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Japan

Citrus Annual

2018 Japan Citrus Annual

Approved By:
Jess K. Paulson

Prepared By:
Tomohiro Kurai

Report Highlights:
Japan remains the largest export market for U.S. grapefruit, which are forecast to increase 15 percent to 30,000 metric tons (MT) in market year (MY) 2018/19 due to reports of improved production in Florida. Successive weather challenges decreased Japanese citrus production, especially of lemon and lemon-like acidic citrus near Hiroshima, where production was hampered first by frost, and then flooding and landslides. Japanese citrus area harvested continues to decline, though diversification of citrus varieties and increased lemon area reflect some areas of expansion.

Keywords: JA8107, citrus, grapefruit, mandarin, tangerine, unshu, orange, lemon, lime

General Information:

Tangerines/Mandarins

PS&D Table

Tangerines/Mandarins, Fresh	2016/2017		2017/2018		2017/2018	
Market Begin Year	Oct 2016		Oct 2017		Oct 2017	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	0	0	0	0	0	0
Area Harvested	53000	53000	52200	51800	0	50500
Bearing Trees	0	0	0	0	0	0
Non-Bearing Trees	0	0	0	0	0	0
Total No. Of Trees	0	0	0	0	0	0
Production	1070	1070	990	990	0	1000
Imports	19	19	19	19	0	19
Total Supply	1089	1089	1009	1009	0	1019
Exports	2	2	2	2	0	2
Fresh Dom. Consumption	989	989	916	912	0	922
For Processing	98	98	91	95	0	95
Total Distribution	1089	1089	1009	1009	0	0
(HECTARES) ,(1000 TREES) ,(1000 MT)						

Production

Japan produces fresh Satsuma mandarins, also known as “Unshu mikan” or “Unshu orange”, and late-maturing, mandarin-based citrus varieties called “Chubankan” (see JA 6058 for further details on the types of citrus varieties grown in Japan). Japan’s production of unshu mikan has been in a state of general decline since 1975, when its peak production reached 3.7 million metric tons (MT). This was when the Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF) began to control production in order to avoid drops in the market price due to overproduction. Since then, Japan’s harvested area for mandarins (excluding Chubankan) has declined over the last 40 years, and totaled 40,600 hectare (ha) in MY 2017/18 (October to September).

MAFF continues production controls, announcing the “appropriate production/distribution quantity” every June based on their annual domestic Unshu demand forecast. MAFF’s purpose for this government intervention is to prevent overproduction and maintain prices that are high enough to support farmer incomes. As a result, farmers have had to cut capacity, and thus strive to maximize the unit price in a race to outdo one another in appearance and flavor.

For MY 2017/18, MAFF announced a production target for Unshu orange production at 870,000 MT. However, in addition to MY 2017/18 being an “off-bearing” year (the season following a large harvest when the tree replenishes resources), unfavorable weather such as low temperatures and reduced sunlight in July and August, as well as typhoon damage in October, reduced Japan’s Unshu orange production by 8 percent below MY 2016/17 levels to 741,300 MT.

MAFF’s production target for Unhsu in MY 2018/19 is 840,000 MT. Because of diminished production in the previous season, MY 2018/19 fruit sets are abundant. However, hot weather and low precipitation

in July slowed fruit enlargement, resulting in smaller than average fruit size. Accordingly, FAS/Tokyo forecasts Japan's Unshu orange production to total 740,000 MT in MY 2018/19, much lower than MAFF's target again.

The harvest area of Unshu orange is forecast to total 39,500 ha in MY 2018/19, which would be the first time it falls below 40,000 ha since the 1950s (the oldest data). This trend is attributed to structural problems, such as the aging of farmers and the lack of labor and successors.

Since MAFF introduced production controls, some farmers have switched to Chubankan varieties. The term "Chubankan" means "late maturing citrus". Due to the later season, Chubankan tend to cope better during typhoons. The frequency of typhoons is high in September and October, just prior to the harvest of Unshu-oranges, but Chubankan are still immature are less susceptible to damage. Although MAFF does not control the production of Chubankan, its production has also been in decline since it peaked in 1987. Yet, growers, researchers and agricultural associations continue to work to produce unique varieties to attract new consumers. Fig. 1 below shows a typical crop calendar for a grower in Ehime, the leading citrus producing prefecture in Japan. Growing multiple varieties is not only good for marketing, but also allows growers to tend to more land, distributing their limited labor over a longer season.

FAS/Tokyo estimates that the total harvest area of Chubankan in MY 2017/18 decreased to 11,200 ha, down 300 ha from the previous MY. Despite a reduction in acreage, the weather was favorable later in the summer when Chubankan mature, contributing to a slight decrease in production of 3 percent to 250,000 MT in MY 2017/18.

For MY 2018/19, Chubankan's later maturation period likely to helped it to avoid the aforementioned heat stress in July, and thus the production is forecast is improved to 260,000 MT, an increase of 4 percent compared to the previous MY.

