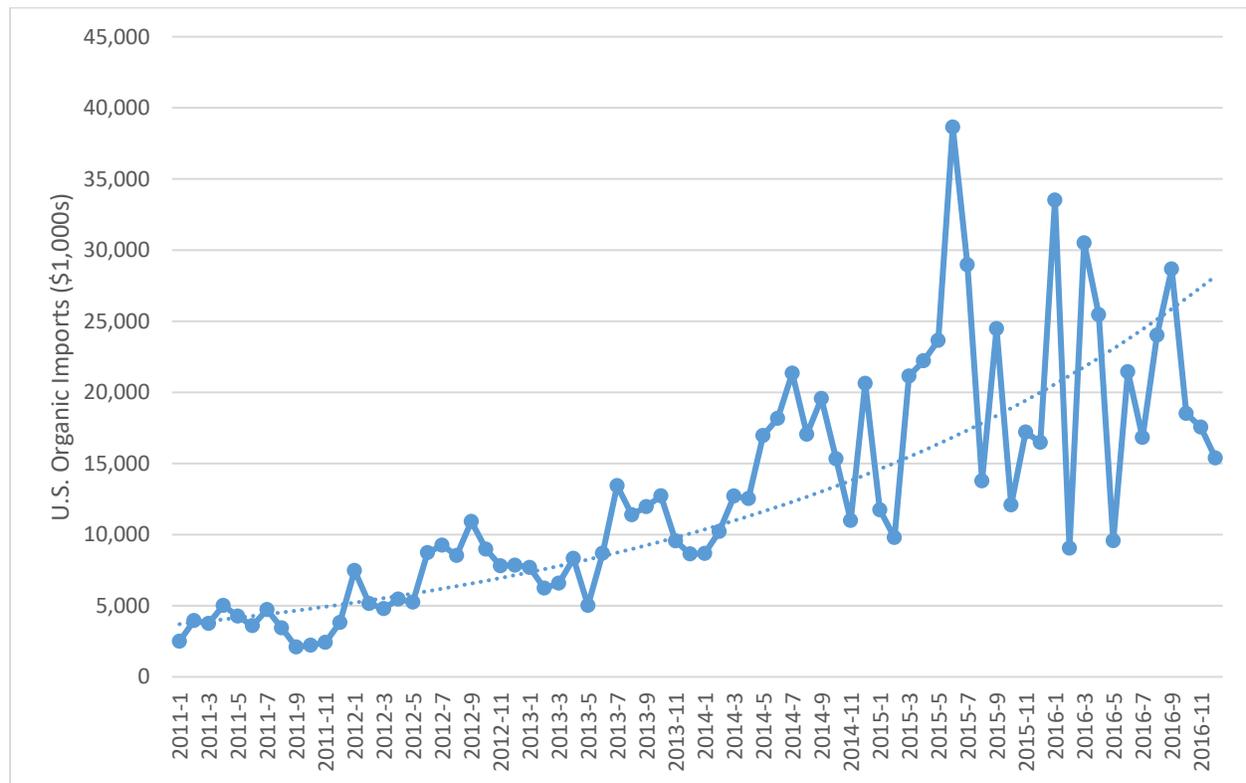


Table I.2.b shows the steady annual increase in organic soybean imports. Over the past two years, all soybean imports declined substantially because of a decrease in non-organic imports. As a result, the share of organic imports has increased to 84% in 2016. The unit value of imported organic soybeans has been decreasing since 2013. In 2016, U.S. imported 14.82 million bushels of organic corn at \$16.9 per bushel. McBride and Greene (2016) show that organic soybean prices averaged at least \$10 per bushel more than conventional soybeans during 2011-2014. Results imply that some conventional farms may be able to earn greater returns if transitioned to organic production (Cooke, 2016).

**Table I.2.b: Organic and Total Soybean Imports**

	2011	2012	2013	2014	2015	2016
Value of Organic Import, \$1,000s	41,790	90,177	110,237	184,168	240,175	250,497
Total Import, \$1,000s	91,610	187,294	343,056	602,129	326,325	296,941
Organic Share of Total	46%	48%	32%	31%	74%	84%
Organic Import Quantity, millions of bushels	2.53	4.47	4.96	8.62	12.46	14.82
Price of Organic Import, \$/bushel	16.52	20.18	22.22	21.38	19.27	16.90

Note: 1 bushel = 2.54 kg

### *Countries of Origin*

In 2011, Canada was the chief supplier of organic soybeans to the U.S., supplying 78% of our imports. However, in 2012 and 2013, the share of organic imports from Canada decreased and China became the top supplier. Canada's share dropped further in 2014, and India became the top supplier. In 2016, Turkey won India's place and supplied 41% of organic soybeans to the U.S. Ukraine had a potential in 2015 but lost most of it in 2016. Canada continues to be the top supplier of non-organic soybeans but its share has dropped from \$57 million in 2015 to \$5.7 million in 2016 (Table I.2.d).

**Figure I.2.b: Countries of Origin for Organic Soybean Imports, by Share**

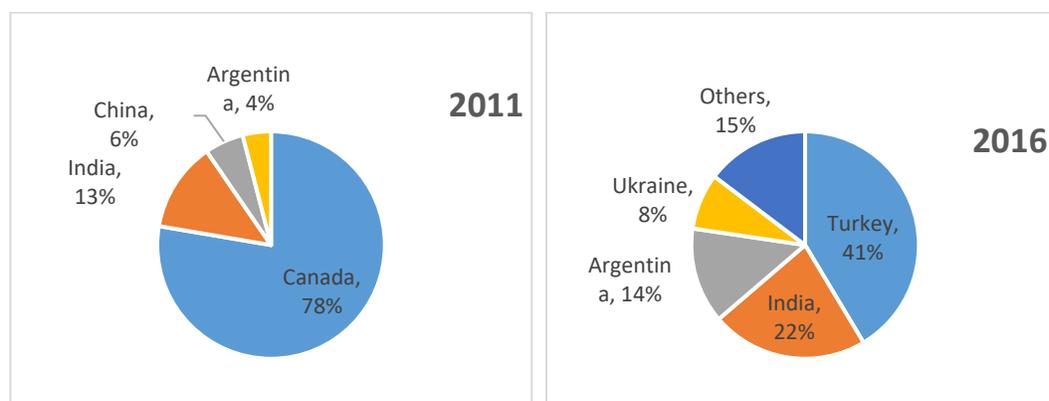


Figure I.2.c: Countries of Origin for Non-Organic Soybean Imports, by Share

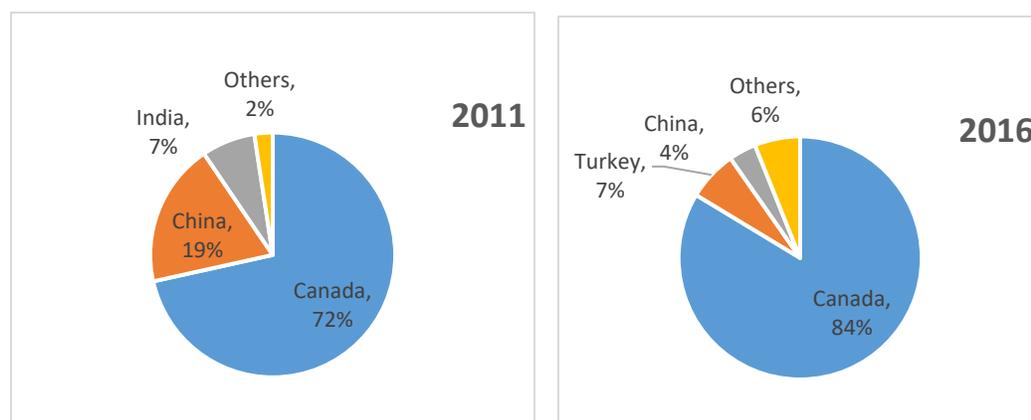


Table I.2.c: Organic Soybean Imports from Top Countries of Origin (\$1,000s)

Country (2016 ranking)	2011	2012	2013	2014	2015	2016
1. Turkey	0	167	387	11,654	12,966	103,738
2. India	5,328	12,729	29,819	74,364	77,818	55,868
3. Argentina	1,682	7,275	8,681	14,183	26,056	34,123
4. Ukraine	0	0	0	16,608	71,854	19,982
5. Canada	32,462	29,748	18,605	16,996	19,026	15,257
6. China	2,319	38,924	48,471	39,524	20,867	9,706
<b>Totals</b>	<b>41,791</b>	<b>88,843</b>	<b>105,963</b>	<b>173,329</b>	<b>228,587</b>	<b>238,674</b>

Table I.2.d: Non-Organic Soybean Imports from Top Countries of Origin (\$1,000s)

Country (2016 ranking)	2011	2012	2013	2014	2015	2016
1. Canada	35,633	74,909	93,320	68,203	57,045	5,679
2. Turkey	0	0	1,111	10,002	2,721	450
3. China	9,455	19,908	23,710	15,606	14,884	247
4. Dominican Republic	0	0	0	0	130	144
5. India	3,525	940	1,409	7,640	5,560	144
6. Taiwan	175	419	461	746	848	121
<b>Totals</b>	<b>48,788</b>	<b>96,176</b>	<b>120,011</b>	<b>102,197</b>	<b>81,188</b>	<b>6,785</b>



### 3. ORGANIC BANANA IMPORTS

Data collection on organic banana imports began in 2013. At that time, organic bananas were the top-ranked organic import. In 2016, organic bananas hold the third-most valued organic product of U.S. imports. Organic banana imports had a tremendous decline during the first part of 2013, but grew modestly after that. Guatemala is the leading exporter of non-organic bananas to the U.S. By 2016, Ecuador emerged as a leading exporter of organic bananas. U.S. organic imports of bananas are projected to increase.

