USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

Voluntary _ Public

Date: 5/27/2016

Japan

Post: Osaka ATO

The Japanese Processed Vegetable Market—Changes and Opportunities

Report Categories:
Vegetables
CSSF Activity Report
Agricultural Situation
Food Processing Ingredients
Market Promotion/Competition
Promotion Opportunities

Approved By:
Rachel Nelson, ATO Director

Prepared By:
Akiko Kashiwagi, Agricultural Marketing Specialist

Report Highlights:
This report examines the latest trends in the area of processed vegetables in Japan and analyzes the implications, including opportunities and challenges, for U.S. exporters.

TABLE OF CONTENTS

I. INTRODUCTION

Japan's vegetable market is changing. A rapidly aging population, an increasing number of women in the workforce, and growth in the number of single- and two-person households are creating a strong demand for ready-to-eat and small-portion meals. Japanese consumers are cooking less at home, and buying more prepared meals. This affects demand for all food, including vegetables.

At all of the prolific neighborhood convenience stores, the shelf space for prepared meals has expanded and is changing rapidly, and as a result is attracting a growing number of consumers of all ages.

These ongoing changes impact U.S. food exporters because the Japanese food industry, including food processors and food service, now need imported vegetables far more than individual households do. [1] The United States is the second largest exporter of processed vegetables to Japan, after China.

Demand for ready-made meals and convenience food is expected to grow further, and the role of "processed vegetables" as ingredients in these convenience foods will become even more important. The latest developments therefore offer great opportunities to numerous U.S. suppliers in terms of potential growth. However, lately, U.S. exports have been losing market share amid intensifying competition from other countries.[2]

In the following chapters, we will examine the latest trends in the area of processed vegetable imports to Japan along with the changing demand and competitive picture, and we will analyze the implications -- including opportunities and challenges--for U.S. exporters. At the end, we will list some areas of potential opportunity, where product development has been active in response to changing consumer demands.

One further factor that U.S. processed vegetables exporters should consider is the Trans-Pacific Partnership (TPP) trade agreement, which was signed in November 2015. Until now, U.S. processed vegetables have faced some high tariffs when entering the Japanese market. The agreement, if ratified, will reduce most tariffs on U.S. vegetables to zero, strengthening U.S. suppliers' competitiveness against third-country competitors which are not part of the agreement, such as China and Europe.

[1]Research conducted by the Ministry of Agriculture, Forestry, and Fishery (MAFF)

[2] This report primarily uses data from the Global Trade Atlas (GTA). However, when GTA data is not available, it also uses data published by the Ministry of Agriculture, Forestry and Fisheries (MAFF) including those denominated in the Yen.

II. MARKET OVERVIEW

1. Japanese Processed Vegetable Market

Japanese production of all fresh vegetables was 11.8 million tons in 2013, up 1.9% from the previous year, and valued at 2.25 trillion yen ($18.6 billion). Overall vegetable production peaked in 1992, when it topped 14 million MT. It steadily declined until it fell below 12 million MT in 2010. In recent years, however, total production has been steady that this level. The main items by volume include daikon radish, cabbage and onion while highest value items are tomatoes, strawberries, cucumbers and leeks. The top 10 items by value account for about 56% of the entire farm output (Table 1). According to a 2010 study by MAFF, 56% of locally produced vegetables go to the processing or food manufacturing sectors, rather than to households. The long-term trend has been a steady shift away from direct domestic consumption and towards the processing sector.

Locally-grown produce supplies about 80% of the country's overall demand for vegetables, while the remaining 20% is covered by imported fresh and processed vegetables (*2).

While Japanese consumer preference for products that were produced in Japan remains strong, the relatively high cost of local products has motivated the food processing and foodservice industries to use imported vegetables to the extent possible. Favorable labeling requirements for product country-of-origin has also been supportive of the move. As a result, these industries are estimated to depend on imported vegetable for about 30% of their demand.

(Table 1) Value of the Main Vegetables Produced in Japan (2013)

	Yen Billion	%
Tomato	232.5	10%
Strawberry	160.1	7%
Cucumber	146.3	6%
Leek	142.1	6%
Cabbage	115.0	5%
Daikon	104.4	5%
Spinach	100.1	4%
Lettuce	90.2	4%
Onion	83.3	4%
Eggplant	80.3	4%
Others	990.0	44%
All Vegetables	2,253.3	100%

(Source: MAFF)

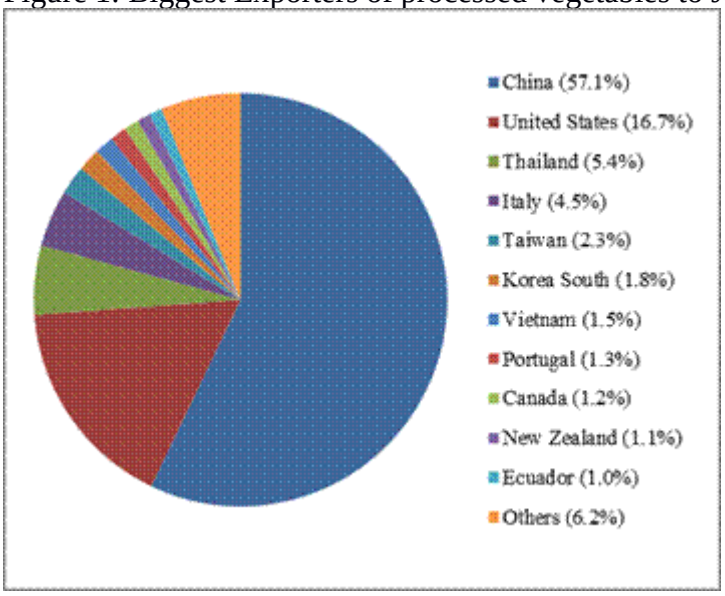
(*2) The report, published in 2015, uses the MAFF's conversion formula for processed vegetables.)