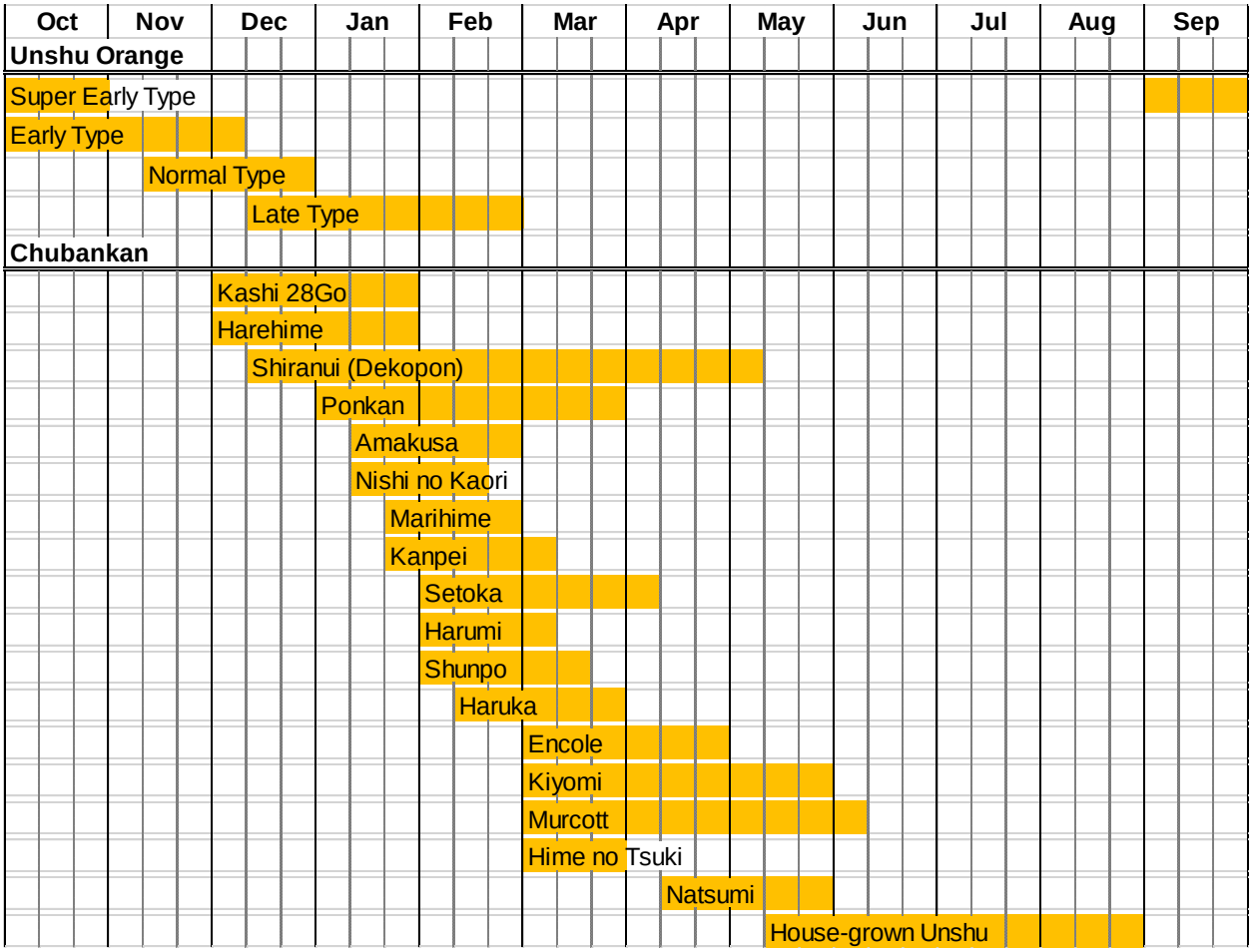
Overall, FAS/Tokyo forecasts Japanese total planted area of mandarin oranges in MY 2018/19 at 50,500 ha, a reduction of 2.5 percent. However, total production will slightly recover thanks to improved weather to 1,000,000 MT, an increase by 1 percent compared to the previous MY.

Consumption

Because fresh Unshu oranges receive the highest market value in Japan, approximately 90 percent of domestically produced Unshu oranges are consumed fresh. Only 10 percent are used for processing, of which 7 percent is for juice and 3 percent is for canned fruit. Chubankan follows the same trend, but rather than canning, Chubankan are used for the production of orange jelly (instead of using concentrated orange juice).

Based on consumer preferences, breeding programs (for Chubankan) strive for sweeter varieties, followed by other properties like insect/disease resistance and earlier/later maturity. As a result, many retailers display the brix value of fruit at the point of sale, emphasizing the sweetness of their products. However, the appeal for sweeter fruit may not overcome consumer disdain for peeling oranges. Only three fruits defy the trend of continuous decline in Japan; banana, kiwi and seedless table grapes - all of which require little or no peeling.

Fig. 1 – A typical crop calendar of Unshu and Chubankan orange farming in Ehime, Japan



Source: Ehime Prefecture of Japan

Poor production in MY 2017/18 increased numbers of fruits categorized as low quality, which further decreased fresh consumption and increased the volume for processing. As a result, fresh consumption is reduced to 912,000 (including Chubankan) in MY 2017/18, a 7.8 percent decline compared to MY 2016/17. FAS/Tokyo revises estimated orange consumption for processing to 95,000 MT.

Based on the forecast of increased production in MY 2018/19, FAS/Tokyo anticipates fresh Unshu orange consumption to increase to 925,000 MT (including Chubankan) in MY 2018/19. However, damage to Unshu oranges from heat and flooding in MY 2018/19 contributed to FAS/Tokyo's forecast for relatively higher volume of processing oranges at 95,000 MT in MY 2018/19.

Trade – Imports

Table 1 – Japan's Mandarin/Tangerine Imports

Fresh Mandarin/Tangerine Oranges (HS 0805.20, HS 0805.21, HS 0805.22, HS 0805.29)

	MY 2016/17		MY 2017/18	
	Volume (MT)	Share	Volume (MT)	Share
World	**18,833**		**18,659**	
United States	**13,004**	69.1%	**12,954**	69.4%
CPTPP	**4,372**	23.2%	**4,642**	24.9%
Australia	4,135		4,546	
Others	**1,457**	7.7%	**1,063**	5.7%
South Africa	1,404		1,010	

Source: Global Trade Atlas

Japan's fresh mandarin orange imports remained relatively flat in MY 2017/18 at 18,659 MT (less than one percent lower than MY 2016/17). With decreased domestic production in MY 2017/18, there was an anticipation that import volumes of mandarins might increase. However, public awareness of imported mandarins is still low in Japan, and thus, loss of mandarin consumption was compensated by other fruits or confectionary items.

The United States is the leading supplier of fresh mandarins to Japan and accounts for nearly 70 percent of Japanese imports. In MY 2017/18, Japan's imports of the U.S. fresh mandarins (12,954 MT) remained virtually unchanged from the previous year. The latest USDA forecast (found here) estimates increased mandarin production in California (by 21 percent). Although Japan's domestic mandarin production is also estimated to be higher, it is still far below the target level of demand, creating an opportunity for imports. FAS/Tokyo anticipates U.S. mandarin exports will benefit form that demand, raising the forecast to 14,000 MT in MY 2018/19. Accordingly, FAS/Tokyo forecasts Japan's imports of fresh mandarins to total 20,000 MT in MY 2018/19, 7.2 percent more than in MY 2017/18.

Australia exported the second largest volume of fresh mandarin oranges to Japan after the United States. However, U.S. and Australian mandarins do not compete with one another in the Japanese market due to different seasonality. However, the price advantage that U.S. mandarin used to have no longer exists (e.g. average CIF price of U.S. mandarin was $1,836/MT, whereas $1,766 for Australia).

