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Post: Osaka ATO

Japanese Fresh Vegetable Market Overview 2018

Report Categories:
Vegetables

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Report Highlights:

The Japanese fresh vegetable market size is estimated at around 14.2 million metric tons (MT) as of 2016. Currently, Japan imports only 5-6 percent of fresh vegetable demanded. The United States ranks 3rd (after China and New Zealand) in value of fresh vegetable exports to Japan at $84 million in 2017. The United States is the leading supplier of chipping potato, broccoli, and celery. The United States is currently the sole foreign supplier of fresh potato for chipping use permitted to Japan. The Japanese fresh vegetable sector is mainly self-sufficient in those varieties domestically produced with no current consumer demand for new non-traditional vegetable varieties. Increased U.S. fresh vegetable exports to Japan is not currently anticipated given reduced per capita consumption trends coupled with overall population decline.

General Information:

The Japanese fresh vegetable market is estimated at around 14.2 million metric tons (MT) as of 2016. Currently, Japan imports only 5-6 % of fresh vegetable demands, approximately 807,000 MT in 2017, led by onion, pumpkin/squash, and carrots. The United States ranks 3rd (after China and New Zealand) in value of fresh vegetable exports to Japan at $84 million in 2017. The United States is the leading supplier of chipping potato, broccoli, and celery. The United States is currently the sole foreign supplier of fresh potato for chipping use permitted to Japan. The Japanese fresh vegetable sector is mainly self-sufficient in those varieties domestically produced with no current consumer demand for new non-traditional vegetable varieties.

Increased U.S. fresh vegetable exports to Japan is not currently anticipated given reduced per capita consumption trends coupled with population decline. Competing countries are making inroads into the Japanese market backed by their close geographical advantage as well as preferential tariff and trade terms under newly signed agreements with Japan (GAIN JA8056). A future U.S.-Japan Trade Agreement may increase U.S. competitiveness through improved tariff or non-tariff access conditions (i.e. alignment of allowable agrochemicals and tolerance levels). FAS Japan recommends U.S. suppliers follow the progress of the negotiations for a U.S.-Japan Trade Agreement so that they can stand ready to take advantage once an agreement has been reached. These improved conditions coupled with further value-added ready-to-eat (RTE) processed fresh products and/or reduced transport cost (marine) with new storage/in-transit technologies that extend product life may provide additional improved competiveness to U.S. producers and exporters.

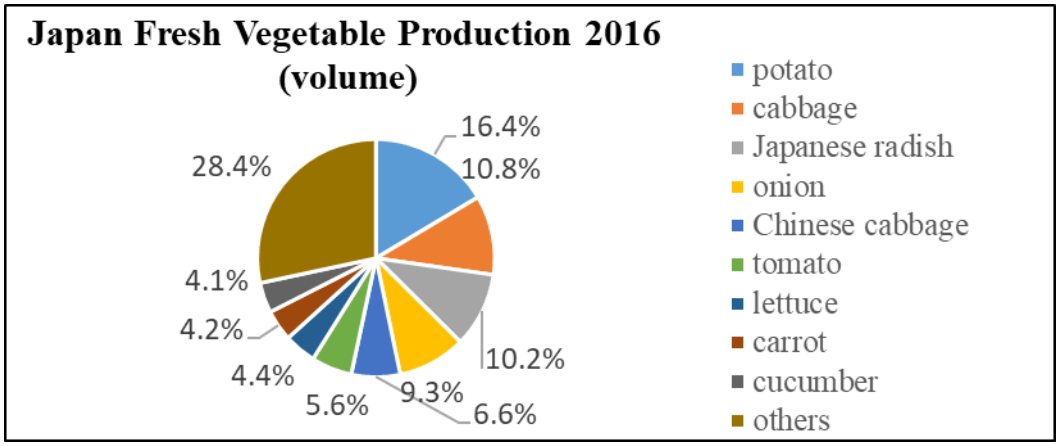
I. Japan - Domestic Vegetable Production

Japan is located in the temperate zone and it produces a wide variety of vegetables suitable to the climate of each region nationwide. The Japanese archipelago stretches from northeast to southwest, enabling a relatively stable supply of domestic vegetables year round by rotating production areas within the country.

In 2016, Japan produced 13.4 million MT* of fresh vegetables based on the latest data compiled by the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF). Vegetable production by volume was led by potato (16.4%), followed by cabbage (10.8%), Japanese radish (10.2%), and onion (9.3%).

2016 Japan Vegetable Production (Metric Tons)

Vegetable	Production	Share
potato	2,199,000	16.4%
cabbage	1,446,000	10.8%
Japanese radish	1,362,000	10.2%
onion	1,243,000	9.3%
Chinese cabbage	888,700	6.6%
tomato	743,200	5.6%
lettuce	585,700	4.4%
carrot	566,800	4.2%
cucumber	550,300	4.1%
others	3,794,000	28.4%
total	**13,378,700**	**100.0%**