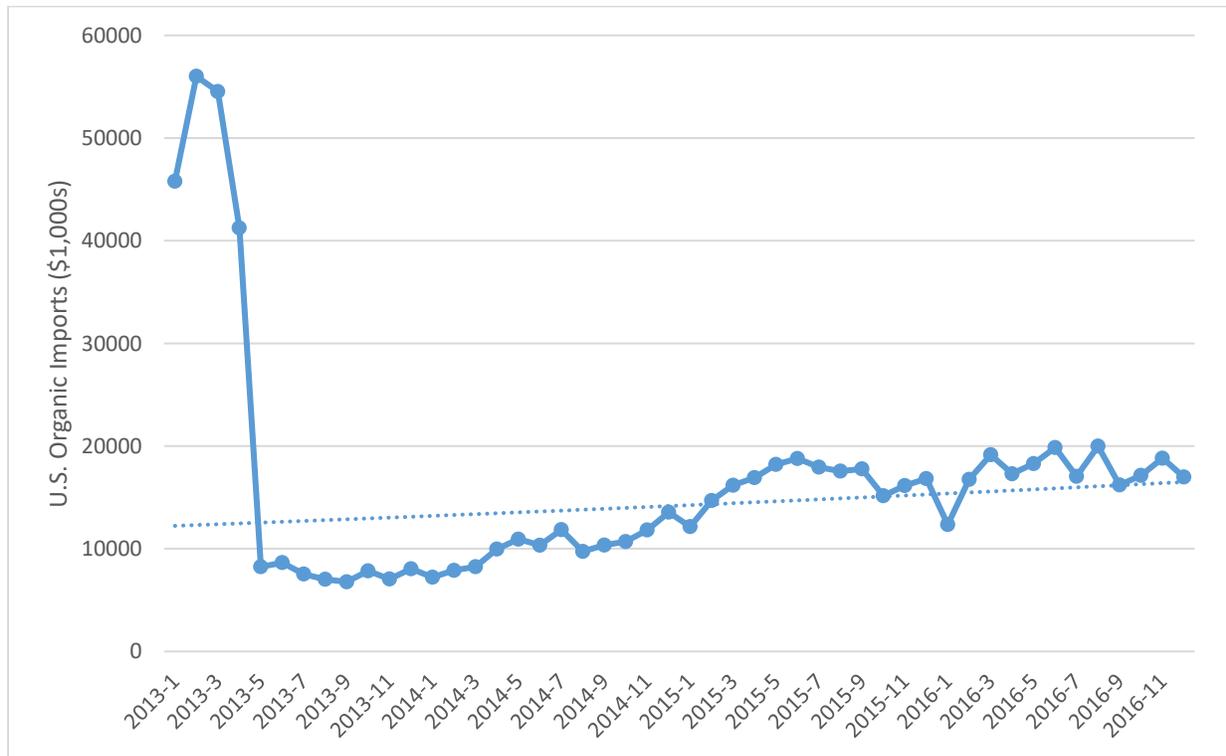
#### Monthly Import Data and Market Growth

Based on four years (48 months) of import data, the estimated monthly growth rate for organic banana imports is positive, although not statistically different from zero. Annualizing this growth rate suggests that organic banana imports had a negative annual growth rate of over 10%, as shown in Table I.3.a. Figure I.3.a, the graph of monthly organic imports, shows that for the first four months of data collection, organic banana imports were unusually high. Starting in May 2013, organic banana imports exhibited a steady increase with no significant variations in seasons.

**Table I.3.a: Total Organic and Non-Organic Banana Imports, Growth Rate and Quarterly Effects**

Imports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Bananas	2013-Q1 to 2016-Q4	0.91%	No	11.49%	No

**Figure I.3.a: Monthly Organic Banana Imports, with Exponential Trend Line**



Organic bananas are winning their shares after a large decline in 2014. Table I.3.b also shows a relatively stable unit value of organic banana. The amounts of bananas imported reflects a big decline from 2013 to 2014 and increasing quantities of imports after that.

**Table I.3.b: Organic and Total Banana Imports**

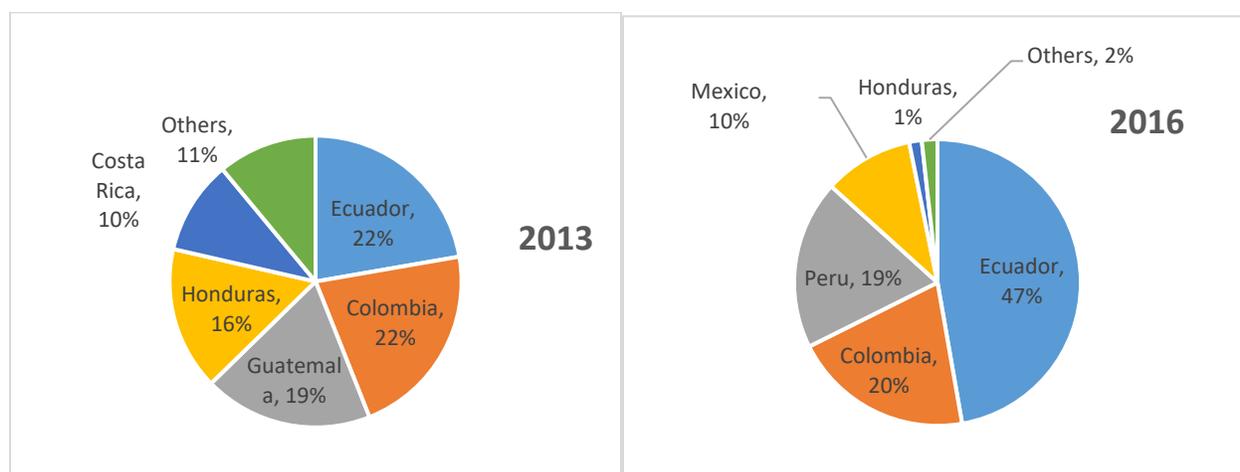
	2013	2014	2015	2016
Value of Organic Import, \$1,000s	258,769	122,642	198,353	209,884
Total Import, \$1,000s	2,016,160	2,050,600	2,080,262	2,090,715
Organic Share of Total	13%	6%	10%	10%
Organic Import Quantity, tons	523,172	210,603	328,251	370,280
Price of Organic Import, \$/kg	0.49	0.58	0.60	0.57

Note: 1 ton = 1,000 kg

***Countries of Origin***

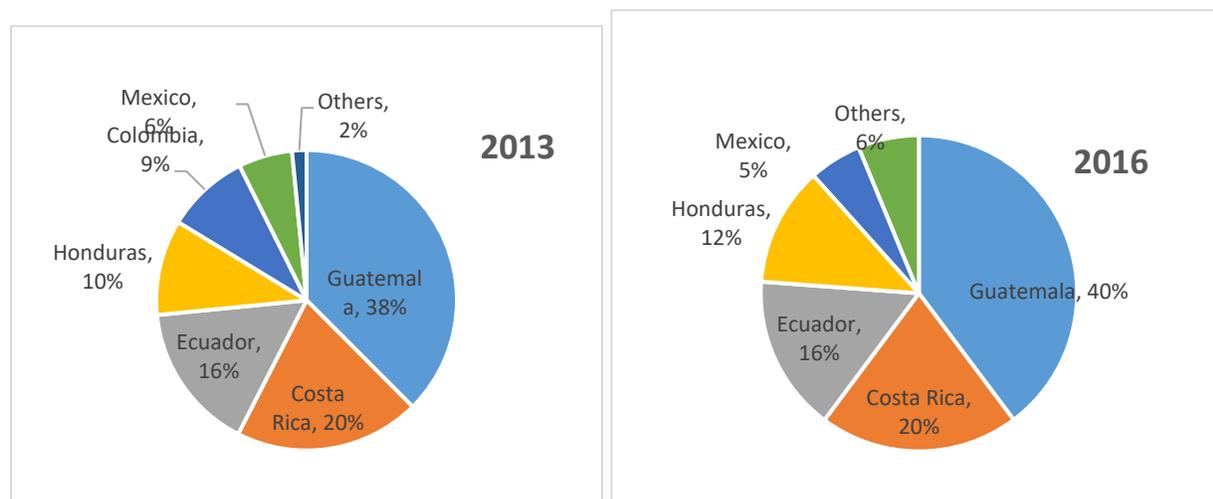
Figure I.3.b shows the countries of origin for organic banana imports in 2013 and 2016. By 2016, the share of Ecuador increased to 47%. Peru emerged as a third leading partner. Colombia continues to be the second largest supplier of organic bananas to the U.S.

**Figure I.3.b: Countries of Origin for Organic Banana Imports, by Share**



The primary sources of non-organic banana imports are Guatemala, Costa Rica and Ecuador.

**Figure I.3.c: Countries of Origin for Non-Organic Banana Imports, by Share**



**Table I.3.c: Organic Banana Imports from Top Countries of Origin (\$1,000s)**

Country (2016 ranking)	2013	2014	2015	2016
1. Ecuador	57,617	48,564	67,638	99,161
2. Colombia	56,187	21,294	36,520	42,784
3. Peru	12,416	24,921	43,241	40,070
4. Mexico	12,963	14,113	21,401	21,213
5. Honduras	41,124	6,109	3,811	2,967
6. Dominican Republic	3,123	4,261	6,343	1,959
7. Costa Rica	26,916	3,354	19,381	1,190
<b>Total</b>	<b>210,346</b>	<b>122,616</b>	<b>198,335</b>	<b>209,344</b>

**Table I.3.d: Non-Organic Banana Imports from by Top Countries of Origin (\$1,000s)**

Country (2016 ranking)	2013	2014	2015	2016
1. Guatemala	659,628	744,810	768,501	747,980
2. Costa Rica	351,269	390,650	305,715	384,165
3. Ecuador	279,606	287,572	308,748	300,708
4. Honduras	180,670	217,110	238,983	229,700
5. Mexico	101,995	100,195	106,353	101,172
6. Colombia	156,936	158,275	125,854	92,321
<b>Total</b>	<b>1,730,104</b>	<b>1,898,612</b>	<b>1,854,154</b>	<b>1,856,046</b>



#### 4. ORGANIC OLIVE OIL IMPORTS

Data collection on organic olive oil imports began in 2013. Since that time, organic olive oil has been a top-five import. After a decline in 2014, organic olive oil averaged almost \$200 million in imports in 2015 and 2016. Steady growth in organic olive oil import is attributable to an increase in organic (and non-organic) imports from Spain in 2016.

##### *Monthly Import Data and Market Growth*

Based on four years (48 months) of import data, the estimated monthly growth rate for organic olive oil imports is positive and statistically different from zero. Annualized results of this growth rate suggest that organic olive oil imports have a positive annual growth rate of 7.85%, as shown in Table I.4.a. The table summarizes the monthly and annual growth rates estimated with an exponential growth model, and shows that quarterly effects are significant. The quarterly effect is barely noticeable in Figure I.4.a, the graph of monthly organic imports.