Trade - Exports

Table 2 – Japan's Mandarin/Tangerine Exports

Fresh Mandarin/Tangerine Oranges (HS 0805.20, HS 0805.21, HS 0805.22, HS 0805.29)				
	MY 2016/17		MY 2017/18	
	Volume (MT)	Share	Volume (MT)	Share
World	**1,801**		**1,590**	
United States	**2**	0.1%	**3**	0.2%
CPTPP	**1,287**	71.5%	**1,021**	64.2%
Canada	1,166		885	
EU-28	**2**	0.1%	**2**	0.2%
Others	**512**	28.3%	**567**	35.4%
Hong Kong	260		274	
Taiwan	207		233	

Source: Global Trade Atlas

Considering Japan's domestic mandarin production totals more than 1 million MT, Japan exports only a small portion of its mandarins due to the ease of selling in the domestic market. However, with shrinking domestic consumption (largely tied to a declining population), and the Government of Japan's policy to promote agricultural exports, FAS/Tokyo anticipates that Japan's export volume, while remaining small, may increase in the future,

Japan exported 1,590 MT of mandarin oranges in MY 2017/18, down 11.8 percent compared to MY 2016/17, due to lower production levels. With a forecast of increased production in MY 2018/19, FAS/Tokyo estimates the export volume of Japanese mandarins to recover to 1,800 MT.

Oranges

PS&D Table

Oranges, Fresh	2016/2017		2017/2018		2018/2019	
Market Begin Year	Oct 2016		Oct 2017		Oct 2018	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	0	0	0	0	0	0
Area Harvested	440	440	430	430	0	430
Bearing Trees	0	0	0	0	0	0
Non-Bearing Trees	0	0	0	0	0	0
Total No. Of Trees	0	0	0	0	0	0
Production	6	6	6	5	0	6
Imports	92	92	88	83	0	90
Total Supply	98	98	94	88	0	96
Exports	0	0	0	0	0	0
Fresh Dom. Consumption	97	97	93	87	0	95
For Processing	1	1	1	1	0	1
Total Distribution	98	98	94	88	0	96
(HECTARES) ,(1000 TREES) ,(1000 MT)						

Production

Japan has limited area planted for orange production, and, similar to Unshu and other citrus varieties, the planted area and production of oranges are on a continuous decline in Japan. In particular, the acreage of the two most popular orange varieties, Navel orange (which accounts for 90 percent of the orange market) and Valencia orange (with a 3 percent share), have been steadily declining for over a decade (though the decline is too small to reflect in a round number in the PS&D table).

Meanwhile, the cultivated area and production volume of Blood Orange are increasing steadily in Uwajima City in Ehime prefecture, which is located approximately 550 miles southwest of Tokyo. Unshu orange production in Uwajima-city has been experiencing increasing difficulties recently due to rising temperatures, which have increased 1.38 degrees Celsius over the last 40 years. With a rising average age among farmers, and reduced cultivation efficiency, local producers sought a unique product with higher market value.

Ehime first introduced Blood oranges in the 1960's, but was unsuccessful as the winter lows fell below -3°C, causing frost damage. However, with increased temperatures, Blood orange cultivation may now be possible. Furthermore, the harvest for Blood oranges (particularly Tarocco) is much later in March and April, which allows growers to spread their limited labor over a longer season, and means less retail shelf space competition with other fruits.

The acreage of the dominant orange variety in Japan, Navel, decreased in MY 2017/18. FAS/Tokyo estimates that orange acreage in Japan declined 2 percent to 430 ha in MY 2017/18. FAS/Tokyo forecasts acreage to continue at 430 ha in MY 2018/19.

In addition to declining cultivation area, weather was unfavorable for oranges in MY 2017/18, resulting in a production decline of 17 percent (to 5,000 MT). Although orange production encountered less than

ideal weather in MY 2018/19, conditions were still better than the previous year. Accordingly, FAS/Tokyo forecasts a production recovery to 6,000 MT, up 20 percent compared to the previous MY.

Consumption

Japan's annual consumption of fresh oranges decreased 9.8 percent in MY 2017/18 to 83,000 MT. This was attributed by reduced U.S. exports due to lower production (see Table 1) and subsequent higher prices. The average CIF price for U.S. fresh oranges increased nearly 16 percent during MY 2017/18 compared to the previous MY.

Given USDA's forecast (found here) for increased orange production for MY 2018/19, especially in California where all of the U.S. exports of oranges to Japan originate, FAS/Tokyo anticipates a recovery in trade volumes, resulting in increased fresh orange consumption in Japan to 96,000 MT, up 9 percent.

Trade - Import

Table 3 – Japan's Orange Imports

Fresh Oranges (HS 0805.10)				
	MY 2016/17		MY 2017/18	
	Volume (MT)	Share	Volume (MT)	Share
World	**92,223**		**82,558**	
United States	**52,596**	57.0%	**42,539**	51.5%
CPTPP	**36,830**	39.9%	**36,601**	44.3%
Australia	35,464		34,714	
Mexico	1,244		1,843	
EU-28	**0**		**1**	0.0%
Others	**2,797**	3.1%	**3,418**	4.2%
South Africa	2,797		3,418	

Source: Global Trade Atlas

Japan imported 82,558 MT of fresh oranges in MY 2017/18, 10.5 percent lower than in MY 2016/17. This reduction was primarily attributed to reduced supplies of fresh oranges from the United States. U.S. orange exports decreased nearly 20 percent in MY 2017/18 compared to the previous MY due to lower production in the United States. Nevertheless, the United States remains the largest supplier of fresh oranges to Japan, accounting for51.5 percent of imports. Based on USDA's citrus production estimate, fresh orange production in California (which supplies 100 percent of U.S. oranges) will recover in MY 2018/19 to levels comparable to MY 2016/17. Thus, FAS/Tokyo forecasts Japanese imports of fresh oranges from the United States to increase to 53,000 MT, up 24.6 percent in MY 2018/19.

Australia is the second largest supplier of fresh oranges to Japan, but Australian oranges do not compete directly with U.S. oranges since Australia's market season is from July to November. Japanese importers and retailers consider the volume of Australian fresh oranges to have reached their ceiling, unless a new trend emerges or the U.S. supply is reduced significantly. FAS/Tokyo forecasts Japan's total imports of fresh oranges to be 90,000 MT in MY 2018/19, 8.4 percent higher than MY 2017/18.

Trade - Export

Japan exported 121 MT of fresh oranges in MY 2017/18, of which 111 MT (92 percent) went to Hong Kong. Despite the GOJ's policy of encouraging exports, FAS/Tokyo anticipates the total export volume of fresh oranges to remain flat in MY 2018/19 due to limited domestic production.