2. Growing Demand for Imported Vegetables

Over the past five years, Japan's total imports of processed vegetables and pulses grew by 11.3% to 1.74 million MT by volume and by 32.0% to $3.19 billion by value. Part of the growth was driven by China, which regained the ground it had lost in 2008-2009 when its exports plummeted due to a series

of high-profile food safety problems involving frozen vegetables. The recent growth was also caused by scores of smaller exporters such as Italy and Vietnam entering the market, reflecting Japan's diversification of suppliers. Despite all the changes, China continues to dominate the Japanese market, both by volume and by value. (Figure 1) (See APPENDIX for the details)

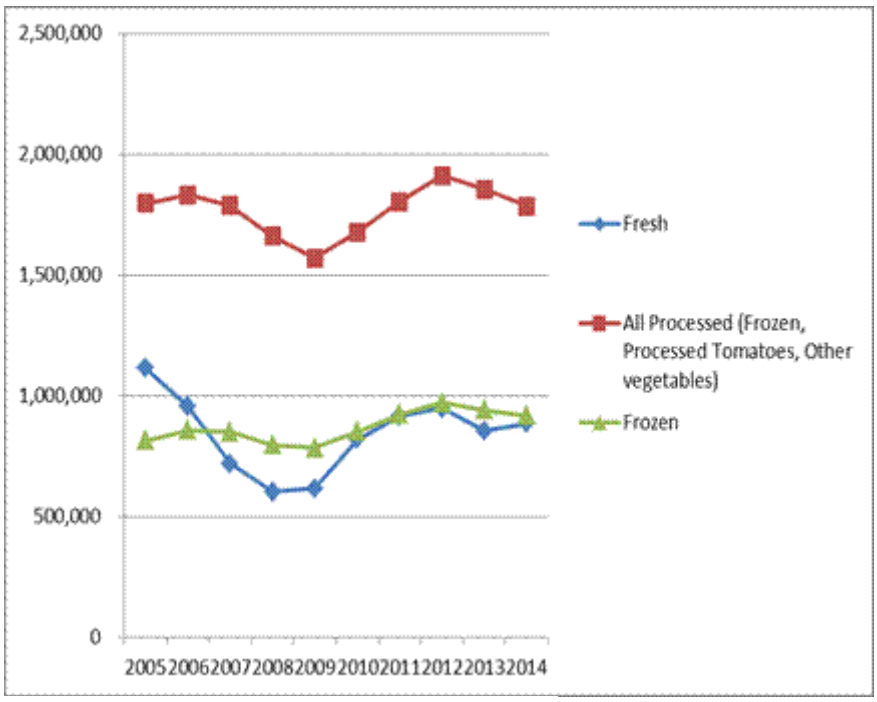
Figure 1: Biggest Exporters of processed vegetables to Japan (by value)



(Source; Global Trade Atlas, Japan Ministry of Finance)

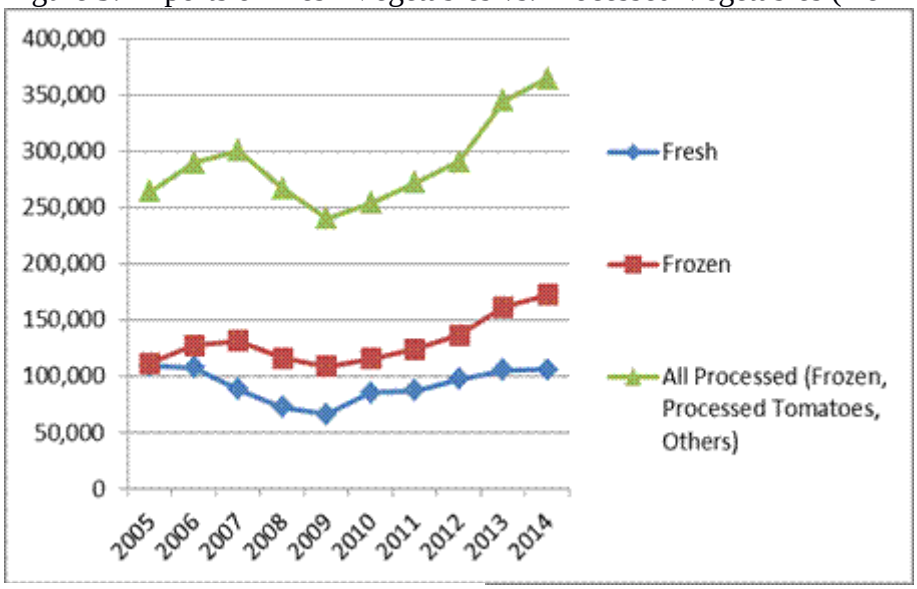
In the fresh vegetable market, imported products have been considered as a complement to local supply, and thus their import volume tend to vary according to the fluctuation of local output. In contrast, demand for processed vegetables seems to correspond more broadly to the longer-term industry trends, which in recent years means that the importance of processed vegetables in the overall import vegetable market is growing. As of 2014, processed vegetables accounted for as much as 78% by value and 67% by volume of all vegetable imports, according to the data by ALIC. In fact, the volume of imported fresh vegetables was surpassed by that of just frozen vegetables alone back in 2007. (Figure 2, 3)

Figure 2: Imports of Fresh Vegetables vs. Processed Vegetables (MT)



(Source: ALIC, Japan Ministry of Finance)