**Table I.4.a: Total Organic and Non-Organic Olive Oil Imports, Growth Rate and Quarterly Effects**

Imports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Olive Oil	2013-Q1 to 2016-Q4	0.63%	Yes	7.85%	Yes: Q2 is the highest

**Figure I.4.a: Monthly Organic Olive Oil Imports, with Exponential Trend Line**

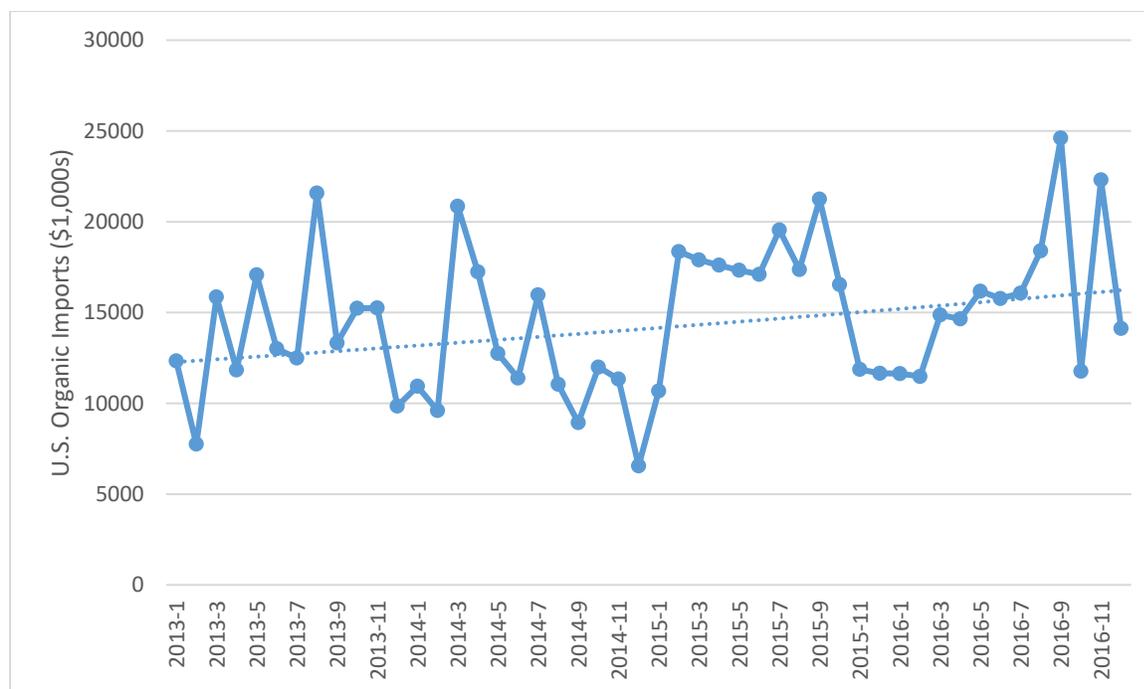


Table I.4.b shows increase in organic and non-organic olive oil imports during the last two years. The average share of organic imports is 21% during 2013-2016. The unit value of organic olive oil has slightly increased from 2013 to 2016, which may reflect an increase in domestic demand. On average, the U.S. imported 38,617 tons of olive oil each year.

**Table I.4.b: Organic and Total Olive Oil Imports**

	2013	2014	2015	2016
Value of Organic Import, \$1,000s	165,602	148,594	197,195	191,837
Total Import, \$1,000s	769,281	768,234	895,271	980,237
Organic Share of Total	22%	19%	22%	20%
Organic Import Quantity, tons	37,558	34,197	43,023	39,689
Price of Organic Import, \$/kg	4.41	4.35	4.58	4.83

Note: 1 ton = 1,000 kg

**Countries of Origin**

Figure I.4.b shows that the two primary sources of organic olive oil imports are Italy and Spain. The distribution of organic and non-organic olive oil supply is very similar. In 2016, Spain nearly doubled its exports of organic and non-organic olive oil (Table I.4.c and I.4.d)

**Figure I.4.b: Countries of Origin for Organic Olive Oil Imports, by Share**

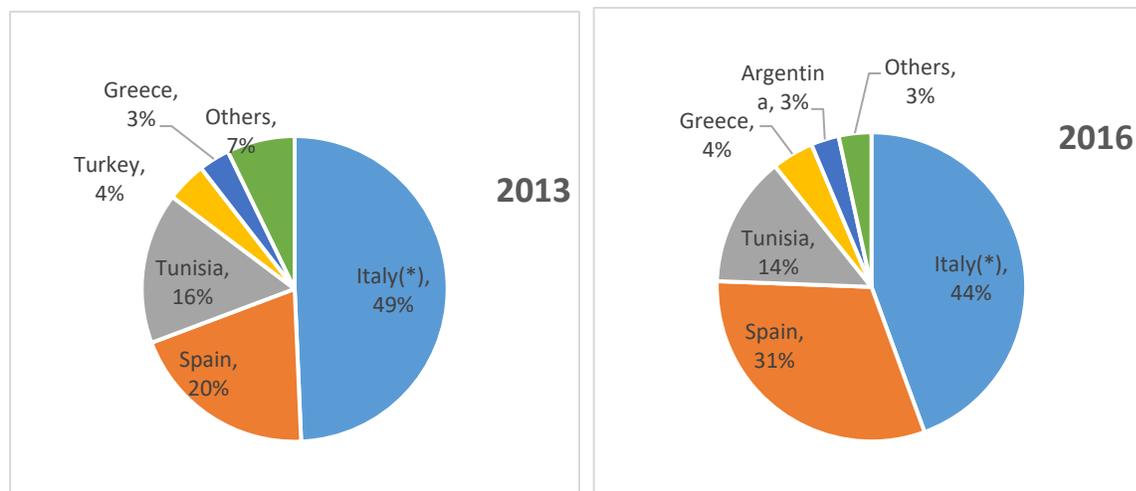


Figure I.4.c: Countries of Origin for Non-Organic Olive Oil Imports, by Share

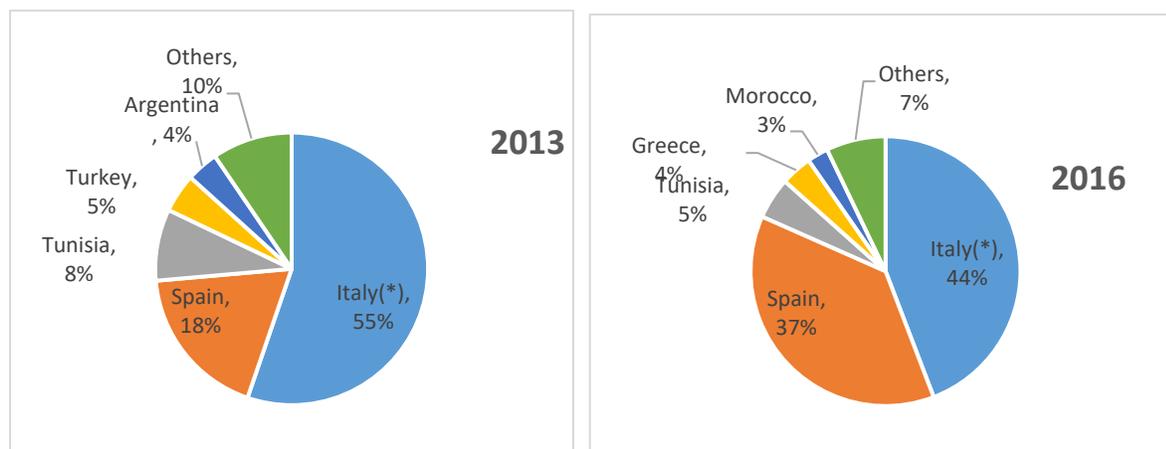


Table I.4.c: Organic Olive Oil Imports from Top Countries of Origin (\$1,000s)

Country (2016 ranking)	2013	2014	2015	2016
1. Italy	81,673	82,876	92,098	85,229
2. Spain	33,036	37,107	27,291	59,787
3. Tunisia	26,498	19,227	44,146	26,248
4. Greece	5,435	4,239	7,588	8,414
5. Argentina	4,198	0	14,813	5,605
6. Morocco	1,132	736	3,775	1,659
7. Turkey	7,036	845	757	1,640
8. Chile	3,641	844	2,065	1,470
<b>Total</b>	<b>162,649</b>	<b>145,874</b>	<b>192,533</b>	<b>190,052</b>

Table I.4.d: Non-Organic Olive Oil Imports from Top Countries of Origin (\$1,000s)

Country (2016 ranking)	2013	2014	2015	2016
1. Italy	333,539	318,024	325,724	348,392
2. Spain	110,791	214,161	161,190	295,182
3. Tunisia	51,312	15,428	103,111	39,232
4. Greece	22,822	18,811	27,931	29,514
5. Morocco	8,482	10,296	13,596	19,876
6. Chile	13,283	9,839	24,643	19,461
7. Argentina	22,830	13,014	21,541	13,082
8. Turkey	27,785	7,809	6,982	8,225
<b>Total</b>	<b>590,844</b>	<b>607,382</b>	<b>684,718</b>	<b>772,964</b>



## 5. ORGANIC YELLOW DENT CORN IMPORTS

Data collection on organic yellow corn imports began halfway through 2013. Organic corn imports quadrupled in four years: from \$36.6 million in 2013 to \$160.4 million in 2016, and became the fifth ranked organic import product. Again, as with soybeans, this corn is used primarily for livestock feed. Organic corn imports exhibit strong growth and are projected to increase 111.09% per year. Imports have been growing because livestock feed demand still outpaces domestic production. Import spikes in organic corn further evidence the need for transition of domestic acres to organic production.