Grapefruit

PS&D Table

Grapefruit, Fresh	2016/2017		2017/2018		2018/2019	
Market Begin Year	Oct 2016		Oct 2017		Oct 2018	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	0	0	0	0	0	0
Area Harvested	1120	1180	1110	1160	0	1150
Bearing Trees	0	0	0	0	0	0
Non-Bearing Trees	0	0	0	0	0	0
Total No. Of Trees	0	0	0	0	0	0
Production	25	25	24	22	0	24
Imports	84	84	75	71	0	80
Total Supply	109	109	99	93	0	104
Exports	2	0	2	0	0	0
Fresh Dom. Consumption	106	108	96	92	0	103
For Processing	1	1	1	1	0	1
Total Distribution	109	109	99	93	0	104
(HECTARES) ,(1000 TREES) ,(1000 MT)						

Production

Japan produces a negligible volume of grapefruit. However, Japan does produce several Pomelo or grapefruit-like citrus varieties such as Buntan and Kawachi-bankan. Japan's planted area of grapefruit and Pomelo is experiencing a decline similar to that of other citrus varieties, leading to reduced production. Weather was unfavorable in MY 2017/18, and yields were lower as the majority of orchards were in their "off-year" in the fruit bearing cycle. As a result, estimated domestic production was lowered from the initial estimate to 22,000 MT, 12 percent lower than production in MY 2016/17. In MY 2018/19, FAS/Tokyo forecasts a further reduction of planted area to 1,150 ha. Although hot weather resulted in a smaller crop, because this is an "on-year" in the fruit bearing cycle, FAS/Tokyo anticipates a substantial recovery in MY 2018/19. Therefore, production is forecast at 24,000 MT, a 9 percent increase compared to MY 2017/18 – but still 4 percent below production in MY 2016/17.

Consumption

Japan began importing and enjoying grapefruit in the 1920s, but it was luxury item at the time. It wasn't until 1971 when the import of grapefruit was liberalized and became accessible broadly to the public. At that time, more than 90 percent of imported grapefruit were white grapefruit. Therefore Japan has a strong stereotypic image that grapefruit is white. As a result, although the current world grapefruit production and consumption shifted to red grapefruit, the distribution ratio in the Japanese market is 1:1 for red and white grapefruit. As a result, almost all of the white grapefruit produced in Florida is exported to the Japanese market as fresh fruit or juice.

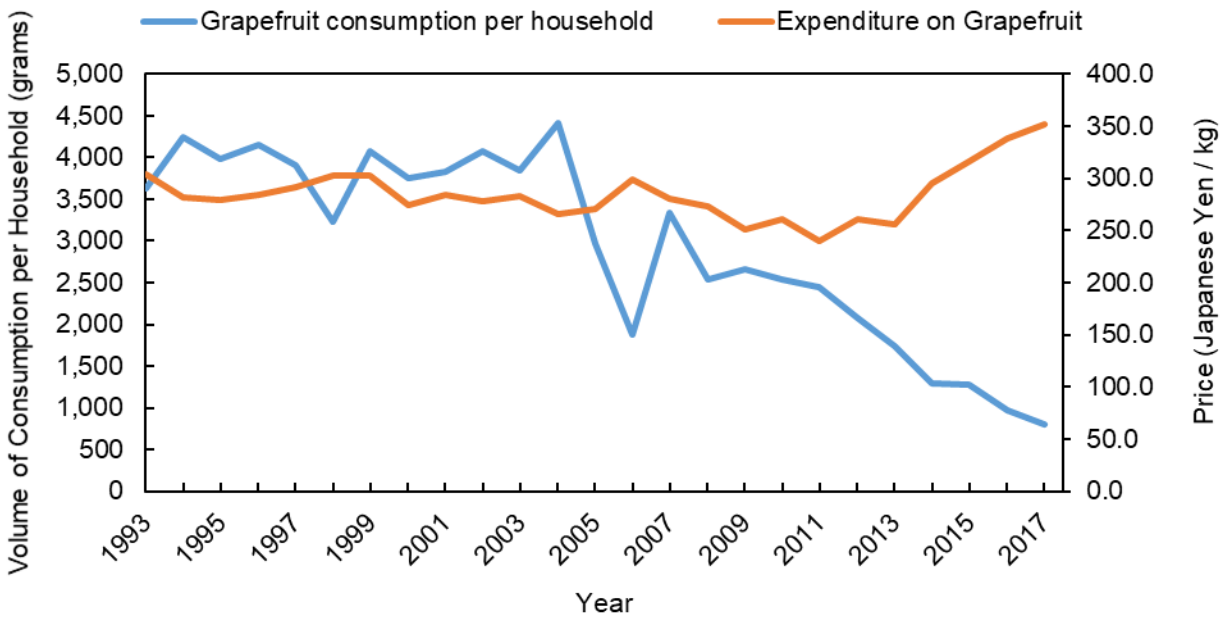
Japan's fresh grapefruit consumption has been on a trend of steady decline since peaking in 2004, when the media reported on the positive contribution of grapefruit to weight loss (Fig. 2 below). However, the next year, U.S. grapefruit exports (and hence Japan's grapefruit import volume) decreased significantly due to citrus greening disease. Additional factors contributed to this trend, such as reports of grapefruit incompatibility with hypertension medicine, which is a more common concern among seniors, who are the leading consumer segment in Japan. However, Fig. 3 below clearly illustrates the link between Japan's grapefruit consumption and U.S. exports.

Japanese national consumption of fresh grapefruit (including Japanese Pomelo) totaled 93,000 MT in MY 2017/18, a 15.6 percent reduction compared to MY 2016/17. The reduction was primarily attributed to decreased grapefruit production in the United States, and, in turn, lower U.S. grapefruit exports to Japan. However, the U.S. grapefruit production forecast is improved for MY 2018/19. Accordingly, FAS/Tokyo forecasts a recovery to 104,000 MT in MY 2018/19, up 13 percent from the previous MY.