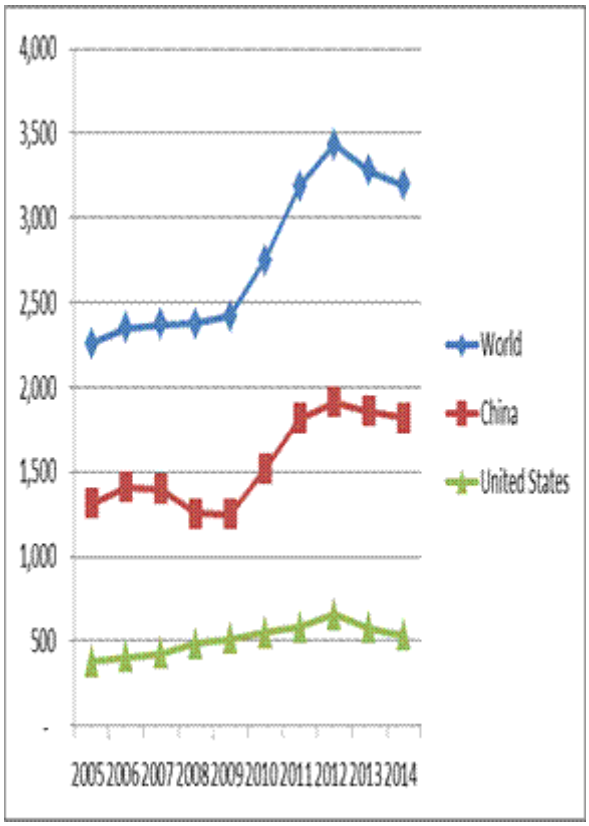
Figure 3: Imports of Fresh Vegetables vs. Processed Vegetables (Yen millions)

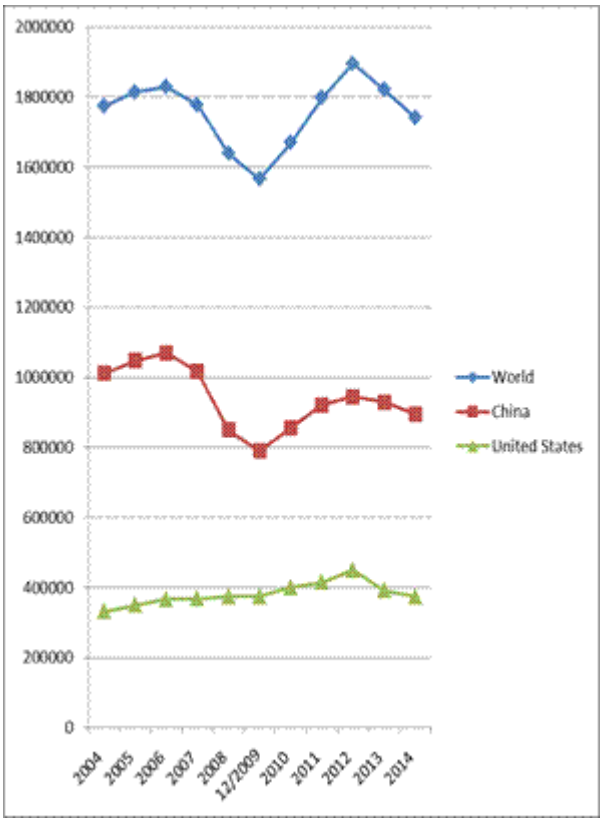


(Source: ALIC, Ministry of Finance)

Among the sub-sectors, the largest component of processed vegetables by volume in 2014 was the frozen sector, which accounted for the majority of the market share (51.4%), followed by other processed non-frozen vegetables including canned vegetables and vegetable juice (23.9%), processed tomatoes (13.8%) and dried vegetables (2.5%). By value, frozen vegetables accounted for 47.3%, followed by other processed vegetables (27.6%), dried vegetables (9.5%) and processed tomatoes (9.0%).

Left Figure 4: Japanese Imports of Processed Vegetables & Pulses (Volume, 2014)
Right Figure 5: Japanese Imports of Processed Vegetables & Pulses ($ million, 2014)
(See APPENDIX for details)





(Source: Ministry of Finance, GTA)

3. U.S. Market Position

In the past five years, total U.S. exports of processed vegetables to Japan shrank in volume by 0.2% to 373,745 MT, but rose in value by 3.8% to $534.0 million. Before the West Coast port issues emerged in 2014, the growth rate from 2009 had been 11.9%. Over a period of ten years, U.S. exports of processed vegetables and pulses (*3) grew 13.0% by volume and by 49.0% by value in line with the overall growth in the sector.

As for its market share, the U.S. has long been the second largest exporter of processed vegetables to Japan, although that share has declined by 3.4% since it hit its peak in 2010 to 16.7% in 2014. During this time, competition among suppliers has intensified. While the list of Japan's top trade partners has barely changed in recent years, many new countries have been steadily increasing their market share, partially at the expense of the U.S. share (Figure 4, 5).

(*3) Including pulses, which were $5 million in 2014.