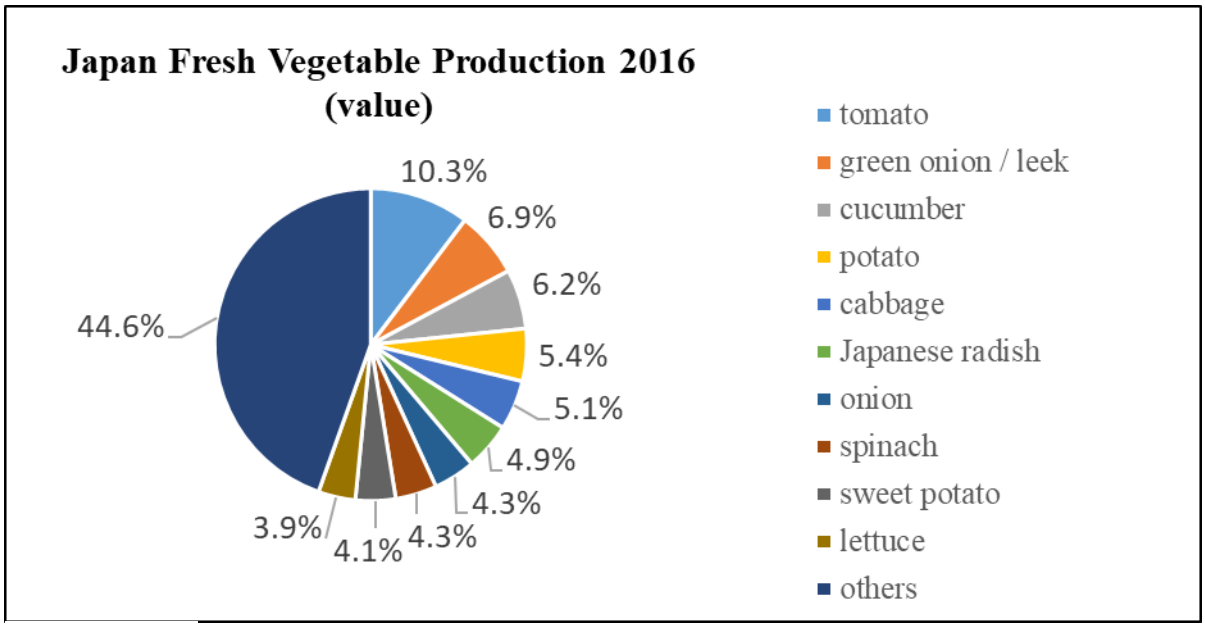
Source: MAFF

** MAFF's vegetable data includes strawberry, melon and watermelon as they categorize these three products as vegetables. ATO Osaka calculated the total domestic production of fresh vegetables by deducting the production of these three products (662,000 t) from MAFF's "vegetable production data" (13,180,000 t) and adding sweet potato production (860,700 t), which is also excluded from the data.*

In 2016, the value of Japan's domestically produced vegetables was estimated at US$22.9 billion** (2,493.3 billion yen) in 2016. For 2016, this represented 27% of the total agricultural production value in Japan, estimated at US$84.56 billion (9,203 billion yen). The production of vegetables in value terms was led by tomato (10.3%), followed by green onion/leek (6.9%), cucumber (6.2%), and potato (5.4%).

2016 Japan Vegetable Production (value)

Vegetable	Production value (million yen)	Share
tomato	257,400	10.3%
green onion / leek	170,900	6.9%
cucumber	153,800	6.2%
potato	135,800	5.4%
cabbage	128,400	5.1%
Japanese radish	121,300	4.9%
onion	108,300	4.3%
spinach	106,800	4.3%
sweet potato	103,400	4.1%
lettuce	96,300	3.9%
others	1,110,900	44.6%
total	**2,493,300**	**100.0%**



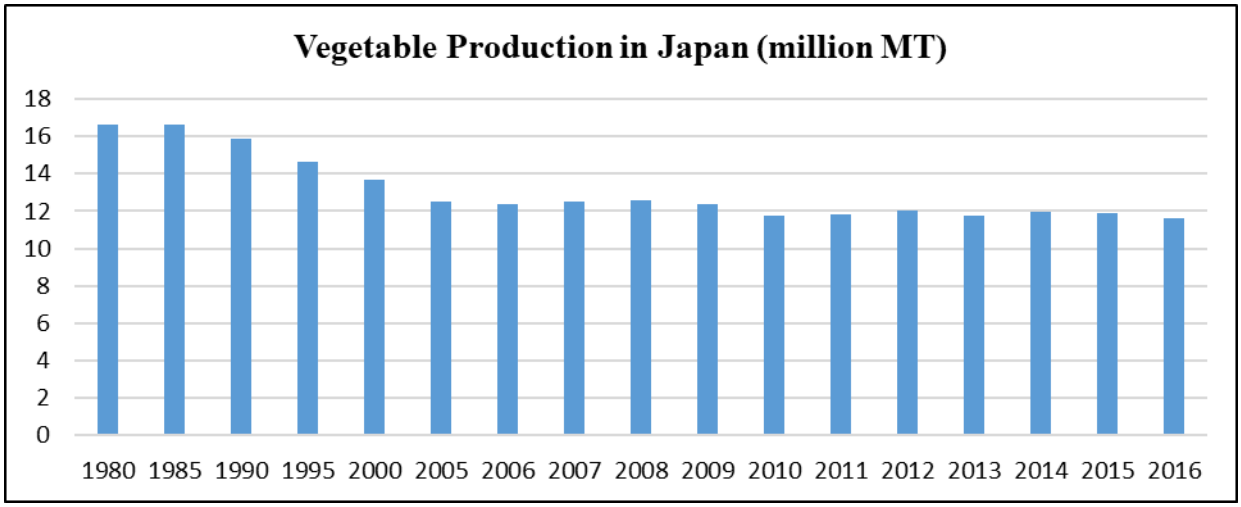
Source: MAFF

*** US$1=Y108.84, the average exchange rate of 2016 was used for calculations.*

(Source: Statistics Bureau, Ministry of Internal Affairs and Communications)