Trade – Imports

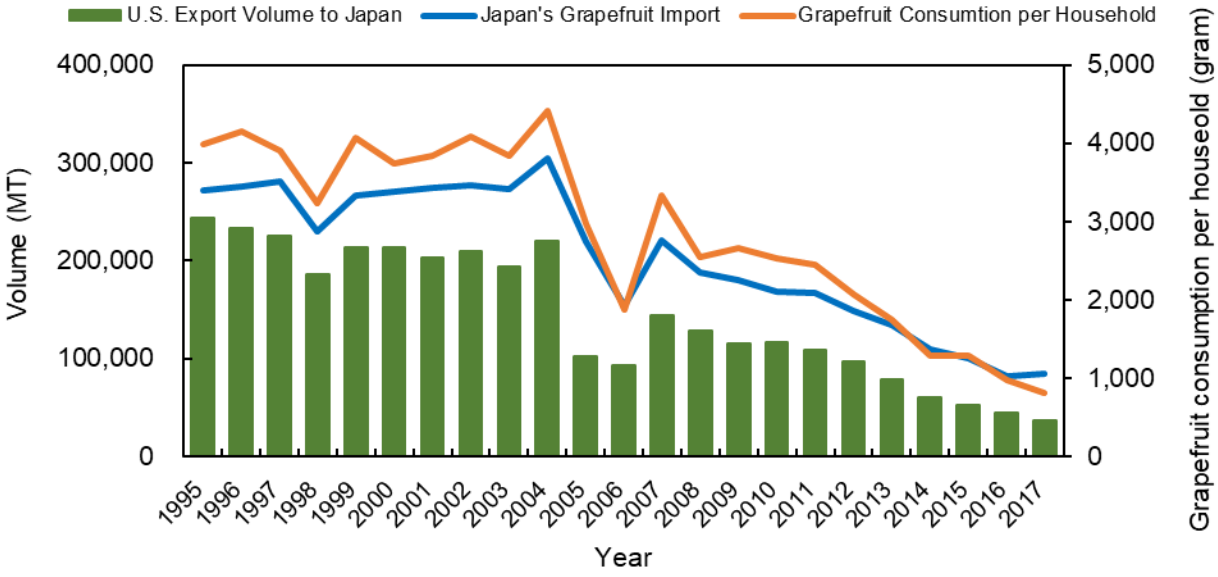
Japanese imports of grapefruit decreased 16.3 percent to 70,726 MT in MY 2017/18. The United States was the second largest supplier of fresh grapefruit after South Africa. Although U.S. grapefruit exports to Japan declined 26.2 percent in MY 2017/18 from the previous MY, Japan is still the largest export market for the United States. The decline in MY 2017/18 exports was attributed to production constraints in Florida that were related to citrus greening disease and damage from hurricane Irma. Florida is forecast to recover some production in MY 2018/19 based on USDA's citrus production forecast (found here). While most of the world produces red grapefruit, Florida produces the white grapefruit preferred by Japanese consumers. As nearly all of Florida's white grapefruit production is exported to Japan, an increase in production signals a similar increase in exports to Japan. Therefore, FAS/Tokyo anticipates that Japanese imports of the U.S. fresh grapefruit will increase to 30,000 MT in MY 2017/18.

Fig. 2 - Price and Volume of Grapefruit Consumption per Household in Japan



Source: MIC
*Note: "Household" consists of two or more persons per household.

Fig. 3 - Relationship between Japan's grapefruit import and consumption



Source: Global Trade Atlas and Ministry of Internal Affairs and Communications (MIC)

South African fresh grapefruit exports to Japan decreased 6.4 percent to 36,202 MT in MY 2017/18. South African grapefruit is available in Japan between June and September, when the weather is hot and wet, and Japanese consumers prefer sour products (Fig. 3). Since U.S. and South African grapefruit have different production seasons, their imports do not compete directly in the Japanese market (Fig. 4). However, because of this seasonal difference, Japanese importers do not see South African grapefruit as an alternative for U.S. grapefruit. Rather, Japanese importers consider Israel and Mexico as alternative sources. Yet Japanese importers remain uncertain about a stable supply of uniform products from these countries. Therefore, Japanese importers select these products when U.S. supplies are unavailable. Since the United States is anticipating a good harvest in MY 2018/19, FAS/Tokyo forecasts that both Israel and Mexico will reduce grapefruit exports to 7,000 MT and 4,000 MT in MY 2018/19, respectively.

Given these circumstances, FAS/Tokyo forecasts Japanese grapefruit imports to increase to 80,000 MT in MY 2018/19, an increase of 11.3 percent from MY 2017/18.

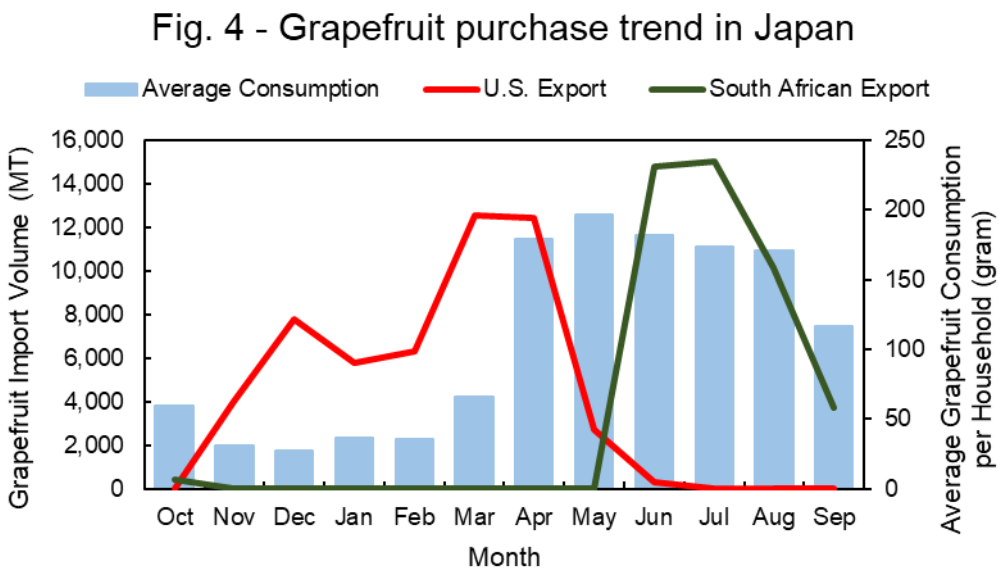
Table 4 – Japanese Grapefruit Imports

Grapefruit Imports (HS 0805.40)				
	MY 2016/17		MY 2017/18	
	Volume (MT)	Share	Volume (MT)	Share
World	**84,482**		**70,726**	
United States	**36,034**	42.7%	**18,494**	26.2%
CPTPP	**3,659**	4.3%	**6,036**	8.5%
Mexico	3,183		5,304	
Others	**44,789**	53.0%	**46,196**	65.3%
South Africa	38,672		36,202	
Israel	5,964		9,555	

Source: Global Trade Atlas

Trade – Exports

Japan's largest retail franchise has been conducting Japanese pomelo campaigns in Hong Kong since 2015, and its campaign size has expanded annually. However, export volumes remains negligible (i.e. less than 100 MT).