4. Key Drivers

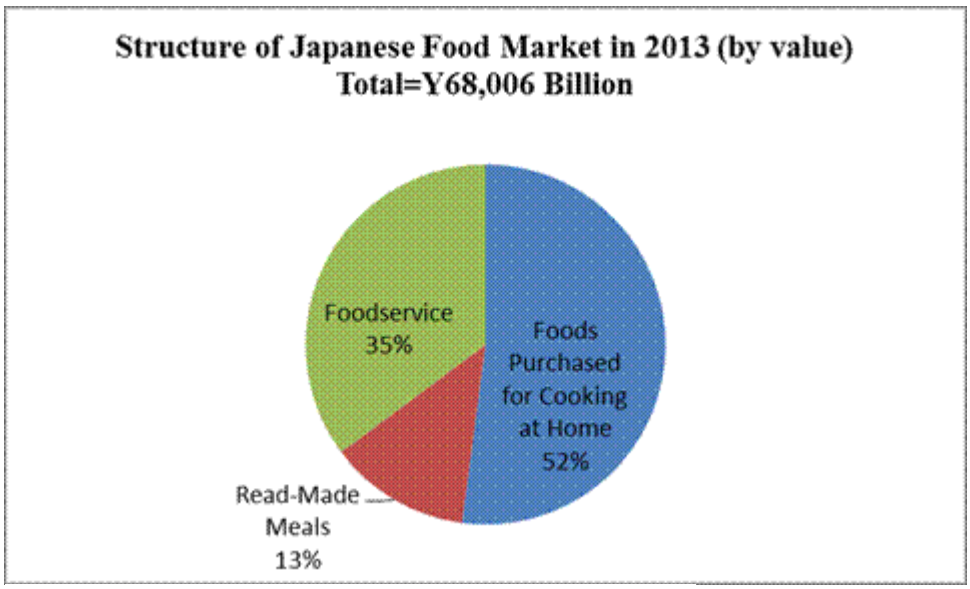
The steady increase in Japan's imports of processed vegetables in part reflects a change in the way Japanese people consume vegetables. Changing lifestyles and demographics, such as the rapidly aging population and growing number of one and two-member households, have resulted in consumers cooking less at home and buying more prepared foods, which often include processed vegetables.

According to the Japan Ready-Made Meal Association, Japan's ready-made meal market called Sozai (*4) is projected to grow 2.4% to 9.1 million yen in 2014, following 2.1% growth the previous year. Over the past decade, the sector grew 23.8% as of 2013 while the overall Japanese food market actually shrank 2.2% to 68.0 trillion yen (Figure 6). In the slow-growth Japanese economy, consumers haven't increased spending on dining out, but instead shifted towards convenience through ready-made meals instead of restaurants.

Hence, the share of household spending on sozai grew 2.8% to 13.1% by 2013 compared with ten years ago. The data shows the growth came from reduced spending on foods to be cooked at home, whose share was down 2.7% to 51.8%. Spending on foodservice has remained about the same at 35.2%. (Figure 6)

(*4) Sozai refers to all types of meals that are not cooked at home or not served by food service outlets, include main dishes, side dishes, noodles, rice bowls, salads, and sandwiches. They can be packaged, bagged, pouched or deli foods and offered at retailers. They are typically produced by the retailers or food processors who supply them as well as food manufacturers.

Figure 6



(Source: Japan Ready-Made Meals Association 2015)

Many companies in the fast-growing ready-made meal sector have been developing products using imported vegetables, although the degree of dependence varies widely between companies. According to a recent survey, 20% of the respondents said they use locally-grown vegetables for less than 40% of their total demand. About a quarter said they use domestic vegetables 60-80% of the time, and another quarter said they nearly all the vegetables they use are locally grown (at least 80-100%).

Table 2: Use of Domestic Vegetables in Ready-Made Home Meals

Proportion of Domestic Vegetables Used for Ready-Made Products	% of companies
0%	1%
0% ～20%	13%
20% ～40%	7%
40% ～60%	26%
60% ～80%	25%
80% ～100%	23%
100%	5%

(Source: White Paper 2015, Japan Ready-Made Meal Association, n=77)

Similarly, the growth in imports of processed vegetables also has been driven by the food service sector. As the competition among food service operators has become more fierce, the benefits of processed vegetables compared with fresh vegetables (non-perishable, less wasteful, stable and mostly lower prices, year-round availability, ready-to use, etc.) count even more.

Traditionally, Japanese consumers have expressed strong preference for locally-grown products, especially when buying fresh vegetables. Even so, strong demand for imported vegetables shows that they tend to become more flexible when it comes to eating out or buying ready-made foods. According to a study conducted by MAFF in 2010, as many as 98% of all fresh vegetables bought by Japanese consumers were produced in Japan.

In contrast, food processing and food service industries have counted on imported vegetables far more. The same study shows that about 30% of their vegetable inputs come from imported sources, a far higher degree than for individual households.

III. IMPORT TRENDS

1. Growing Demand for Imported Vegetables

The largest segment of imported processed vegetables is frozen vegetables, which are widely used among all segments of the food industry. They may be used for consumer-ready packaged products or used as ingredients for foodservice, institutions and ready-made meal providers. (Table 3)

Table 3: Main users of imported frozen vegetables (by volume)

(%)

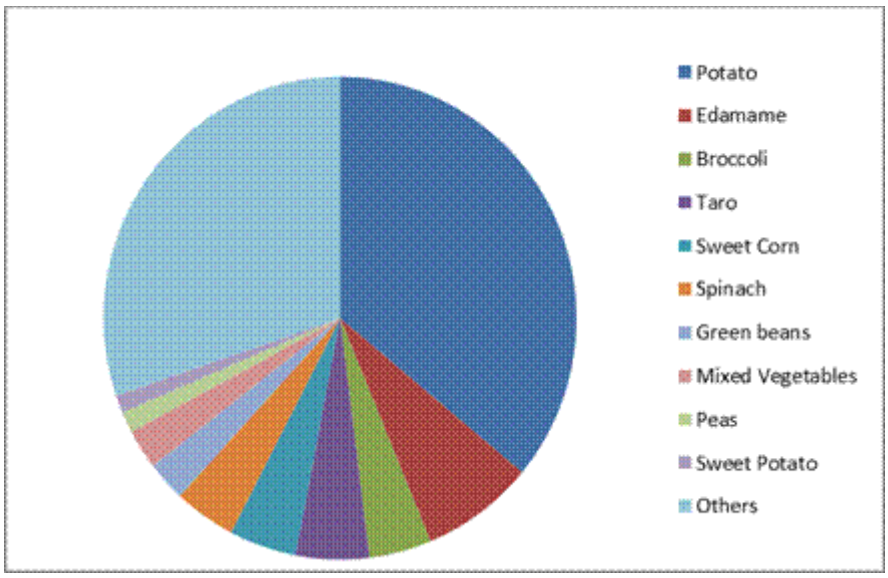
Department stores, retailers, convenience stores	18.8
Food Service	16.1
Institutional (schools, nursing homes)	13.1
Bento/Ready-Made Meals	8.4
Retort Product Makers	2.0
Frozen Food Makers*	5.1
Distributors	33.1