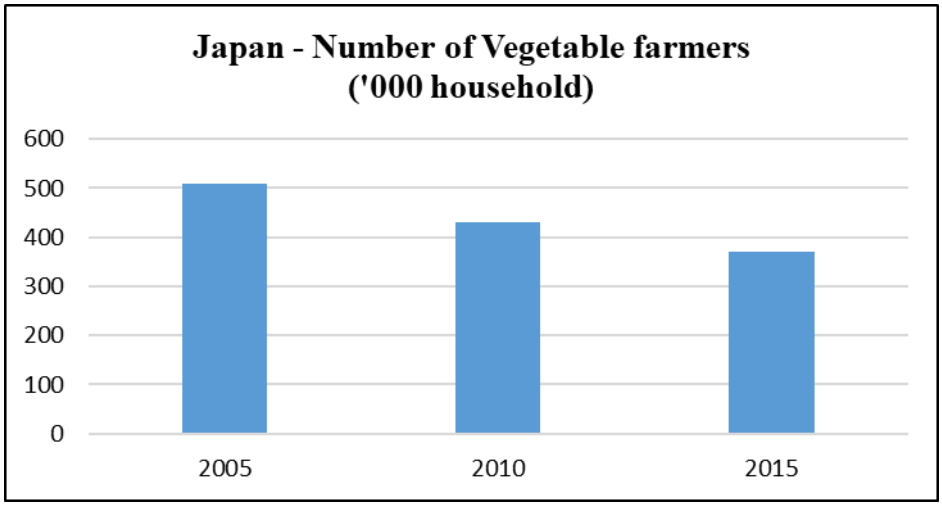
A. **Vegetable Production Trend**

The vegetable production in Japan was in decline after it peaked in the 1980s. This decline was, in part, a result of Japan's de-industrialization and structural transformation that occurred in the latter half of the 20th century, during which the primary industry, as a whole, lost its share of the Japanese economy to the secondary and the tertiary service industries. The decline in the fresh vegetable production began to slow in the year 2000, and then has remained roughly flat since 2010. A flat or declining trend in production is expected to continue as per capita vegetable consumption decreases coupled with the overall population decrease.



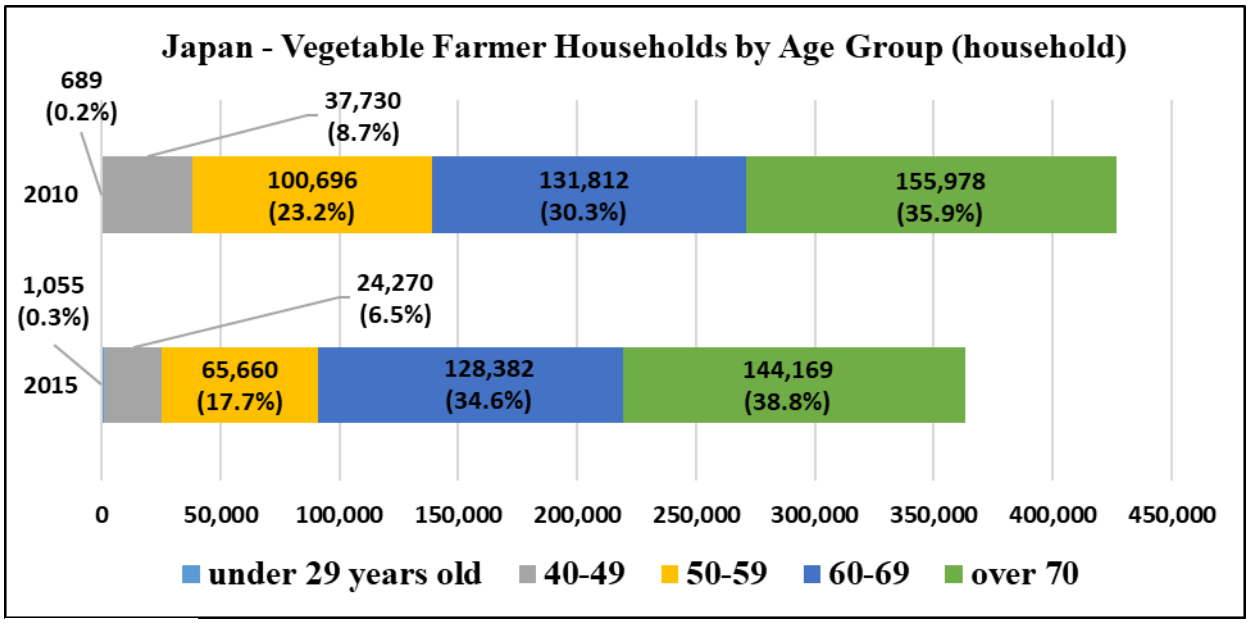
Source: MAFF / The data exclude potatoes and include strawberry, melon and watermelon.

Meanwhile, the number of vegetable farmer households has been decreasing in Japan. It declined from 510,586 in 2005 to 434,742 in 2010 and then further down to 371,417 in 2015, which represented 27.3% decrease over 10 years.