Note: All the data used in this figure is of 2015, the latest available data.
Source: Global Trade Atlas and MIC

Lemons/Limes

PS&D Table

Lemons/Limes, Fresh	2016/2017		2017/2018		2018/2019	
Market Begin Year	Oct 2016		Oct 2017		Oct 2018	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	0	0	0	0	0	0
Area Harvested	4560	4560	4600	4550	0	4560
Bearing Trees	0	0	0	0	0	0
Non-Bearing Trees	0	0	0	0	0	0
Total No. Of Trees	0	0	0	0	0	0
Production	53	53	39	45	0	40
Imports	53	53	53	53	0	52
Total Supply	106	106	94	98	0	92
Exports	0	0	0	0	0	0
Fresh Dom. Consumption	75	75	69	68	0	62
For Processing	31	31	25	30	0	30
Total Distribution	106	106	90	98	0	0
(HECTARES) ,(1000 TREES) ,(1000 MT)						

Production

Japan produces approximately 20 percent of the lemons it consumes. Growers in Hiroshima and Ehime Prefecture, two major production areas accounting for over 80 percent of domestic lemons, experienced successive natural disasters in the last two growing seasons. A typhoon that reduced production in autumn 2017 was followed by frost in January 2018 that caused significant damage to lemon trees in the region. The frost damage was magnified because fruit sets were abundant in the MY 2017/18 crop, and

therefore many lemons were left on the trees in order to delay harvest. Considering the extent of the damage to the harvestable fruit, FSA/Tokyo estimates that Japan's lemon production totaled 8,000 MT, down 30 percent from 11,500 MT in MY 2016/17.

The frost damage was not limited to the fruit, but extended to the lemon trees themselves. Based on previous experience with frost damage, growers estimate recovery to take at least two years. Yet more trees were further damaged in July 2018 when severe flooding caused landslides that damage some orchards. Further, high temperatures during the summer hindered the enlargement of fruits this MY, resulting in a smaller than average fruit size. Given these circumstances, FAS/Tokyo forecasts a further reduction to Japan's lemon production to 6,000 tons, 25 percent less than the previous MY.

Nevertheless, Hiroshima and Ehima farmer efforts to expand lemon acreage continue. As introduced in last year's report (found here), Hiroshima prefecture, which accounts for 60 percent of domestic lemon production, has a strategic goal established in 2014 to expand both the acreage and production of lemons by 60 percent to 300 ha and 10,000 MT by 2020. In order to encourage farmers to switch from Unshu to lemon cultivation, Hiroshima prefecture (together with a local agricultural association and research institute) prepared financial support to purchase new juvenile trees, as well as supplement financial losses until those trees mature and bear fruit. For new, young famers, the prefecture has developed a 2-year-long training program, and guarantees 1 ha of lemon farmland upon completion.

These efforts are contributing to a conversion from Unshu oranges to lemons. However, growers are hesitant to convert too much or too quickly, preferring the security of a staged replacement and diversification to mitigate risk. FAS/Tokyo estimates the current acreage in Hiroshima at 230 ha with a maximum lemon production capacity of 7,000 MT in MY 2017/18. This acreage will continue to expand in MY 2018/19, but not at a rate to achieve the prefecture's goal by 2020.

In addition to lemons, Japan grows many other types of citrus (such as "Yuzu") that account for nearly 60 percent of Japanese acidic citrus and are consumed as garnishes or seasoning like lemon and lime (see JA 6058 for further details). FAS/Tokyo forecasts a reduction of MY 2017/18 lemon and other flavorful acidic citrus production to 39,000 MT based on t reported typhoon damage. However, current assessments of the damage indicate that it was less extensive than initially believed, leading FAS/Tokyo raise the production estimate 15 percent to 45,000 MT in MY 2017/18. Although FAS/Tokyo expects Japanese lemon and Japanese lemon-like citrus production to increase (largely due to consumer demand for these specific flavors), typhoons and heat damage between July and September are expected to have reduced production to 40,000 MT in MY 2018/19, an 11.2 percent drop compared to the previous MY.

Consumption

For MY 2017/18, Japan's total consumption of lemons is estimated at 61,000 MT, of which 8,000 MT were produced domestically. Japan's total consumption of flavor-adding, acidic citrus is estimated as 98,000 MT, down 7.6 percent compared to MY 2016/17. This reduction was attributed to the reduced domestic production mentioned above. Although production damage generally introduces more fresh produce for processing, the processing sector for lemon and lemon-like citrus does not have the capacity to utilize the additional volume. As a result, processing remains largely constant at around 30,000 MT, and FAS/Tokyo forecasts the same volume for MY 2018/19.

The leading use of fresh lemons, as well as other unique lemon-like citrus, in Japan is as a garnish and seasoning for food and beverages. In addition, the lemon-based cocktail sector is growing and becoming one of the major consumers of lemon and lemon-like citrus in Japan. This sector is growing at the rate of 2-3 percent annually, and it is anticipated to continue to MY 2018/19.

For lemons, one of the classical and stable uses of fresh lemons is lemon tea. When lemon-tea is served at restaurant or café in Japan, it usually comes with a slice of lemon floating in the teacup. Interestingly, because this market is significant for the lemon industry, they avoid fresh lemons that are too large to fit in a teacup.

In addition to these classical uses, growers are seeking new ways to expand fresh lemon consumption. One approach is to make lemons attractive on social media. Hiroshima lemon growers came up with a template to re-shape lemons in the shape of a heart. Their intention is to promote their lemons on occasions like Valentine's Day.

Trade – Imports

Japanese fresh lemon imports (excluding limes) remained flat in MY 2017/18 compared to the previous MY. Domestic and imported lemons target different consumers in Japan (as described above). Therefore, although Japanese domestic production of fresh lemons are forecast to decrease in MY 2018/19, only about 20-30 percent of the loss are likely to be offset with imported lemons (i.e. 1,000 – 2,000 MT).