(Source: ALIC Frozen Vegetable Market Survey 2014)
*Super sweet corns, potato products, kabocha are the main items

Japan's demand for imported frozen vegetables has grown steadily over the past decade, up 16.0% to 916,555 MT by volume and 65.6% to 172,314 million yen by value as of 2014. Despite the strong demand, local production of frozen vegetables has been flat over the past four decades, fluctuating between 80,000MT to 120,000 MT(*4) largely due to the difficulty of ensuring sufficient volume of year-round supply. Local output rose 3.0% to 101,485 MT in 2014 from the previous year, led by growth in sweet corn. This means that local products supply just 10% of the total frozen vegetable demand in Japan (*5). The main items supplied locally are potatoes, which account for nearly one-third of the total production by volume, followed by sweet corn, spinach, Japanese pumpkin, and carrots. (Figure 7)

(*4) The data does not include frozen fish and prepared meals. Japan's total frozen food production exceeded 1.5 million MT in 2014.
(*5) In response to market trends, MAFF has been adopting measures to help local farmers respond to the needs of the food industry.

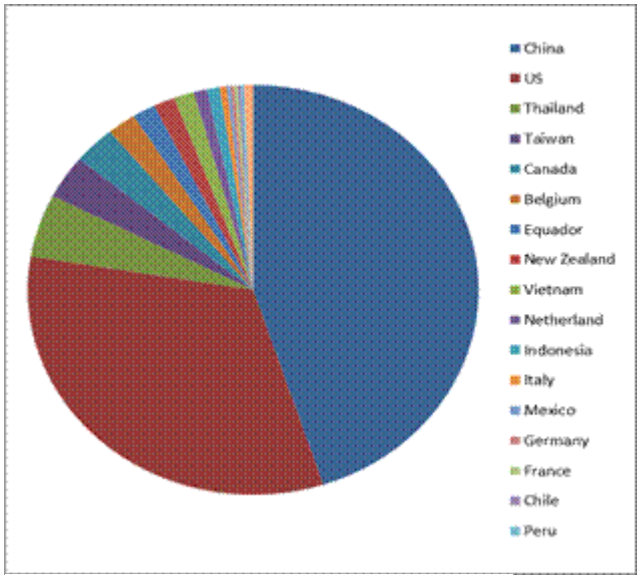
Figure 7: Main Items Exported to Japan (by volume)



(Source: Japan Frozen Food Association, 2014)

The list of the largest exporters of frozen vegetables has not changed much over the past decade. China and the United States have for years been the dominant suppliers, followed by Thailand, Taiwan and Canada.

China's position as the biggest supplier goes back in to early 1990s, when Japan's major trading houses established subsidiaries or formed alliances with local suppliers in China. They did so mainly to cater to the needs of the Japanese food service industry, which was in search of lower-cost stable supplies of ingredients. China's exports have remained strong since then, despite a decline in 2008-2009, as their capability of meeting the requirements of Japanese customers at a relatively low cost is difficult to match by other exporters. (Figure 8)
Figure 8: Top Frozen Vegetable Exporters to Japan (by volume)



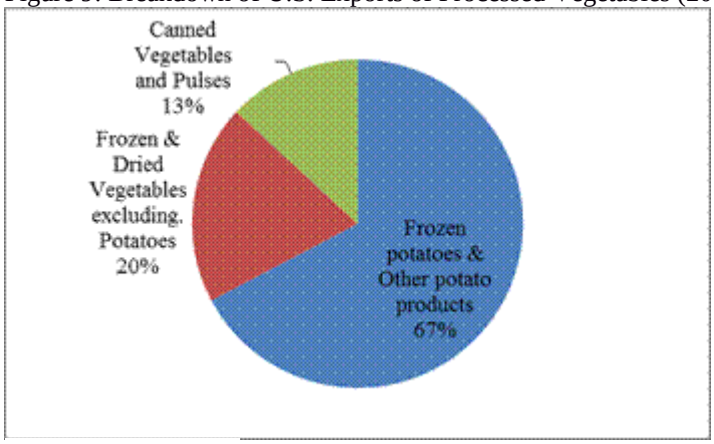
(Source: Japan Frozen Food Association, 2014)

Over the past decade, the total volume of U.S. processed vegetable exports expanded steadily in line with the overall demand in Japan. The main items, which Japanese exporters call "the four", have not changed much over the years. They are frozen potatoes, sweet corn, green peas and mixed vegetables.

Of the frozen vegetables, roughly two-thirds or 67% of U.S. exports are frozen potatoes and other potato products. "Frozen & Dried Vegetables" excluding potatoes account for nearly 20% and "Canned Vegetables and Pulses" account for the rest (Figure 9). The U.S. market shares of frozen product sub-categories are summarized in Table 4.