Source: MAFF

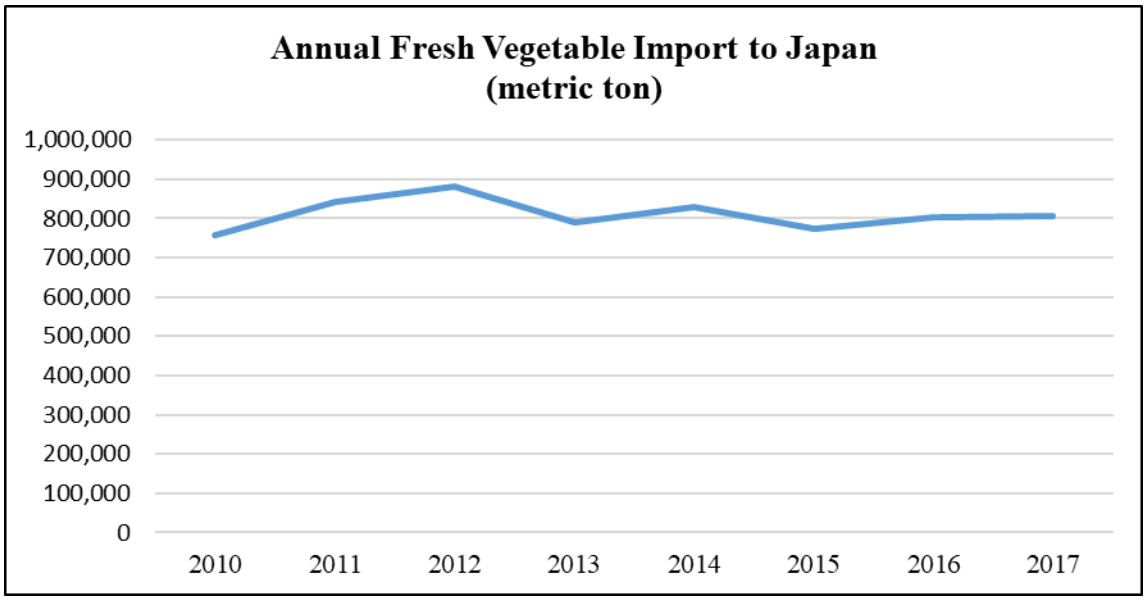
According to some industry sources, farmers scaling up their operations coupled with new entrants have offset those exiting to sustain the domestic vegetable production volume at the same level. Prospects for increased domestic vegetable production depends on existing and new producers and their ability to scale up their operations. When we look at the vegetable farmer population in detail, the aging of the farmers becomes evident. The farmer households led by those in their sixties and over seventy accounted for 30.3% and 35.9% of the total vegetable farmers in Japan in 2010. In just 5 years, this combined 66.2% jumped up even further to 73.4% in 2015. Facing the imminent aging among the Japanese vegetable farmers, the number of farmers is expected to drop further in coming years.



Source: MAFF

II. Japan - Fresh Vegetable Exports & Imports

In 2017, fresh vegetable imports to Japan was estimated at 807,367 MT. Annual fresh vegetable import to Japan has ranged from 774,000 MT to 829,000 MT over the last five years. In 2017, the leading imported vegetable was onion with 36.1% share, followed by pumpkin/squash with 11.9%, and carrot with 10.9%. The major suppliers of fresh vegetable to Japan, in volume terms, were led by China with 63.7%, New Zealand with 9.6% and the United States with 8.8%. The port of Kobe city currently is the lead marine port destination for imported fresh vegetables into Japan, regardless of origin.

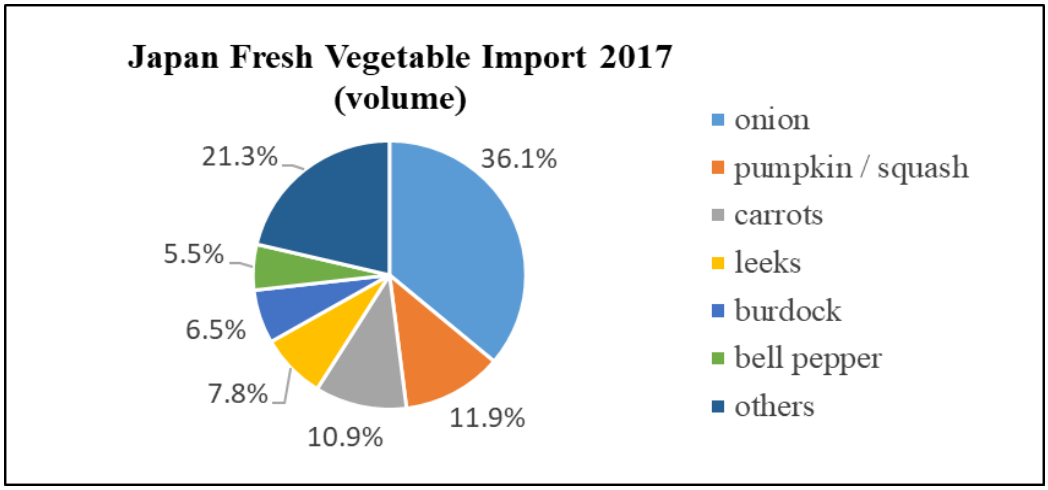


Source: Global Trade Atlas

2017 Japan Vegetable Import (volume)

Vegetable	Import (MT)	share
onion	291,513	36.1%
pumpkin / squash	96,058	11.9%
carrots	87,950	10.9%
leeks	63,233	7.8%
burdock	52,171	6.5%
bell pepper	44,421	5.5%
others	172,021	21.3%
Total	**807,367**	**100.0%**