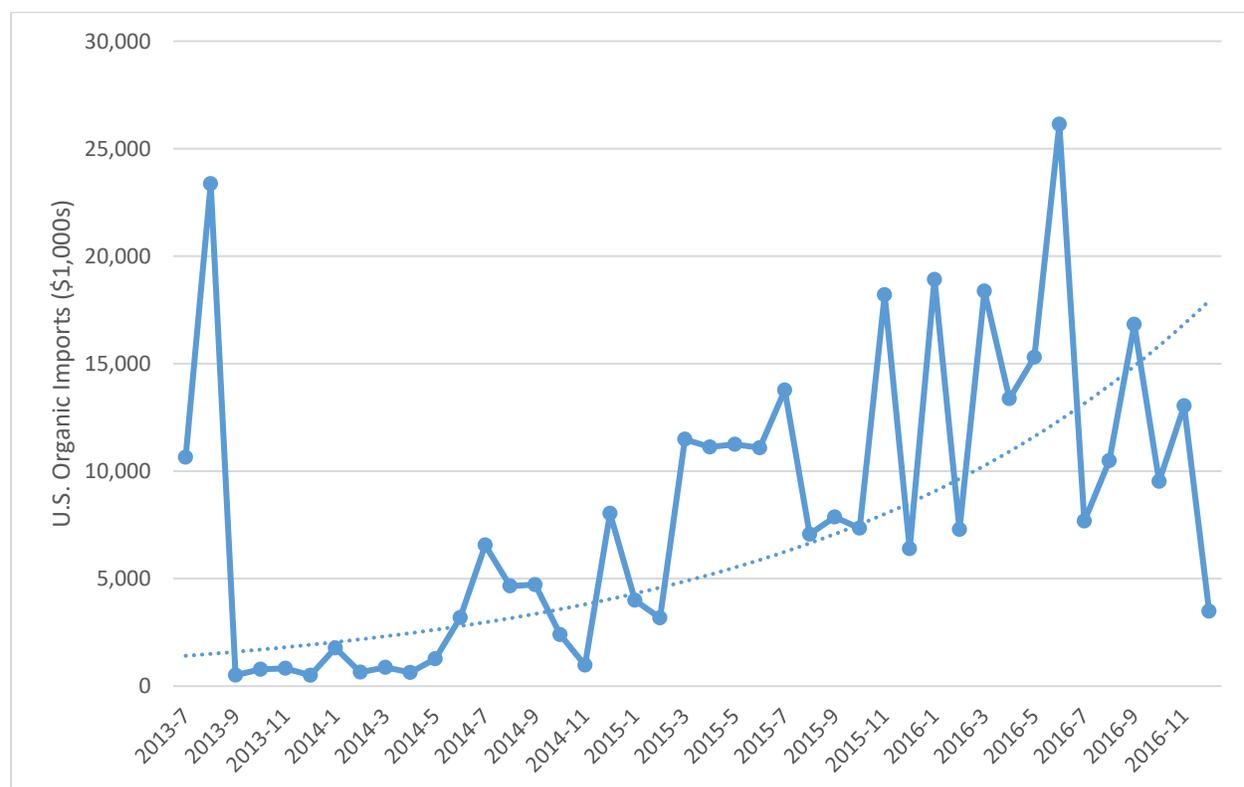
### *Monthly Import Data and Market Growth*

Based on three and one-half years (42 months) of import data, organic corn imports are estimated to have an annual growth rate of over 110%. Figure I.5.a, the graph of monthly organic imports, shows increasing trends in the value of organic corn imports although sometimes with significant declines.

**Table I.5.a: Total Organic Corn Imports, Growth Rate and Quarterly Effects**

Imports	Time Period, Monthly	Estimated Monthly Growth Rate	Statistically Significant?	Annual Growth Rate	Quarterly Effects?
Organic Yellow Dent Corn	2013-Q1 to 2016-Q4	6.42%	Yes	111.09%	No

**Figure I.5.a: Monthly Organic Corn Imports, with Exponential Trend Line**



Increase in the total U.S. imports of corn is associated with a major increase in the annual imports of organic corn (Table I.5.b). Import values of non-organic corn in 2016 were still lower than its 2013 values. The organic share of corn imports rose from 19% in 2013 to 54% in 2016. The quantity of imported corn grew from 3.08 million bushels in 2014 to 21.66 in 2016, while the unit value of imported organic corn has decreased from 11.59 to 7.4 dollars per bushel over these three years. Domestic livestock feed demand is a larger share of total organic demand because of chronic shortages of domestically produced grains. McBride and Greene (2016) calculate that the average price received for organic feed grade corn was \$6.82 per bushel higher than that received for conventional corn. Organic corn production shows to be profitable due to the significant price premiums paid for certified organic crops.

**Table I.5.b: Organic and Total Corn Imports**

	2013	2014	2015	2016
Value of Organic Import, \$1,000s	36,620	35,700	112,712	160,370
Total Import, \$1,000s	191,457	109,163	202,972	296,016
Organic Share of Total	19%	33%	56%	54%
Organic Import Quantity, millions of bushels	5.56	3.08	11.96	21.66
Price of Organic Import, \$/bushel	6.58	11.59	9.43	7.40

Note: 1 bushel = 25.4 kg

**Countries of Origin**

Figure I.5.b and Figure I.5.c show the countries of origin for organic and non-organic corn imports. Canada continues to be leading exporting non-organic corn to the U.S.

Tables I.5.c and I.5.d list country-specific organic and non-organic corn imports. There appears to be a strong competition in the market for organic corn imports to the U.S. The two leading sources of organic corn in 2016 – Turkey and Romania—supplied little or no organic corn to the U.S. in 2013. Argentina and Canada may increase their imports.

**Figure I.5.b: Countries of Origin for Organic Corn Imports, by Share**

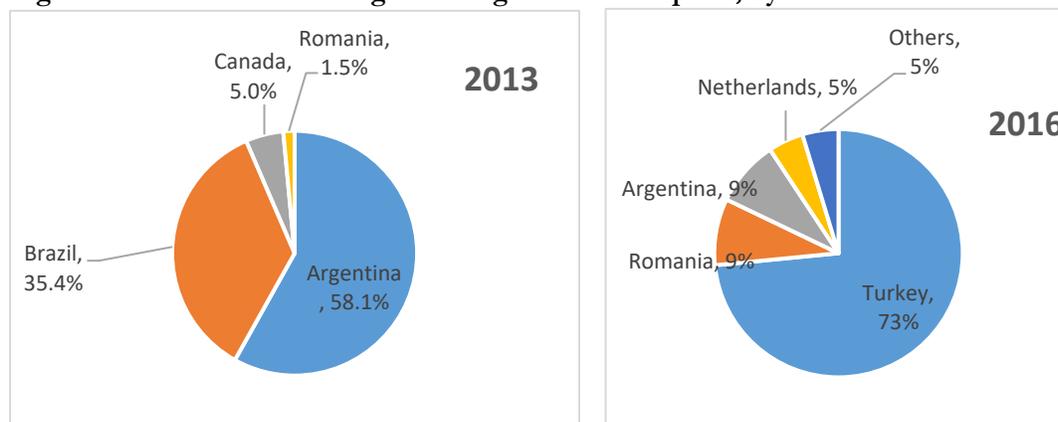


Figure I.5.c: Countries of Origin for Non-Organic Corn Imports, by Share

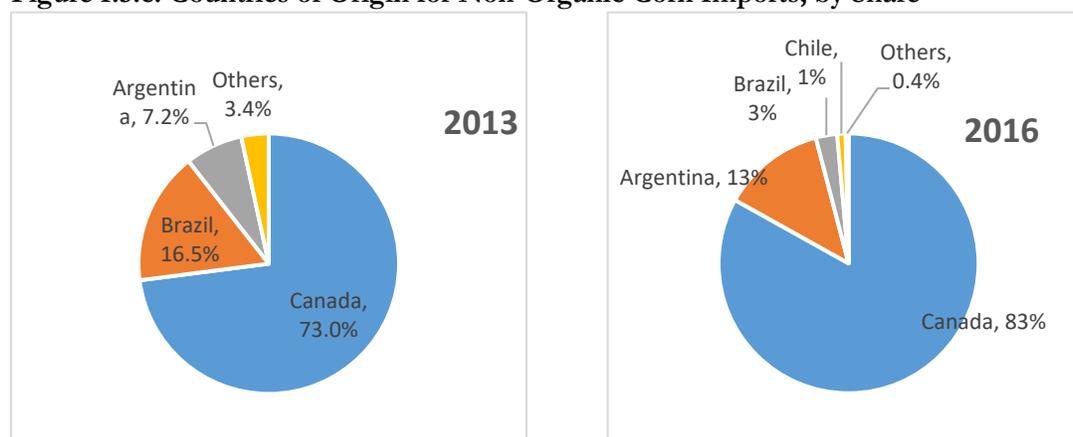


Table I.5.c: Organic Corn Imports from Top Country of Origin (\$1,000s)

Country (2016 ranking)	2013	2014	2015	2016
1. Turkey	0	6,797	36,355	117,791
2. Romania	545	11,602	53,461	13,907
3. Argentina	21,282	3,678	10,303	13,782
4. Netherlands	0	6,518	2,217	7,362
5. Canada	1,827	6,419	7,437	7,012
6. India	0	685	2,651	263
<b>Total</b>	<b>23,654</b>	<b>35,699</b>	<b>112,424</b>	<b>160,117</b>

Table I.5.d: Non-Organic Corn Imports from Top Countries of Origin (\$1,000)

Country (2016 ranking)	2013	2014	2015	2016
1. Canada	112,967	57,059	48,235	112,721
2. Argentina	11,091	11,477	10,869	17,413
3. Brazil	25,521	155	18,578	3,614
4. Chile	0	0	0	1,406
5. Romania	109	3,326	5,091	436
6. India	0	0	0	40
<b>Total</b>	<b>149,688</b>	<b>72,017</b>	<b>82,773</b>	<b>135,630</b>



## SECTION 3: Organic Trade Policies and Examples

### 1. Organic Equivalency Arrangements

More than 179 countries have organic activities in their borders, of which 87 countries now have unique organic standards (Willer, 2017). Consumers can find organic products around the world! As the global industry grows, ensuring that all players involved have the same dedication to organic integrity is crucial. Regulatory and policy tools are in place to ensure this commitment.

Organic equivalency is a mutual recognition in the form of bilateral arrangements between key trading partners that allows successful trade by reducing trade barriers and supporting the strengthening of the supply chain. Organic equivalency recognizes two systems as comparable and verifiable, although not necessarily identical. When it comes to the development of standards, it is recognized that technical requirements will differ by jurisdiction or region. Ultimately, it is more important that the parties agree that they are meeting the same objectives without compromising the integrity that has come to be expected from the organic designation in the respective markets.

Organic equivalency has many benefits. Equivalency in organic regulatory systems can achieve expanded market access for producers and manufacturers. Establishing organic equivalency of organic regulations and standards is a means to ensure greater access to the neighboring market for domestic producers and processors, and a mitigation of new non-tariff trade barriers to importers with a reduction in unnecessary technical barriers for all. Furthermore, equivalency enables a more consistent supply of organic goods, as it spans various growing conditions and seasons, as well as manufacturing bases. By ensuring consistent supply and introducing a diversity of product availability, the organic market becomes more appealing to consumers and continues to grow.

Domestic producers benefit from simplified and streamlined certification (for which they once had to pay for multiple certifications or ran parallel systems on their farms). Domestic producers also enjoy the benefits of the overall growth in the organic market, which attracts more consumers and enhances continuity in the supply of organic products on store shelves. Consumers benefit by access to a more affordable range of organic products, increased quantities, and product diversity. Manufacturers benefit from a strengthened supply of ingredients and reductions in following now-obsolete segregation production systems (i.e. multiple production lines meeting different standards). Organic equivalency will make the domestic certification the certification of choice by guaranteeing access to the domestic and export markets. Finally, these agreements reduce the cost of doing business.

In June 2009, U.S. entered its first organic equivalency arrangement with Canada. Since then, the U.S. has established organic equivalency arrangements with the European Union (2012), Japan (2014), South Korea (2014), and Switzerland (2015). The U.S. has a one-way equivalency arrangement with Taiwan (2009).