Over the past two years, U.S. exports were hit hard by slower demand in Japan's fast food sector (the largest buyer of U.S. french fries), the West Coast port slowdown that lasted until early 2015, and the stronger U.S. dollar. As a result, the U.S. share of the frozen vegetable market declined to 11.6% in 2014, compared with 14.1% five years ago. Importers say the impact of the strong dollar on U.S. exports has been seen for several years now (See GAIN Report #JA5053, 2015 Potatoes and Potato Products Annual).
http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Potatoes%20and%20Potato%20Products%20Annual_Tokyo_Japan_10-1-2015.pdf

Figure 9: Breakdown of U.S. Exports of Processed Vegetables (2014)



(Source: FAS/USDA)

Table 4: U.S. Sales of Frozen Vegetables to Japan

HS Code		Volume (MT)	U.S. Volume	Value ($ millions)	U.S. Value
0710	Frozen Vegetables, Not Flavored	456,902	53,167	809.9	82.5
200410	Frozen Potatoes Including French Fries	304,879	241,070	393.7	310.4
200490	Other Frozen Vegetables Including Sweet Corn, Mixed Vegetables	89,953	2,257	271.4	6.8

(Source: GTA, ATO)

Some recent growth in Japanese imports have been a result of growing demand for several popular items from specific countries with a competitive edge aside from China. Those items include frozen broccoli from Ecuador, for which exports doubled over the past five years; unorthodox mixed vegetables such as sweet potatoes and spinach from Vietnam; edamame from Thailand and Taiwan; and potato products from Belgium and Netherlands. The surge in in imports of these items reflects successful product development by food processors, frozen food makers and foodservice providers, including institutional meals.

The growth seen in wide-ranging items also seems to suggest that frozen vegetables are replacing part of

the demand for fresh as food and foodservice companies find them more convenient and cost-saving. In addition, advanced technology has lately been making frozen vegetables even more convenient to use (See the next section), and thus accelerating the shift.

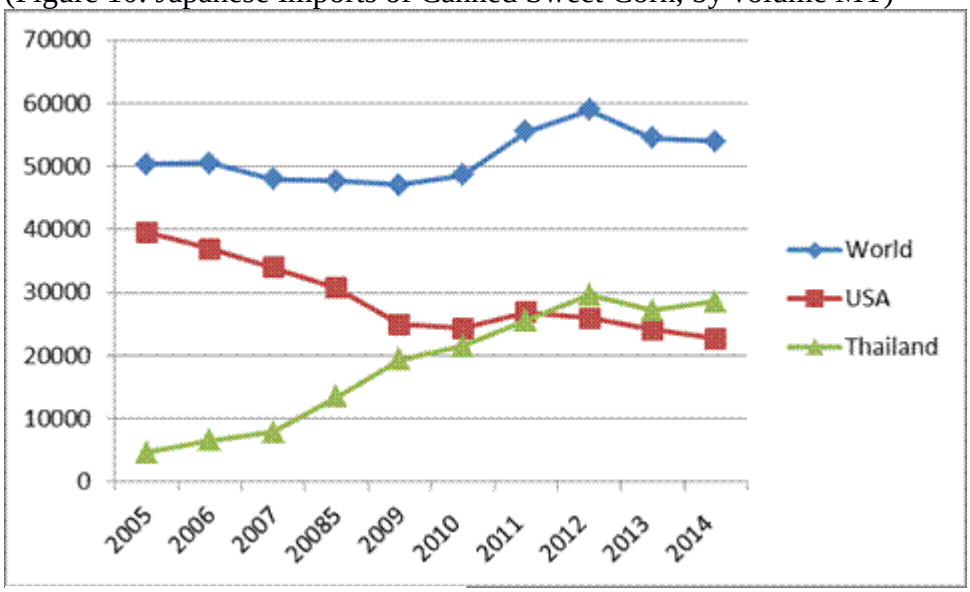
Part of such new demand has been seen in the growth of "other frozen vegetables" (HS200490), which grew 33.6% in volume to 89,953MT and $271.4 million over the past decade. While China remains by far the dominant exporter, Thailand and Vietnam have shown marked growth. Notably, the unit value for this type of product has generally been higher than other products such as frozen potatoes and sweet corn.

Even so, the main four exporters of frozen vegetables have remained the same - China leads, followed by the United States, Thailand and Taiwan.

2. Growing Demand for Other Processed Vegetables

In addition to frozen vegetables, Japan has increased its imports of canned vegetables. Over the past decade, demand for canned sweet corn grew 7.4% by volume, partly reflecting a growing demand for packaged salads. As with frozen vegetables, the competitive picture has also been changing. (Figure 10)

(Figure 10: Japanese Imports of Canned Sweet Corn, by volume MT)



(Source: ALIC, Japan Ministry of Finance)

Other products that have shown strong growth over the past decade are processed tomatoes and carrot juice, both of which have benefited U.S. suppliers. A key factor that has driven this demand seems to be consumers' growing appetite for healthy and ready-made meals, including soups and cooking sauces. Japanese demand for tomatoes has been strong thanks to a widely publicized report on their health benefits in 2013. Reflecting that trend, Japan's imports of processed tomatoes has grown significantly in recent years. While Italy has been the dominant supplier of diced tomatoes (HS200210), U.S. and China have been the leading suppliers of other types of tomato products (HS200290219,

200290229, 200290290). (Figure 11)