Source: Global Trade Atlas



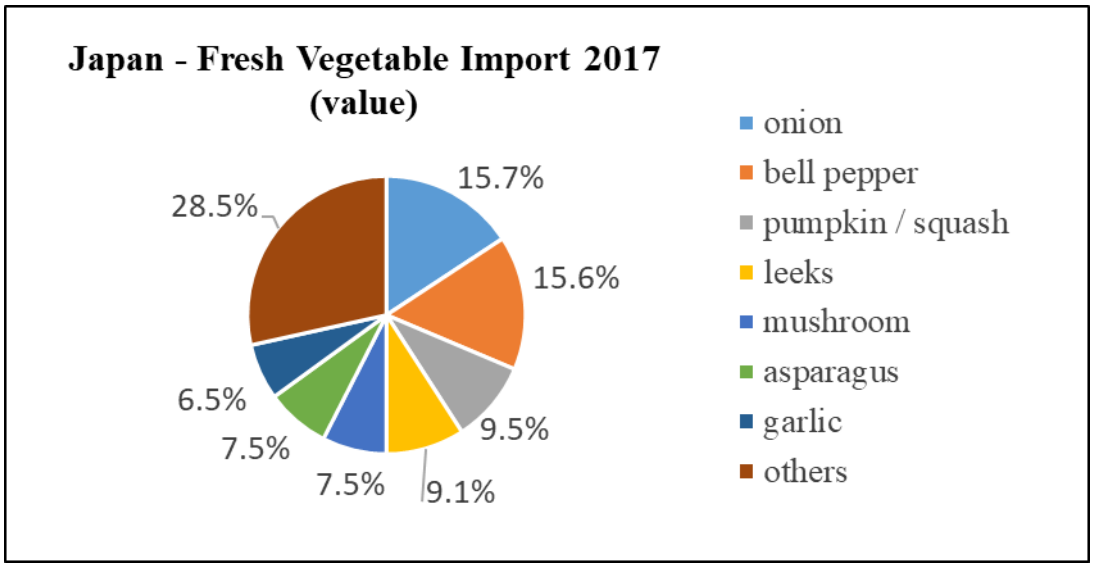
Source: Global Trade Atlas

In 2017, the total import of fresh vegetables to Japan was valued at US$ 861.9 million. The main vegetable imported to Japan was onion/shallot with 15.7%, followed closely by bell pepper (15.6%), pumpkin/squash (9.5%) and leek (9.1%). China is the dominant supplier with 42.3% import share in value terms, followed by South Korea (13.0%), Mexico (10.3%), the United States (9.75%), and New Zealand (8.0%).

2017 Japan Vegetable Import (value)

Vegetable	Import (US$)	share
onion	135,568,520	15.7%
bell pepper	134,801,675	15.6%
pumpkin / squash	81,986,491	9.5%
leeks	78,706,905	9.1%
mushroom	64,669,402	7.5%
asparagus	64,473,289	7.5%
garlic	56,255,634	6.5%
others	245,439,487	28.5%
Total	**861,901,403**	**100.0%**

Source: Global Trade Atlas



Source: Global Trade Atlas

China is by far the largest supplier of fresh vegetables to the Japanese market. It is the dominant supplier of the major imported fresh vegetables including onion, carrot, leek and burdock with 87.7%, 91.7%, 99.4% and 97.9% import share, respectively, in volume terms. New Zealand and Mexico are the leading suppliers of pumpkin/squash, vying for the import market share with 49.2% and 45.8%, respectively, in volume terms.

The Unites States is the major supplier of chipping potato, broccoli, and celery. The United States is currently the sole foreign supplier of fresh potato for chipping use permitted in Japan. The United States has the leading import share in broccoli and celery with 80.6% and 92.7% respectively.

South Korea is the major supplier of bell pepper with 79.0% import market share, followed by the Netherlands with 12.3%.

2017 Japan Vegetable Imports by Country (volume)

Country	Import Volume (MT)	share
China	514,446	63.7%
New Zealand	77,775	9.6%
United States	71,067	8.8%
Mexico	53,451	6.6%
Korea South	41,640	5.2%
Taiwan	11,615	1.4%
others	48,988	6.1%
Total	**807,367**	**100.0%**

Source: Global Trade Atlas

2017 Japan Vegetable Imports by Country (value)

Country	Import value (US$)	share
China	364,316,863	42.3%
Korea South	111,686,427	13.0%
Mexico	88,982,585	10.3%
United States	84,066,465	9.8%
New Zealand	68,910,670	8.0%
Netherlands	28,153,480	3.3%
others	115,784,913	13.4%
Total	**861,901,403**	**100.0%**

Source: Global Trade Atlas

Main Imported Vegetables

- Onion

Onion is the main item among the imported vegetables. Imported onion is primarily destined for use in the processed food sector. It also enters the fresh retail sector when domestic supply is short. The leading supplier to the Japanese market is China with the dominant share of 87.7%, followed by New Zealand with 8.3%, Australia with 1.86% and the Unites States with 1.4% in volume terms.
The United States used to be the largest supplier of onion to Japan until the year 2000 with about 60% import share. Then, China started to make inroads to the Japanese market by offering "peeled onion" for easy use in the food processing industry amidst increasing labor shortages in Japan. China took over the primary position in the import market that the United States used to enjoy. According to some industry estimates, about 75% of onions originating from China arrive as already peeled.

- Pumpkin/Squash

Squash is a traditional and popular vegetable among Japanese consumers. While the domestic production stands at around 200,000 MT to 220,000 MT, its import volume hovers around 100,000 MT. New Zealand and Mexico are the major suppliers, competing the import market with 49.2% and 45.8% import share, respectively, in volume terms, followed far behind by New Caledonia with 3.2%.

- Carrot

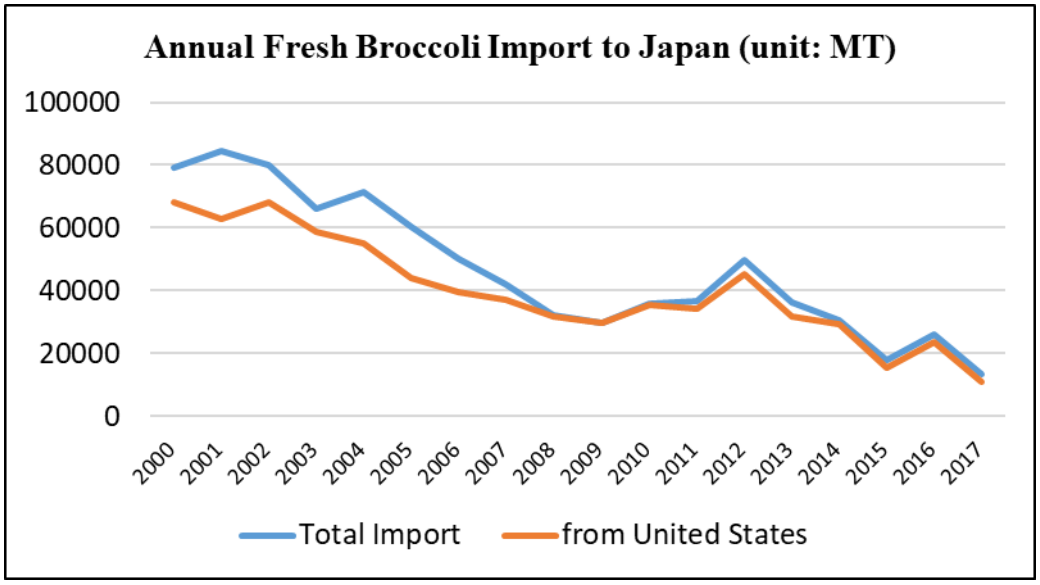
China is the dominant supplier to Japan with 91.7% import share in volume, followed far behind by Vietnam with 3.2% and Taiwan with 2.0%. While the United States stands as a supplier of baby carrot, the product has not become familiar to Japanese consumers.