Many other countries have utilized this strategy to help their organic markets grow. For example, most recently China and New Zealand signed an agreement (January 2017). Table 5 below lists the existing and prospective arrangements. Map 3 depicts organic equivalency partners around the world.



**Table 5: Organic Equivalency Arrangements in the World**

<b>Organic Arrangements in Place</b>	<b>38</b>
Bilateral arrangements	17
Unilateral arrangements	18
US recognitions	3
<b>Prospective Arrangements</b> Includes negotiations underway, or negotiations under consideration	<b>10</b>
<b>Other Working Relationships Found</b>	<b>4</b>
<b>Active Players</b> Countries that have existing arrangements, or are in process of pursuing prospective arrangements	<b>22:</b> Argentina, Brazil, Canada, Chile, China, Colombia, Costa Rica, EEA (Iceland and Norway), the E.U., Guatemala, India, Israel, Japan, Korea, Mexico, New Zealand, Switzerland, Taiwan, Tunisia, and United States
<b>Most Active Countries</b> Countries with 3 bilateral arrangements or more	<b>5:</b> Canada European Union Japan Switzerland United States

**Map 3: Organic Equivalencies: Partners around the World**



## 2. Organic Equivalencies and U.S. Organic Exports

To date, the U.S. has signed five bilateral organic equivalencies: with Canada in 2009, the E.U. in 2012, Japan and South Korea (separately) in 2014, and Switzerland in 2015. Organic equivalency arrangements are designed to promote organic trade by reducing the cost of trade. Jaenicke and Demko (2015b) found that equivalency arrangements, examined both collectively as a single policy or as individual policies, had a positive impact on organic exports. Demonstrating the impact of the arrangement with Canada has been difficult because data collection started in 2011.

In June 2012, the E.U. and the U.S. signed a bilateral organic equivalency arrangement. The E.U. and the U.S. represent the two largest certified organic markets in the world. In 2015, global sales of organic food products reached \$81.6 billion with organic retail sales in the U.S. accounting for 53% of the market (\$43.3 billion) and sales in the E.U. amounting for \$30.1 billion or 37% (Willer, 2017).

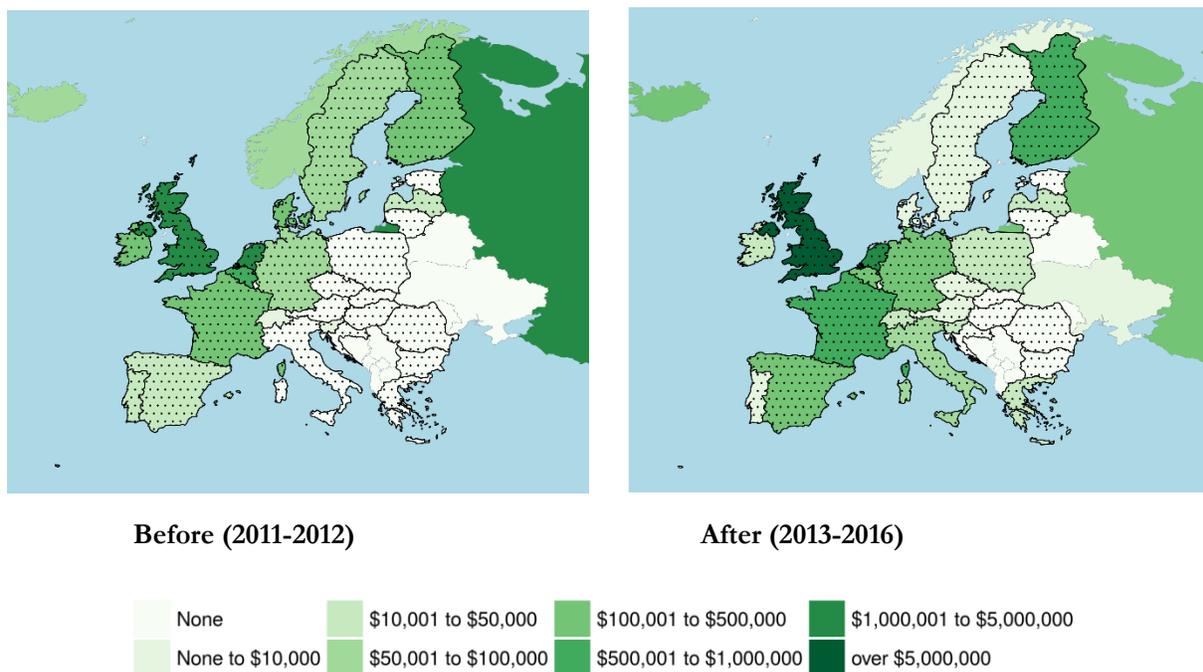
As recently as 2013, the European areas have steadily increased in their value of imports from the U.S., which can be seen in Map 4. Demko and Jaenicke (2017) estimate that this policy generates an increase of \$149,100, or 9.1%, in the U.S. organic exports to the E.U. each quarter.

Prior to 2013, E.U. members imported an average of \$6.7 million in U.S. organic products per year. This amount has climbed to over \$8.9 million since 2013, with the United Kingdom accounting for a majority of imports with over 56% of all E.U. imports from the U.S. The United Kingdom has imported an average of \$4.63 million organic products from the U.S. while the next largest country in the E.U. – the Netherlands-- has averaged only \$1.38 million across this time.

In 2015, the U.S. National Organic Program entered into a bilateral organic equivalency with Switzerland. From 2011 to 2015, Switzerland had only imported a total of \$8,000 in U.S. organic products, but this amount jumped to over \$123,000 in 2016.



**Map 4: U.S. Organic Exports to the E.U. and Switzerland before and after the equivalencies**

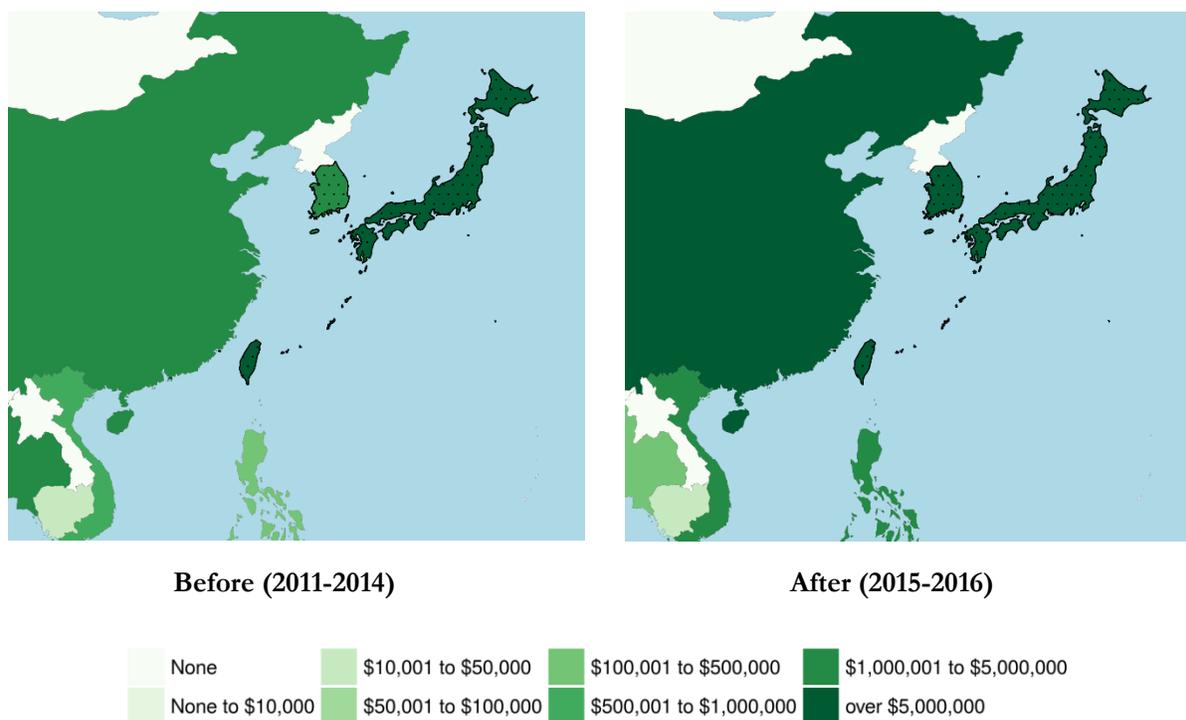


Map 5 depicts annualized flow of U.S. organic exports to Taiwan, South Korea and Japan before and after 2014. In 2009, Taiwan declared a unilateral recognition of USDA-certified exports. As with Canada, it is difficult to assess the arrangement on the value of U.S. exports to Taiwan because of the data restrictions. In 2014, the U.S. also signed a bilateral organic equivalency with Japan and South Korea.

From 2011 to 2014, Japan imported an average of \$26.3 million in U.S. organic products per year and was the major importer of the Asia Pacific region. In comparison, Taiwan averaged \$15.9 million per year over this same time, while South Korea (\$4.2 million) and China (\$3.1 million) lagged behind. The trade partnership represented a boom in U.S. organic imports for these countries as each saw their annual amount of U.S. organic imports rise by at least 20%. For Japan, they averaged \$31.7 million in U.S. organic imports per year over 2015 and 2016. Taiwan had a similar increase in U.S. organic imports with \$22.2 million per year over this time, but South Korea (\$12.8 million) and China (\$7.6 million) experienced more robust growth.



**Map 5: U.S. Organic Exports to Taiwan, South Korea and Japan before and after the Equivalencies**



### 3. Export Success Stories

The Organic Trade Association leads U.S. Organic Worldwide, an export promotion program aimed at increasing business opportunities abroad for U.S. organic producers, manufacturers, and traders. Increased interest in export activities, especially after organic equivalency implementation in key markets, demonstrates the growing demand for high-quality organic goods around the world as evidenced in this report. However, there is limited data available to demonstrate the size and value of this trade. Nevertheless, here are just five examples of export success specific to processed products, reaffirming the need for increased organic trade information, especially for high-value processed goods.

**Acme Organics, Minneapolis, MN.** Acme Organics produces the award-winning Triple Crown BBQ sauce that is both vegan and certified organic. Acme Organic’s founder Andrew Wright began exploring export opportunities in late 2014 through OTA’s U.S. Organic Worldwide programs. Today, Acme Organic Products are found in Australia, Denmark, Sweden, Switzerland, and Taiwan. “This wouldn’t have happened without OTA,” said Wright, maker of the organic Triple Crown BBQ sauce. “OTA not only gave us a platform to show our products to an international audience, but it also connected us to the right people, the decision makers, and that was huge.”