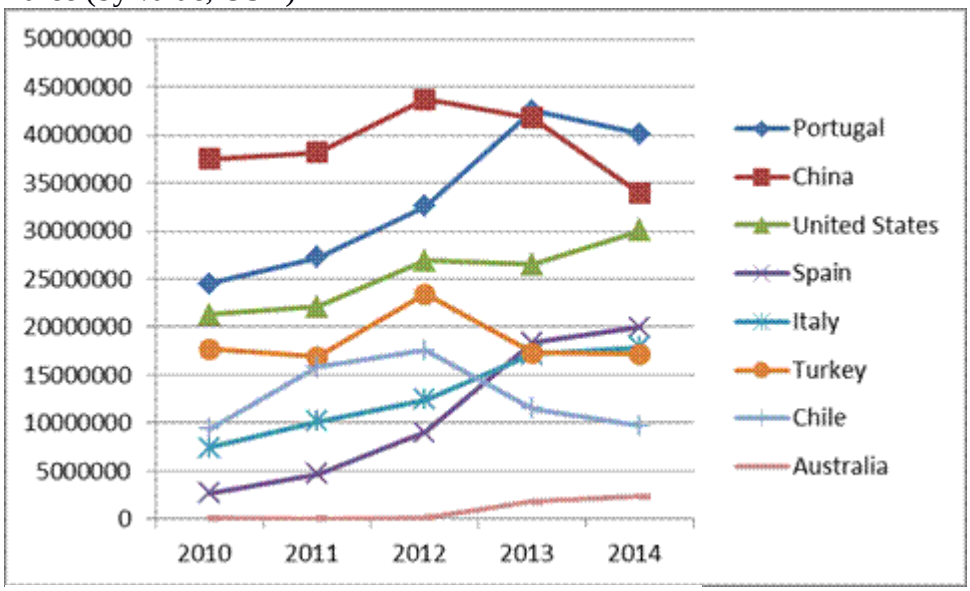
Like with other vegetables, the processed tomato product sector has benefited from the ongoing shift in consumer dining pattern. Growing demand for ready-to-eat or easy-to-eat meals has led most leading food manufacturers to develop a vast array of new products ranging from seasonings, soups and dishes that make good use of tomato products.

Kagome, Japan's biggest and the world's fifth manufacturer of tomato products, for example, has been expanding its alliances with foreign suppliers around the world including Portugal, Italy, Turkey and the United States to secure ingredients. This has resulted in remarkable trade expansion.

Although U.S. exports have grown, the United States has seen third-country competitors from European countries, Turkey and China steadily expanding their market share. With tariffs on Australian tomato products to be cut by 20-50% in the coming years as a result of the recently-ratified Japan-Australia Free-Trade Agreement, the country is also expected to emerge as a competitive supplier, according to a JETRO report. The Trans-Pacific Partnership Agreement, if ratified, could help the U.S. defend its market share in this area.

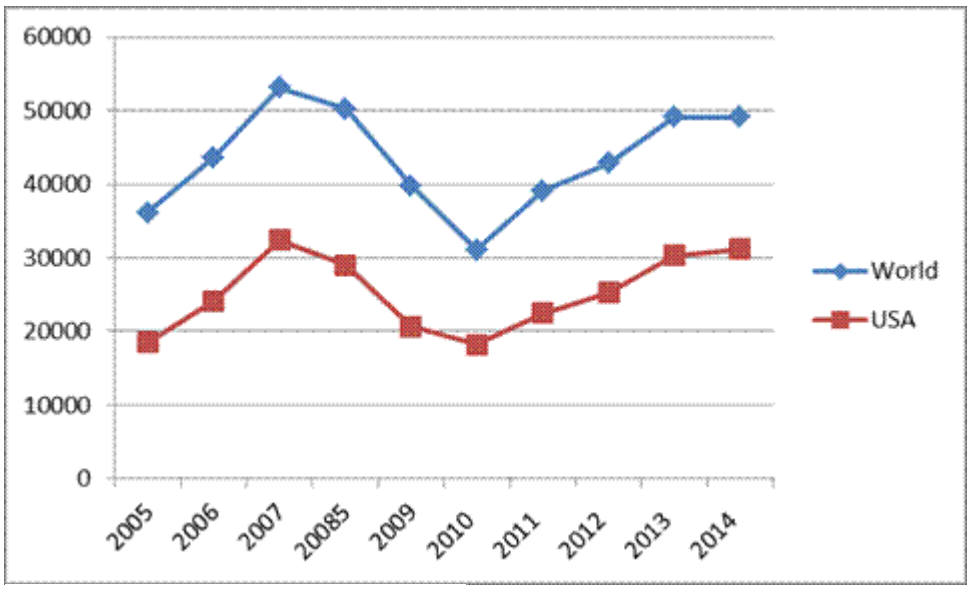
Growing consciousness of healthy eating and rapid product development also boosted demand for carrot juice. U.S. exporters have been the biggest beneficiaries of this trend. (Figure 12)

Figure 11: Japan's Imports of Processed Tomatoes, other than Whole or Pieces, Including Paste and Puree (by value, USD)



(Source: HS200290, GTA, Japan Ministry of Finance)

Figure 12: Japan's Imports of Carrot Juice (by volume, MT)



(Source: ALIC, Japan Ministry of Finance)

3. Growing Demand for New Value-Added Products

Another important development that has created new demand in the Japanese processed vegetable industry is a new category called "frozen vegetables processed for natural defrosting". The vegetables are pre-cooked (and some are deep-fried) and processed by IQF methods. Developed to save time for cooking and defrosting, the new product has given a huge boost to the frozen food market.

Even though each item can cost 25-30% more compared to an equivalent conventional product, the benefits and cost-savings seem to outweigh the higher prices. Popular products include frozen spinach, okra, fried eggplant, and a variety of cooked dishes used as ingredients for deli meals and in consumer packages. Most of these are produced in factories in China and Vietnam, which are equipped with the latest technology developed for these products.

The overall market for this category of pre-cooked dishes grew 69.9% by volume and 62.5% by value in 2013. Their brisk sales underscore that there is a potential demand for convenient new products that offer unique features, even if they cost more in Japan.


(Ready-to-use frozen okra) (Ready-to-use frozen spinach)

IV. IMPLICATIONS FOR U.S. SUPPLIERS (OPPORTUNITIES AND CHALLENGES)

Challenges

The latest developments in the Japanese retail and food service sectors (described in Ch. III) present new opportunities for U.S. exporters, especially ingredient suppliers. And yet, the steady decline in the overall U.S. market share in the Japanese processed vegetable market points to some weakness in the position of U.S. exporters.

The biggest challenge U.S. suppliers are facing seems to be the price competitiveness. The stronger dollar, which rose over 15% against the yen over the last two years, is only adding to that. Third-party competition has become stronger in areas where the U.S. has long dominated, including frozen potatoes (french fries), sweet corn and other frozen vegetables.