- Bell Peppers

The traditional Japanese bell pepper variety grown is significantly smaller than the imported variety. The imported larger bell peppers, in particular the red, orange, and yellow variants, have become popular in the Japanese market. Larger bell peppers of varying colors imported from the Netherlands created demand for the vegetable in Japan starting in early 1990s. The Netherlands led the imported bell pepper supply to Japan until South Korea succeeded in making significant inroads into the Japanese market around 2000. South Korea has gained a strong position by offering lower-priced bell peppers through surface shipment to Japan and is now the leading supplier of bell pepper with 79.0% import share in volume and 70.8% in value in 2017. Domestic production of the larger variety in varying colors started in 1998 and has been growing since then, reaching 3,649 MT in 2014. The domestic production of this larger variant is still just a fraction of amount imported, which was estimated at 44,421 MT in 2017.

- Broccoli

Japan imported a total of 13,345 MT of fresh broccoli in 2017, while its domestic production was 142,000 MT in 2016. The United States is the leading foreign supplier with 80.6% import share in volume, followed by Mexico with 10.9% and China with 5.1%. As new varieties of broccolis are being developed in Japan, more and more domestic broccolis are available throughout the year. As a result, broccoli import showed a significant drop over the years. Off-trends spikes in imports were are result of domestic short supply brought on by various weather or other adverse phenomenon. As overall imports decline, the United States remains the preferred supplier.



Source: Global Trade Atlas

- Celery

The total celery import to Japan was 7,084 MT in 2017, while its domestic production was 34,000 MT in 2016. The United States is the dominant supplier to Japan with 92.7% of the import share, followed by Mexico with 7.3%.
Industry reports that U.S. celery has longer stalks making it advantageous for the processed food sector. In addition, U.S. celery is also being sold at retail stores targeting general consumers.

A. Japan - Fresh Vegetable Exports

Japan exports very limited quantities of vegetables with only an estimated 15,427 MT in 2017. Though higher at 24, 871 MT in 2016, this still represented less than 0.2% of the total domestic production that year. Taiwan is the largest buyer with 55.7% of Japan's fresh vegetable exports destined for the country in 2017, followed by South Korea with 29.0% and Hong Kong with 9.5%. The major products exported from Japan were onion (71.7%), cabbage (12.0%), and mushroom (7.0%). According to some industry sources, vegetables exported from Japan to Taiwan and South Korea most often occurs when supplies from China are short, or when political issues arise between China and Taiwan or South Korea and supply from China is suspended.

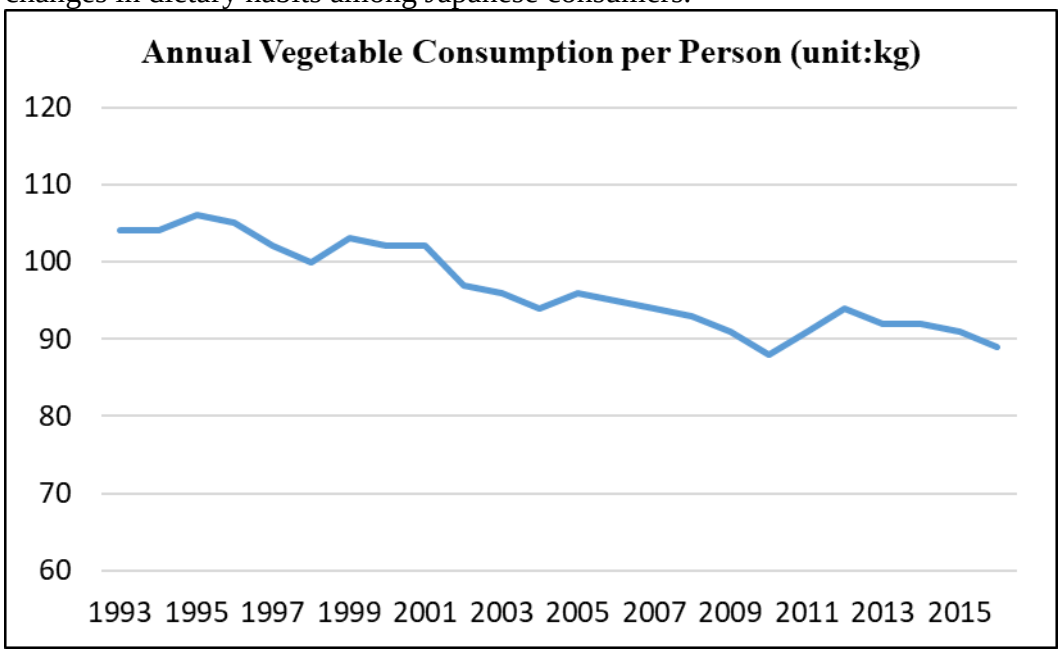
III. Fresh Vegetable Market and Trends

A. Fresh Vegetable Market In Japan

The Japanese fresh vegetable market size is estimated at 14.2 million MT*** as of 2016, which was 3.1% down from the previous year. It has been in a downward trend over the years.