**Excel Trade, Seattle, WA.** Excel Trade represents U.S. organic brands in export markets all over the world. Recently Excel Trade participated in OTA’s Enjoy Organic promotion in November in Japan. OTA has been working to educate the Japanese consumer on U.S. organic products for the past three years, and efforts are starting to pay off. Nature’s Path Love Crunch organic granola range is now in over 3,000 stores in Japan with the ACV continuing to flourish riding on the increased interest in organic products by Japanese consumers. Sally Cox, Excel Trade’s founder and president, shares: “The OTA has done a wonderful job supporting B to B and consumer events in Japan, and is definitely making a positive impression with the Japanese consumers that the NOP certified products are the best in the world!”



**Montana Organic Producers Cooperative, Bozeman, MT.** The United Arab Emirates and the Gulf Coastal Countries (GCC) are the fastest-growing organic markets. President of the Montana Organic Producers Cooperative and cattle rancher Nate Powell-Palm took advantage of an OTA-led market investigation to explore new partnerships in the region. As a result, MOPC now ships certified product to the GCC on a monthly basis, at volumes that required increased production for the co-op. This new business has increased organic activity and income for ranchers in Montana.

**Riega Foods, Kansas City, MO.** Riega Foods provides a diverse range of branded and co-manufactured processed products. Through the U.S. Organic Worldwide program, Riega Foods is now on the shelves in Japan, and is preparing first-time orders for Australia, Spain, and Germany. Riega's founder Brand Gampper shared, "Export is a growing part of our business. OTA's programs have demonstrated that demand is out there for USDA certified organic, and we are excited to grow our business and support our local economy through these export opportunities."

**To Your Health Sprouted Flour Co., Fitzpatrick, AL.** To Your Health Sprouted Flour Co. (TYH) was founded and is currently headquartered in rural Alabama. Its branded products are currently sold in Japan, Mexico, Mongolia, South Korea, and the United Kingdom. TYH is a pioneer in the sprouted grain business and is the global supplier of sprouted grains and legumes. TYH has built a new 26,000-square-foot facility to quintuple production capacity to meet growing demand.



#### 4. Organic Equivalencies and U.S. Organic Imports

To date, the U.S. has signed five organic equivalencies potentially affecting organic imports: with Canada in 2009, the E.U. in 2012, Japan and South Korea (separately) in 2014, and Switzerland in 2015.

The Canada-U.S. arrangement completely pre-dates the organic data collection period. Therefore, it is not possible to separate the effects of the equivalency arrangement.

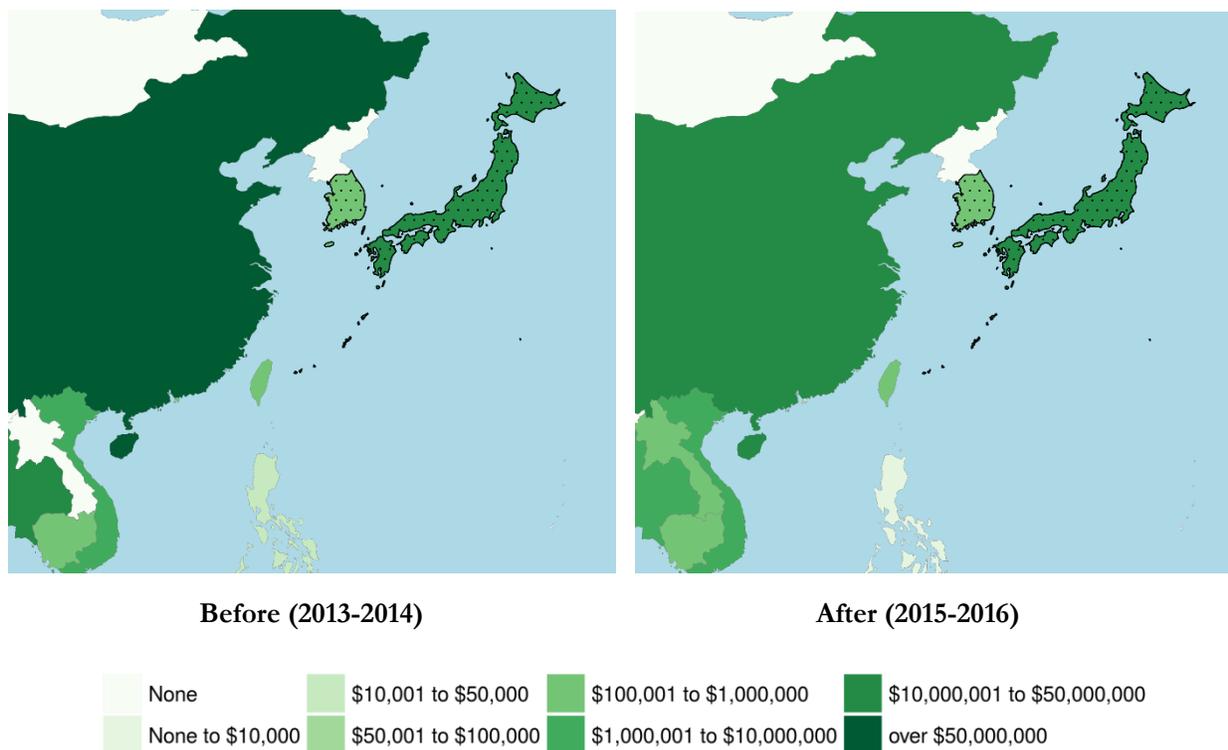
Organic imports from the E.U. are not strongly represented in the HS codes. For example, products with HS codes (coffee, tea, bell peppers and rice) available in 2011 cover only 5% to 7% of organic imports from the E.U. after 2012. The E.U. does not specialize in the production of coffee, tea or rice, and we want to avoid misrepresentation of organic imports from the E.U. using HS codes consistently available from 2011-2016.

Switzerland has mostly imported organic coffee to the U.S. In 2011, the value of organic imports was unusually high--\$30 million--compared to its average \$164 thousand per year during 2012-2016.

Map 6 depicts annualized flow of U.S. organic imports from South Korea and Japan before and after 2014. The main Asia Pacific region exporters to the U.S. for organic products are China, Japan and South Korea. From 2013 to 2014, China was by far the largest exporter at \$96.6 million annually, with Japan (\$17.6 million) and South Korea (\$0.34 million) lagging behind. The following two years showed a marked decline for China to \$34.7 million annually; although, it was still well ahead of both Japan (\$17.6 million) and South Korea (\$0.1443 million), which also saw declines in their value of organic exports to the U.S.



**Map 6: U.S. Organic Imports from South Korea and Japan before and after the Equivalencies**



Map A-1 shows U.S. organic corn import partners (12 countries). On average, U.S. imported \$86 million of yellow dent organic corn each year since 2013. On average, \$56 million (63%) of this corn were imported from the countries that did not have an organic equivalency arrangement with the U.S. In fact, only 37% of organic corn entered under equivalency from Romania, Netherlands, Canada, Bulgaria and Greece.

Map A-2 depicts the flows of U.S. organic soybean imports from 19 countries annualized for 2011-2016. On average, the U.S. imported \$152.8 million of soybeans each year. Only 26% of organic soybean imports entered the U.S. from the equivalency partners (Canada, Lithuania, Netherlands, Latvia, Romania and Spain).

Finally, when compared by the quantity of imports (not value), 30% of imports of organic corn and 25% of organic soybean come from countries with equivalencies. Once again, these products are primarily used for livestock feed.



## SECTION 4: Future Research Areas

Organic equivalency policies help the U.S. organic sector to remain competitive globally. The success of equivalency arrangements in the global organic trade industry has drawn attention, and many countries have followed suit in developing several organic equivalency arrangements. In January 2017, China and New Zealand have signed the most recent equivalency that calls into question the impact that such an arrangement might have on U.S. organic export competitiveness in these markets. More research is needed to fully understand the impact of an organic equivalency arrangement between two countries where neither has an arrangement with the U.S., but they have an arrangement with each other.

Table A1 and Table A2 in this report present our research effort to match trade codes for organic and non-organic imports and exports in USDA's GATS system. Future research may investigate changes in the shares of organic exports and the causal effect of the equivalency policy. Demko and Jaenicke (2017) document an increase in the shares for carrots, peppers and blueberries, but they do not investigate the causal effect of the equivalency policies.

Organic trade data collection efforts in the U.S. and globally should continue, including the development of more 10-digit statistical annotations in the Harmonized Tariff Schedule System. Furthermore, U.S. government and industry might consider changes to the World Customs Organization chapter headings for the most trade products such as apples, coffee, and soy. Currently, the European Commission is implementing a new procedure for all organic imports entering the European Union. This involves each shipment of an organic product to follow with an electronic certificate of inspection. The system will—for the first time—create a significant dataset on all organic products exported to the E.U. from the U.S. Incorporating this data into future analysis should be considered.

Finally, building transparency and oversight into the supply chain are key for gathering accurate information and for maintaining the integrity of the organic industry as well as the value of the USDA certified organic seal worldwide.