The United States is the largest supplier of fresh lemons to Japan, with a 60 percent import share. In MY 2017/18, Japan imported 29,817 MT of U.S. fresh lemons, almost the same volume as in MY 2016/17. However, some importers have expressed concern that U.S. lemon prices are rising due to increased demand in the United States. FAS/Tokyo forecasts increased demand for U.S. lemons based on lower domestic production, raising the export forecast marginally (by 1,000 MT) to 31,000 MT in MY 2018/19. Similarly, FAS/Tokyo forecasts Japan's total lemon imports at 52,000 MT, up 2 percent compared to the previous MY.

Table 5 - Japanese Lemon Imports

Fresh Lemons (HS 0805.50.010)				
	MY 2016/17		MY 2017/18	
	Volume (MT)	Share	Volume (MT)	Share

World	**50,731**		**50,939**	
United States	**29,973**	59.1%	**29,817**	58.5%
CPTPP	**19,968**	39.4%	**20,099**	39.5%
Chile	18,511		18,046	
New Zealand	1,262		1,488	
Others	**790**	1.5%	**1,023**	2.0%
South Africa	790		1,001	

Source: Global Trade Atlas

Chile is the second largest supplier of fresh lemons to Japan with 39.5 percent of the import share in MY 2017/18. Chile supplies fresh lemons between June and October, when U.S. (and Japanese) lemons are generally unavailable, and thus U.S. and Chilean lemons do not compete directly. However, Chilean lemons are nearly 40 percent less expensive and are attracting Japanese importers, especially during the overlapping transition months between the U.S. and Chile (e.g. June).

With regard to limes, Mexico dominates the Japanese import market with a 99.5 percent share. In MY 2017/18, Japan imported 2,330 MT of fresh lime. This quantity has been stable over the course of several years, and FAS/Tokyo anticipates that fresh lime trade will remain unchanged in MY 2018/19.

Trade – Exports

Japan does not export any fresh lemons or limes. There is demand for yuzu in Southeast Asia and Europe, but export volume remains very limited (less than 100 MT in MY 2017/18). FAS/Tokyo anticipates export volumes to remain similar for MY 2018/19.

Orange Juice

PS&D Table

Orange Juice	2016/2017	2017/2018	2018/2019
Market Begin Year	Oct 2016	Oct 2017	Oct 2018

Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Deliv. To Processors	0	0	0	0	0	0
Beginning Stocks	12667	12667	12347	12347	0	23745
Production	0	0	0	0	0	0
Imports	71480	71480	68000	83398	0	70000
Total Supply	84147	84147	80347	95745	0	93745
Exports	0	0	0	0	0	0
Domestic Consumption	71800	71800	70000	72000	0	71500
Ending Stocks	12347	12347	10347	23745	0	22245
Total Distribution	84147	84147	80347	95745	0	93745
(MT)						

** Imports of orange juice are the sum of imports for HS codes; 2009.11, 2009.12, and 2009.19.*
*** Global Trade Atlas provides Japanese import statistics for orange juice in kiloliters only. Hence, the following factors are used to convert from kiloliters to metric tons at a 65 Brix equivalent: for concentrated orange juice 2009.11 (frozen) and 2009.19 (non-frozen), kiloliter is multiplied by 1.3154 to get metric ton, and for single strength orange juice 2009.12, kiloliter is multiplied by 0.1897 to get metric ton at a 65 Brix equivalent.*

Production

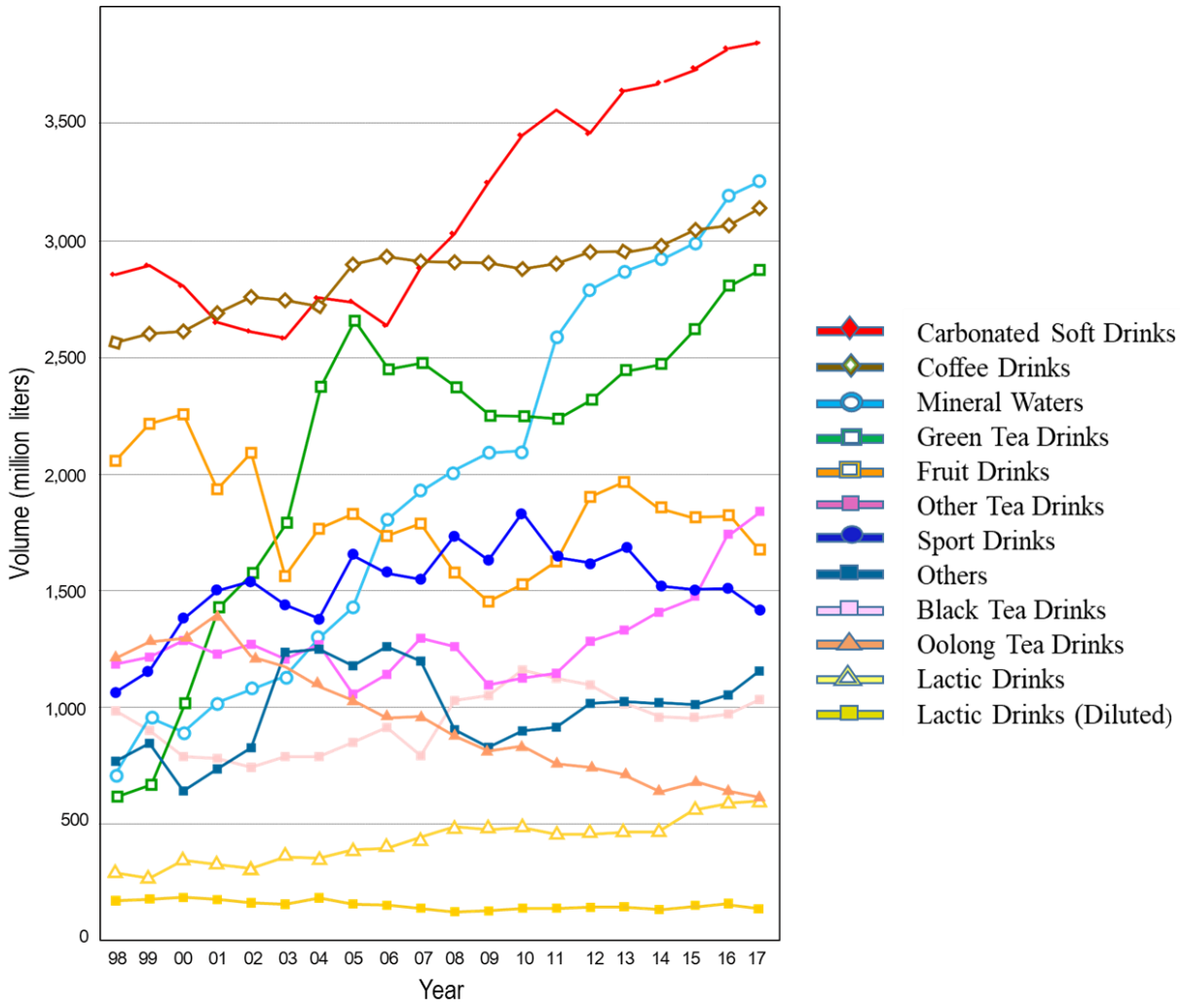
Japan produces Unshu orange juice, often referred to as mikan juice. Since few grow Unshu oranges for juice processing, the juicing orange supply is limited to fresh products that are diverted due to low market prices (e.g. out-of-standard in size or blemished). In MY 2017/18, due to reduced fresh domestic Unshu production, Unshu orange juice production decreased 16.7 percent to approximately 5,000 MT (at a 65 Brix equivalent).