The fresh vegetable market contraction over the years is considered to be caused by several factors. First, the Japanese population is declining. It recorded a decline for the first time in 2005 and then it has been continuously decreasing gradually since 2010 due to its low birth rate. The Japanese food market in general is in a downward trend under the declining population and the fresh vegetable market is no exception.

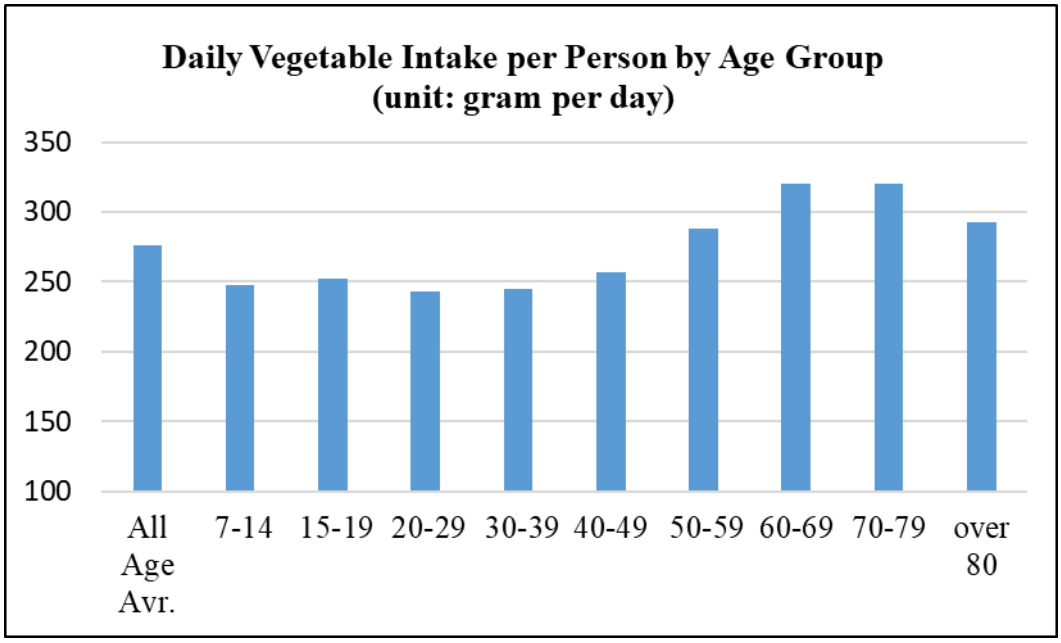
Secondly, when we look at the vegetable consumption in detail, we see that vegetable consumption per person is decreasing as well. The decrease is considered to be related to changes in dietary habits among Japanese consumers.



Source: MAFF

**** ATO Osaka calculated the market size as follows: Domestic vegetable production (13,378,700 million MT) - fresh vegetable export (24,871) + fresh vegetable import (802,151 MT) = 14,155,980 MT.*

When we look at daily vegetable intake per person by age group, the data show that all the age groups do not meet the target consumption volume of 350g recommended by the Japanese Ministry of Health, Labour, and Welfare (MHLW). We also see that those in their fifties and over consume more vegetables than the younger generations, in particular those in their twenties and thirties. This suggests further decrease in vegetable consumption in the future.



Source: GOJ, Ministry of Health, labor and Welfare

B. **Domestic products verses Imported Products in the Japanese market**

Japan maintains a relatively high level of vegetable production. According to MAFF, the country's self-sufficient rate in vegetable**** is estimated at 80% in 2016. With this high self-sufficient rate and strong preference given to domestic products among Japanese consumers, imported vegetables are basically positioned as backup when the domestic supply is short or as ingredients for processed food.

***** MAFF reports Japanese food self-sufficiency rate by commodity in volume terms. The vegetable rate includes both fresh vegetables and processed vegetable products. The self-sufficiency rate of other commodities: 41% for fruit, 38% for beef, 50% for pork, 62% for dairy products and 12% for wheat.*

Locally produced vegetables fill the Japanese retail market, covering 98% of its supply, in which country of origin labeling is required and the consumers' inclination toward local products is extremely high. Although China is the leading supplier to the Japanese market, its products rarely make it to the Japanese retail market, except for only a few limited items such as Chinese garlic. China suffers from an unsavory reputation among Japanese consumers that simply try to

avoid any food products originating from China. Products from foreign suppliers other than China, such as broccoli and celery from the United States and squash from New Zealand and Mexico are routinely sold at the retail market to supplement domestic products.

Imported vegetables are mainly destined for the processed food industry, where the indication of country of origin is less strict. In 2015, domestically produced vegetables captured 71% of the share in use by the processed food sector. As a result, imported vegetables account for remaining share which recently has averaged around 30%. Increasingly, Japanese food processors are vertically integrated and co-invest with domestic producers and also other producers in S.E. Asian countries to grow specific varieties demanded.