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**Table A-1: HS Export Code Correspondences**

Product	Codes (Organic)	Codes (Non-Organic)
Apples	0808100010 - ORG APPLES FRESH	0808100050 - APPLES FRESH
Lettuce (Not Head)	0705190010 - ORG LETTUCE X HD 0705190040 - ORG LETTUCE X HD 0705190020 - ORG LETTUCE <1KG 0705190030 - ORG LETTUCE >1KG	0705190050 - LETTUCE X HD FR
Grapes Fresh	0806100010 - ORG GRAPES FRESH	0806100050 - GRAPES FRESH
Spinach	0709700010 - ORG SPINACH FR/C	0709700050 - SPINACH FR/CH
Strawberries	0810100010 - ORG STRAWBERS FR	0810100050 - STRAWBERRIES FR
Carrots	0706103010 - ORG CARROTS FR/C 0706103030 - ORG CARROT NESOI 0706103020 - ORG CARROT <11CM	0706103050 - CARROTS FR/CH
Cauliflower	0704100010 - ORG CAULFLOWR FR	0704100050 - CAULFLOWER FR/CH
Coffee Roast (Not Decaf)	0901210010 - ORG COFFE RST ND	0901210050 - COFFEE RST ND
Tomato Sauce	2103204010 - ORG TMTO SAUC NE	2103204050 - TMTO SAUCES NES
Pears (and Quince)	0808300010 - ORG PEARS 0808200010 - ORG PEARS/QUINCE	0808200050 - PEARS/QUINCE FR 0808300050 - PEARS, FRESH 0808400000 - QUINCES, FRESH
Cult Blueberries	0810400026 - ORG CULT BLUEBER	0810400029 - CULT BLUEBERS FR
Oranges	0805100045 - ORG ORANGES FR/D	0805100065 - ORANGES NES FR/D
Broccoli	0704904025 - ORG BROCCOLI FR	0704904030 - BROCCOLI FR/CH
Lemons	0805502010 - ORG LEMONS FR/D	0805502050 - LEMONS FR/D
Cherries	0809290010 - ORG CHER N/SR FR 0809290010 - ORG CHERRIES FR	0809290050 - CHERRIES FR 0809290050 - CHER N/SR FR
Onion Sets	0703100010 - ORG ONION SET FR	0703100050 - ONION SETS FR/CH
Celery	0709400010 - ORG CELERY FR/CH	0709400050 - CELERY FR/CH
Cherry Tomato	0702000015 - ORG CHERRY TOMAT	0702000045 - CHERRY TOMATO
Peppers	0709600010 - ORG PEPPERS FR/C	0709600050 - PEPPERS FR/CH
Tomato Other	0702000035 - ORG TOMATO OTHER	0702000065 - TOMATOES OTHER
Grapefruit	0805400010 - ORG GRAPEFRUIT	0805400050 - GRAPEFRUIT,FRESH 0805400000 - GRAPEFRUIT,FRESH
Potatoes	0701900070 - ORG POTATO XSD	0701900080 - POTATO XSD NESOI
Cabbage	0704902010 - ORG CABBAGE	0704902050 - CABBAGE, FR/CH 0704902000 - CABBAGE, FR/CH
Head Lettuce	0705110010 - ORG HD LETTUCE	0705110050 - HD LETTUCE FR/CH
Roma Plum Tomato	0702000025 - ORG ROMA PLM TOM	0702000055 - ROMA PLUM TOMATO
Cucumbers	0707000010 - ORG CUCMBERS	0707000050 - CUCMBERS,FR/CH 0707000000 - CUCMBERS,FR/CH



<b>Watermelon</b>	0807111000 - ORG WATERMELON	0807110000 - WATERMELON,FRESH 0807119000 - WATERMELON NESOI
<b>Limes</b>	0805505010 - ORG LIMES FD	0805505090 - LIMES, FD 0805505050 - LIMES, FRESH/DR
<b>Peach/Nectarine</b>	0809301000 - ORG PEACH,NCTR	0809300000 - PEACHES,NCTRNS,F 0809309000 - PEACH,NCTR NESOI
<b>Berries (Raspberries, Blackberries, Mulberries and Loganberries)</b>	0810202000 - ORG BERRIES	0810200000 - BERRIES,FRSH,NEC 0810205000 - BERRIES NESOI
<b>Beets</b>	0706903100 - ORG BEET FC	0706903500 - BEET FC
<b>Peas</b>	0708101000 - ORG PEAS FC	0708109000 - PEAS FC NESOI 0708100000 - PEAS, FR/CH
<b>Asparagus</b>	0709202000 - ORG ASPARAGUS FC	0709200000 - ASPARAGUS, FR/CH 0709205000 - ASPARAGUS FC
<b>Milk and Cream</b>	0401201000 - MLK&CRM<6% ORG since July 2016	0401205000 - MLK&CRM,<6% OTH

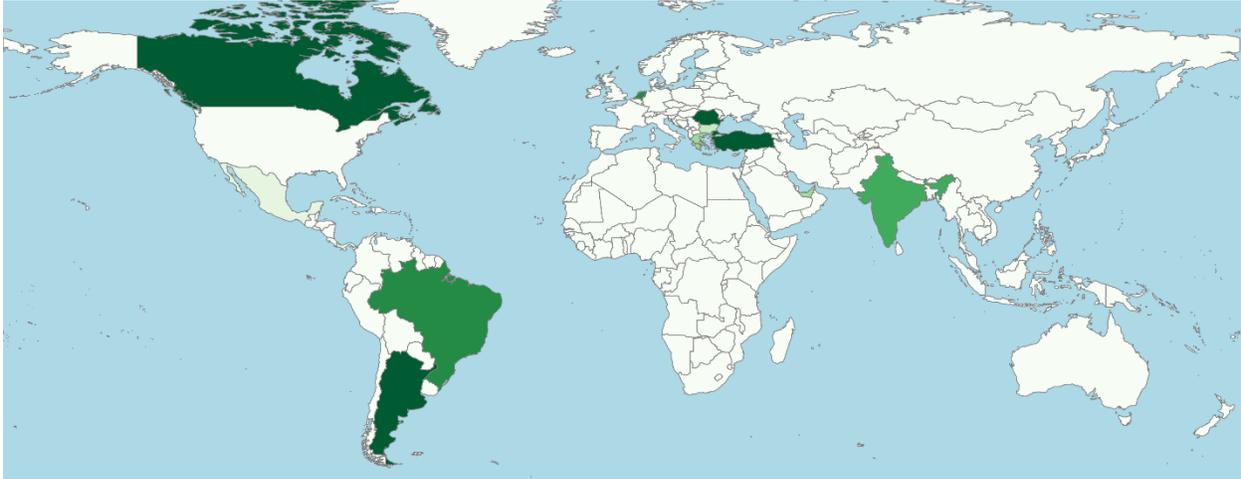


**Table A-2: HS Import Code Correspondences**

Product	Codes (Organic)	Codes (Non-Organic)
<b>Coffee</b>	0901110015 - ORG COFF AR ND 0901110045 - ORG COFFEE NR ND 0901120015 - ORG COFF DEC NR 0901210035 - ORG COF RS ND<2K 0901220035 - ORG COF RS DE<2K 0901210055 - ORG COFF RST ND	0901110025 - COFF AR ND 0901110055 - COFFEE NR ND 0901120025 - COFF DEC NR 0901210045 - COFF RS ND<2K 0901220045 - COFF RS DEC<2K 0901210065 - COFF RST ND
<b>Bananas</b>	0803900025 - BANANAS, ORGANIC	0803900035 - BANANAS, FRESH 0803900045 - BANANAS, DRIED
<b>Olive Oil</b>	1509102015 - OLV OL VRG<18ORG (only in 2013) 1509102030 - OLV OL XVR<18ORG 1509102040 - OLV OL VRG<18ORG 1509104030 - OLV OL XVR>18ORG 1509104040 - OLV OL VRG>18ORG 1509104015 - OLV OL VRG>18ORG (only in 2013)	1509102025 - OLV OL VRG<18KCT (only in 2013) 1509102050 - OLV OL XVR<18KCT 1509102060 - OLV OL VRG<18KCT 1509104050 - OLVOL XVRG18K>CT 1509104060 - OLVOL VRG18K>CT 1509104025 - OLVOL VRG18K>CT (only in 2013)
<b>Wine</b>	2204100065 - OSPK WIN>\$1.59/L 2204215035 - ORED>1.05<14%<2L 2204215050 - OWWN>1.50<14%<2L	2204100075 - SPK WIN>\$1.59/L 2204215040 - RED>1.05<14%<2L 2204215055 - WWN>1.50<14%<2L
<b>Honey</b>	0409000005 - BHONEY, ORGANIC	0409000010 - CMB & NT HNY/RTL 0409000035 - WHT HONEY,NT/RT 0409000045 - HONEY,E/L AMBER 0409000056 - HONEY,NT/RET,LT 0409000065 - HONEY,NT/RET,OT
<b>Almonds</b>	0802120005 - ALMONDS, SHL ORG	0802120015 - ALMONDS,SHELLED
<b>Mangoes</b>	0804504045 - MANGO, ORG IN 0804506045 - MANGO, ORG OUT	0804504055 - MANGO, 9/1-5/31 0804506055 - MANGO, 6/1-8/31
<b>Avocado</b>	0804400020 - ORG AVOC-HSLIKE	0804400040 - AVOC-HSLIKE
<b>Yellow Dent Corn</b>	1005902015 - ORG CRN,YLW, X SD	1005902025 - CORN, YLW, EX SD
<b>Tea</b>	0902101015 - ORG GR TEA FL<3K 0902109015 - ORG GR TEA NF<3K 0902209015 - ORG GR TEA NF OT 0902300015 - ORG BL TEA F/BAG	0902101050 - GR TEA FL<3K 0902109050 - GR TEA NF<3K 0902209050 - GR TEA NF OT 0902300050 - BL TEA F/BAG
<b>Apples</b>	0808100045 - ORG APPL>22CN/KG	0808100065 - APPLE FR>22CN/KG
<b>Rice</b>	1006309015 - ORG RICE SMI/WHL	1006309055 - LNG GRN RICE,MLD 1006309065 - MDM GRN RICE,MLD 1006309075 - SHT GRN RICE,MLD 1006309085 - RICE MIXED, MLD
<b>Bell Peppers</b>	0709604015 - ORG BELL PEPP GH 0709604065 - ORG BL PEPPRS NE	0709604025 - BELL PEPPERS GH 0709604085 - BELL PEPPERS NES
<b>Ginger</b>	0910110010 - GINGER, ORGANIC	0910110015 - GINGER,NT/GROUND
<b>Pears</b>	0808202015 - ORG PEAR4/1-6/30 (in 2011) 0808204015 - ORG PEAR OTH TM (in 2011) 0808304015 - ORG PEAR7/1-3/31 0808302015 - ORG PEAR4/1-6/30	0808202025 - PEAR FR 4/1-6/30 (in 2011) 0808204025 - PEAR OTH TM (in 2011) 0808302025 - PEAR FR 4/1-6/30 (since 2012) 0808304025 - PEAR7/1-3/31 (since 2012)
<b>Blueberries</b>	0810400026 - ORG CULT BLUEBR	0810400029 - CULT BLUEBR
<b>Flaxseed Oil</b>	1204000025 - FLAXSEED, OIL ORG	1204000035 - FLAXSEED, OIL STK
<b>Garlic</b>	0703200005 - GARLIC, ORGANIC	0703200015 - FRSH GARLIC BULB
<b>Quinces</b>	0808402015 - ORG QNCE4/1-6/30 0808404015 - ORG QNCE7/1-3/31	0808404025 - QNCE7/1-3/31 0808402025 - QNCE FR 4/1-6/30
<b>Barley</b>	1003904020 - BARLEY, ORGANIC (since July 2016)	1003904030 - BARLEY, OTHER



Map A-1: Countries of Origin for U.S. Organic Imports of Yellow Dent Corn, annualized from 2013 to 2016



Map A-2: Countries of Origin for U.S. Organic Imports of Soybeans, annualized from 2011 to 2016