Because of the reduction of both fresh and juice production of Unshu oranges, one of the leading orange juice companies announced a price increase in February 2018. The primary reasons attributed to the announcement were lower levels of production. Since MY 2018/19 production of fresh oranges increased from MY 2017/18 levels, FAS/Tokyo forecasts that the Unshu orange juice production for MY 2018/19 will increase 10 percent to 5,500 MT at a 65 Brix equivalent.

Consumption

With Japanese consumers' increased concerns over high sugar content and calories, the total Japanese consumption of fruit juice-based beverages has been declining since 2013 (see Fig. 5). Furthermore, due to high prices of Frozen Concentrated Orange Juice (FCOJ), manufacturers and retailers are focusing more on drinks with a lower percentage of orange juice (e.g. carbonated drinks with less than 5 percent orange juice; shown in red in Fig. 5). Vegetable juices that contains orange juice are among the products for which consumption is increasing, though not enough to reverse the long-term decline. FAS/Tokyo notes that higher than average stocks of orange juice will encourage producers and retailers to encourage consumption in MY 2017/18, raising our consumption estimate to 72,000 MT. Japanese trade purchased large volumes in 2016/17 to mitigate rising prices, and are maintaining those volumes in expectation that prices will rise again. FAS/Tokyo anticipates that the trade volumes will return to levels similar to MY 2016/17, and thus forecasts a reduction of 500 MT in orange juice consumption to 71,500 MT in MY 2018/19.

Fig. 5 - Japan's Production of Soft Drinks including Fruit Juice



Reference: Japan Soft Drink Association

Trade

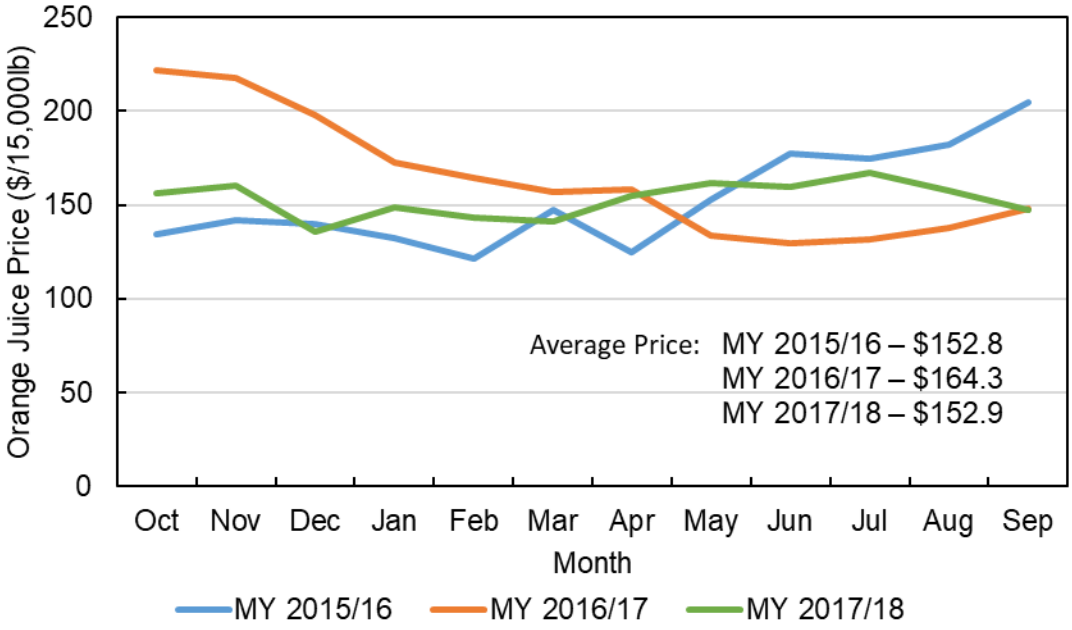
Table 6 - Japanese Orange Juice Imports (MT at a 65 Brix equivalent)

Orange Juice Import in MY 2016/17 and 17/18				
	MY 2016/17		MY 2017/18	
	Volume (MT)	Share	Volume (MT)	Share
World	**71,480**		**83,519**	
United States	**761**	1.1%	**599**	0.7%
CPTPP	**6,768**	9.5%	**8,729**	10.5%
Mexico	6,505		8,537	
EU-28	**6,817**	9.5%	**6,899**	8.3%
Spain	4,199		4,302	
Italy	2,483		2,399	
Others	**57,134**	79.9%	**67,292**	80.5%
Brazil	47,397		57,541	
Israel	9,425		9,202	

Source: Global Trade Atlas

Japan's total imports of orange juice increased 16.8 percent to 83,519 MT (on a 65 Brix equivalent) in MY2017/18. This increase was attributed to reduced FCOJ prices in MY 2017/18 compared to MY 2016/17 (Fig. 6). Furthermore, Japanese manufacturers were uncertain about Brazilian orange production in MY 2017/18, which encouraged importing companies to purchase what was available rather than wait for better market conditions. Although these purchases resulted in a substantial increase in inventory, importers remain uncertain about Brazil's orange production and the effect it will have on the market price of FCOJ. Japanese manufacturers are therefore likely to maintain import volumes equivalent to consumption. Taken together with Japan's trend of declining orange juice consumption, FAS/Tokyo forecasts Japanese imports of orange juice to total 70,000 MT (on a 65 Brix equivalent) in MY 2018/19, a 16 percent decrease from MY 2017/18.

Fig. 6 - Comparison of Frozen Concentrated Orange Juice Future Price at Intercontinental Exchange



Source: The Intercontinental Exchange