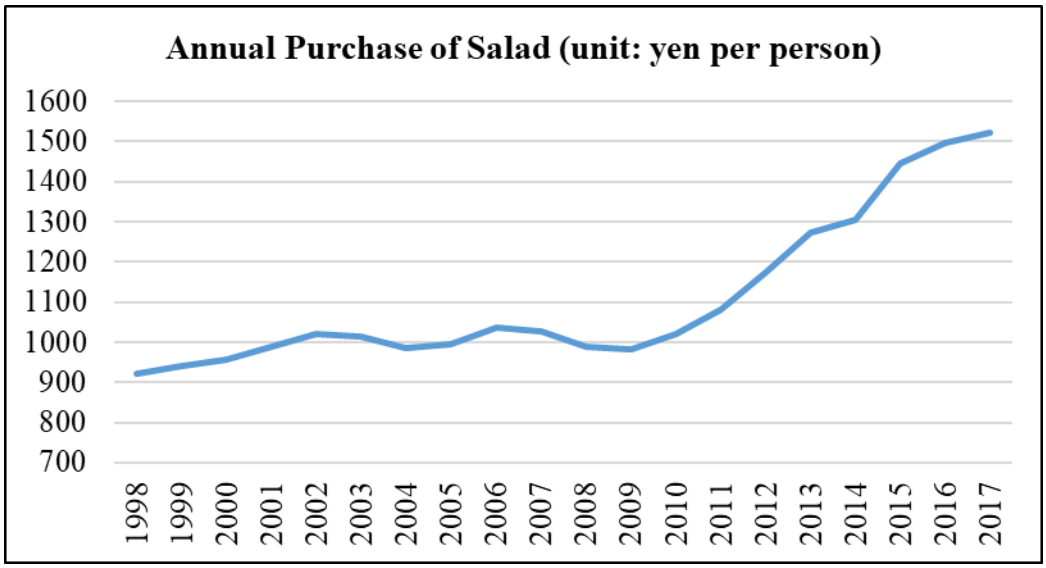
Share of Domestic Vegetables by Sector (vs. Imported)

Sector	1990	2000	2005	2010	2015
Food Processing	88.0%	74.0%	68.0%	70.0%	71.0%
Retail - consumer	99.5%	98.0%	98.0%	98.0%	98.0%

Source: Policy Research Institute, MAFF

A. Market Trends

Along with the dietary change among Japanese consumers, their eating and purchasing habits of vegetables are changing as well. Due to an increase in working women and other on-going social changes, demand for prepared food and/or easy to make meal preparations is growing. Buying a bag of ready-to-eat (RTE) salad, rather than buying fresh vegetables, cutting them and preparing salad at home, is becoming more common. Demand for cut vegetables (vegetable mix and salad kit) is increasing.



Source: Household expenditure survey, Ministry of Internal Affairs and Communications

IV. Opportunities for U.S. suppliers

A. SWOT analysis

The United States remains one of the major vegetable suppliers to Japan. However, its position has been weakening over the years amid severe competition from other suppliers. Here is a SWOT analysis of the U.S. position in the Japanese market.

- Strengths:
  - Established position as one of the leading suppliers to Japan for certain products

- Weaknesses:
  - Relatively high self-sufficient rate of vegetables in Japan
  - Strong preference to domestic products among Japanese consumers
  - Phytosanitary requirement for U.S. vegetables coming into Japan Fumigation risk as a major deterrence for vegetable importers
  - Long distance from the Japanese market
  - Lack of understanding domestic market demands or otherwise product is too expensive to meet domestic market demands while maintaining competitiveness.

- Opportunities:
  - A new U.S.-Japan trade agreement under consideration
  - New storage/in-transit technologies that extend life of perishable products may allow marine transport (as opposed to air transport) of more fresh product categories, improving price competitiveness
- Threats:
  - Increased competition from other countries with implementation of preferential trade agreements
  - Development of new varieties of vegetables to support production growth in Japan

B. **Recommendation**

The current fresh vegetable market in Japan is highly competitive due to a decline both in the size of the Japanese population as well as in vegetable consumption per capita. Preference to locally produced vegetables over imported vegetables is quite strong among Japanese consumers. While other countries are making inroads into the Japanese market backed by their close geographical advantage as well as tariff advantage through Economic Partnership Agreements with Japan, the Unites States is facing even tougher competition.

The United States and Japan agreed to enter into negotiations for a U.S.-Japan Trade Agreement on goods and services in September 2018. Once concluded this agreement should provide improved tariff and non-tariff market access conditions for U.S. products to the Japanese market. These improved conditions coupled with further value-added RTE processed fresh products and/or reduced transport cost (marine) with new storage/in-transit technologies that extend product life may provide new opportunities for U.S. producers and exporters. The United States will continue to serve as a safe and reliable source of imported vegetables when the domestic Japanese market is in unexpected shortage usually due to adverse growing conditions. (GAIN JA8047)

V. **Contacts and information sources:**

A. Agricultural Trade Offices (ATO) in Tokyo and Osaka, and Office of Agriculture Affairs (OAA) stand ready to assist you in your efforts to bring products to market in Japan.

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tel +81 3.3224.5102
fax +81 3.3589.0793

B. **U.S. fresh vegetable cooperator representative in Japan**

Organization Name	**Telephone/Fax** **URL**	**Address**
Western Growers Association	Tel/Fax: 81(0)3-3991-3290 http://calblueberry.org/	c/o J Plus Limited Company Uchino Bldg. #501 5-24-15 Toyotamakita Nerima-ku, Tokyo 176-0012

C. **USDA Japan website:**

There are a wide variety of reports on Japanese market and regulations available at the following website, including commodity reports such as "Japan Potatoes Annual," and other sector reports such as "Exporter Guide," "Japan Retail Foods," "HRI Food Service Sector Report," "The Japanese Processed Vegetable Market-Opportunities and Challenges" and "FAIRS report."
For Reports on the Japanese markets: http://www.usdajapan.org/reports/

D. **Japan External Trade Organization (JETRO) website:**

Information on the Japanese Vegetables, Fruits and Processed products market report:
https://www.jetro.go.jp/en/reports/market.html (Market Reports)