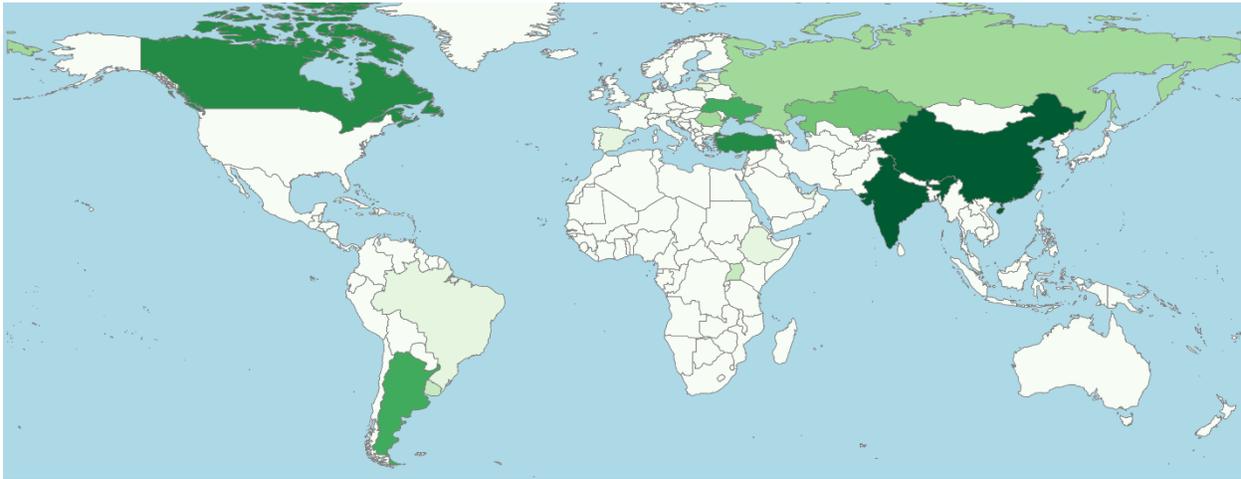


Table A-3: U.S. Organic Exports, Top Destination Countries, 2011-2016

Country	Average Annual Exports, millions of \$	Total Exports, millions of \$	Share by country
1. Canada	247.48	1,484.89	49%
2. Mexico	134.73	808.36	27%
3. Japan	28.13	168.80	6%
4. Taiwan	17.97	107.79	4%
5. Australia	9.81	58.83	2%
6. Hong Kong S.A.R.	8.82	52.90	2%
7. South Korea	7.10	42.58	1%
8. United Arab Emirates	5.82	34.91	1%
9. United Kingdom	4.63	27.77	1%
10. China	4.60	27.59	1%
11. Saudi Arabia	3.11	18.66	1%
12. Singapore	2.84	17.07	1%
13. Israel	1.88	11.29	0%
14. Guatemala	1.84	11.07	0%
15. Malaysia	1.78	10.66	0%
16. Trinidad and Tobago	1.75	10.52	0%
17. Barbados	1.70	10.21	0%
18. India	1.54	9.27	0%
19. Netherlands	1.38	8.27	0%
20. Indonesia	1.32	7.92	0%
21. Thailand	1.23	7.39	0%
22. New Zealand	1.23	7.36	0%
23. Philippines	1.10	6.61	0%
24. All others	13.28	79.66	3%
<b>Total</b>	<b>505.06</b>	<b>3,030.37</b>	

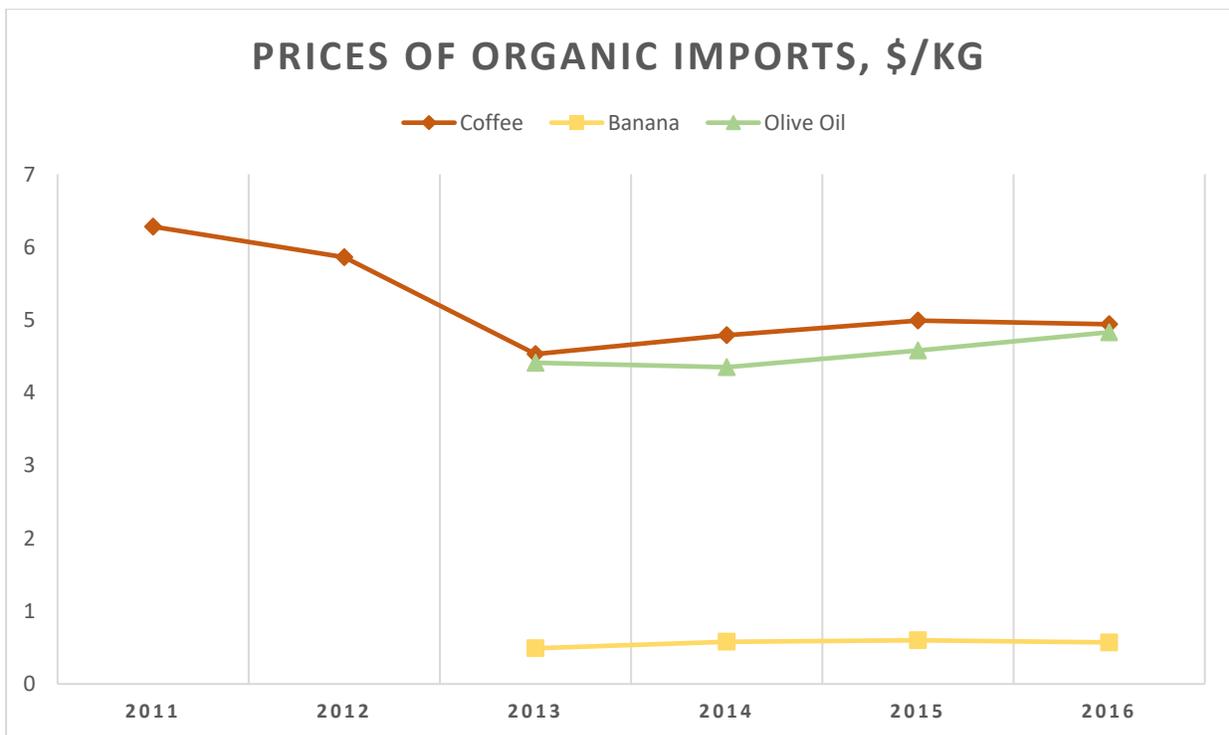
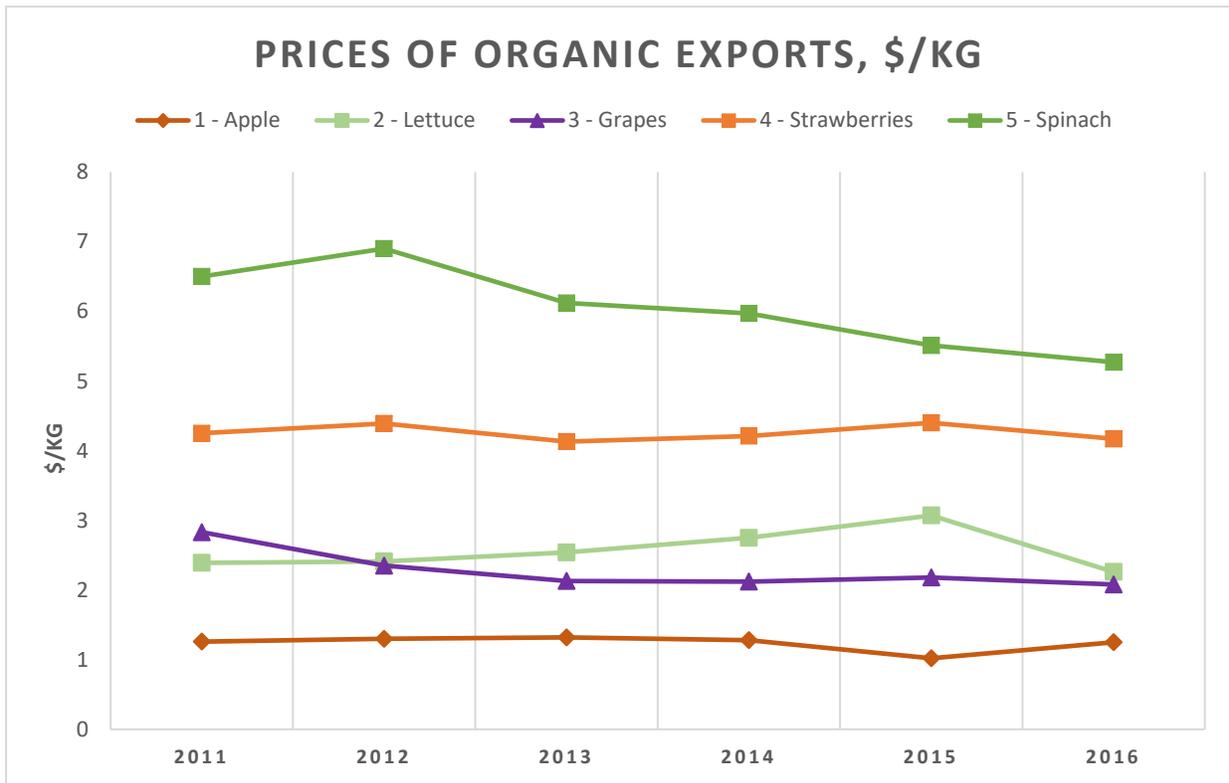


Table A-4: U.S. Organic Imports, Top Countries of Origin, 2013-2016

Country	Average Annual Imports, millions of \$	Total Imports, millions of \$	Share by country
1. Mexico	118.39	710.36	10%
2. Peru	92.95	557.68	8%
3. Italy	92.85	557.11	8%
4. Canada	58.74	352.44	5%
5. Brazil	57.52	345.15	5%
6. India	56.83	340.97	5%
7. Colombia	56.17	336.99	5%
8. Argentina	55.33	331.97	5%
9. Spain	51.23	307.39	4%
10. Turkey	50.05	300.28	4%
11. Ecuador	49.07	294.41	4%
12. China	43.79	262.74	4%
13. Indonesia	41.83	250.97	4%
14. France	35.24	211.43	3%
15. Honduras	32.81	196.89	3%
16. Guatemala	32.34	194.04	3%
17. Chile	28.85	173.13	2%
18. Costa Rica	19.96	119.76	2%
19. Ethiopia	19.92	119.49	2%
20. Tunisia	19.35	116.12	2%
21. All Others	164.74	988.42	14%
<b>Total</b>	<b>1,177.95</b>	<b>7,067.73</b>	



Graph A-1, 2, 3: Prices of Top Five U.S. Organic Exports and Imports



## PRICES OF ORGANIC SOYBEANS AND CORN IMPORTS, \$/BUSHEL