Take frozen potatoes, for example. Even though U.S. potatoes have long been popular in Japan, the gap in price between the U.S. and its competitors has lately become simply too large to keep buyers from starting to switch sources. Depending on the product, U.S. potatoes can cost as much as 30% higher than their competitors, importers say.

Another challenge for U.S. exporters is the precision and the flexibility Japanese buyers often require of ingredient suppliers. Japanese users from food processing, food service, and retail sectors tend to demand specifications that are "comparable to industrial parts" -- as often described in Japan -- in terms of consistency in size, intolerance for bruises, even for very small vegetable strips. And suppliers in China and some countries in Asia have been willing to meet these cumbersome requirements. Moreover, they can afford to do that by counting on manual labor. As a result, they are becoming indispensable partners in helping Japanese buyers develop new products. (*6) Meanwhile, U.S. suppliers, which rely on the automated production process, are put at a disadvantage while trying to expand sales.

One country that has benefited from this trend is Vietnam. A notable growth in imports from Vietnam of all sorts of frozen vegetables including spinach, mixed vegetables, red peppers and sweet potatoes shows how the country is emerging as an alternative supplier for Japanese buyers. A recently announced Japan-Vietnam agreement includes Japan's assistance building agricultural infrastructure in Vietnam, and an advanced distribution system is expected to help the country further increase the competitiveness of Vietnam's agricultural output. The diversified sources of processed vegetable suppliers underscores that the competitive picture is rapidly changing for U.S. suppliers.

(*6) This is the main reason why Chinese suppliers continue to enjoy the dominant position in the Japanese imported vegetable market, even though a growing number of Japanese buyers are seeking to diversify sources to mitigate risks.

Opportunities

Despite these constraints, the latest developments in Japan's food market represents opportunities for

U.S. suppliers, especially those who can differentiate themselves. While eager to seek low-cost ingredients, Japanese buyers are as eager to find something unique that would help differentiate their products from their competitors'. These features vary widely but could include the product variety, the difference in taste, or where, how or by whom they are produced.

These details matter in Japan as they are what consumers would look for in deciding what to purchase, and so these are the kinds of details that Japanese manufacturers try to use when developing a new product that is different from its peers, and to print on the consumer package. In the case of the food service industry, such extra information is what restaurants would want to put in their menu.

For example, a new potato salad that 7-Eleven (7 &i) introduced recently for sale at their outlets contains which part of Japan the potato is coming from, and the variety of potatoes. It's part of their strategy to differentiate their potato salad and demonstrate its high quality.

Potato salad, one of the latest products 7 & i introduced, marked by an appetizing descriptive product name (one of the scores of 7-Eleven's private brand products)

This pattern applies not just for domestic products. As previously described, Japan's imports of broccoli from Ecuador have more than doubled over the last several years. Imported frozen foods have been used mainly for food services and ready-made meals and salads and offered without country of origin labeling. Behind this particular surge in growth seems to be a successful effort by Japanese industry to promote the quality by highlighting unique features, such as country of origin. For example, one of the consumer packages sold by several retailers carries a label saying "Broccoli Grown in Highland". To make the point, the bag even carries an additional note saying, "This is the bright green broccoli grown under ample sunshine at an altitude of 3000 meters in Ecuador's Highland" under an image of a green field.

While the U.S. is well-known for its fertile fields among Japanese people, the positive image is not necessarily associated with the high-quality of U.S. vegetables, i.e. strong enough to be a deciding factor. Similarly, the variety, the versatility and other features of products that are unique to the U.S. could give these products a competitive edge, but is not known or marketed sufficiently. Buyers who regularly visit growers in the United States may be fully aware of these positive features, but consumers often are not. Continuing to address the lack of awareness of the high-quality and the variety of U.S. vegetables will be crucial for U.S. suppliers in their efforts to compete not just on prices but also on quality. This is even more important today, as the stronger dollar and Japan's many trade agreements with other countries are hurting U.S. competitiveness.

A recent case underscores this point. One Japanese food manufacturer, which was using U.S. organic tomato paste as an ingredient for their gourmet ketchup, changed its source from the United States to Europe after its distributor changed sources because the U.S. product got too expensive. The company preferred the flavor and specifications of U.S. tomatoes but customers did not seem to prefer one over the other. If they had been more aware of the U.S. origin or the tomatoes, perhaps the company would not have switched.

Addressing lack of awareness of positive feature of U.S. products is also crucial in light of the latest product trend in Japan: Going premium.

With the Japanese economy edging towards recovery under the Abe Administration, consumer spending on food is also showing positive signs. In response, the Japanese food industry has started offering "premium" options, rendering the overall market increasingly polarized between the low-end and the high-end. For the former, cost is the main factor for product developers to choose which ingredients to use. For the latter, the produced-in-Japan factor is often the preferred choice. Indeed, the premium line has typically been associated with products made of domestically produced ingredients (*7).

What this means, possibly, is that amid the polarization, U.S. suppliers could face the risk of falling between the two ends if Japanese consumers remain unaware of the unique features. And yet, there are also signs that Japanese consumers are becoming more open to foreign products, not just because of the lower price but also for the high-quality and unique features. For example, a recent survey conducted by the Nikkei Marketing Journal showed that meat buyers ranked American beef the fifth overall, higher than 30 other brands that included many renowned local brands. The result -- a breakthrough for the U.S. -- shows that polarization can be an opportunity for foreign suppliers, especially for those with unique features or those that can brand themselves based on these features. These U.S. advantages and disadvantages are summarized in Table 5.

Additionally, one of the biggest potential beneficiaries of the Trans-Pacific Partnership (TPP) agreement is the U.S. processed vegetable sector, which faces some of the highest tariffs in Japan. (See APPENDIX 4) The agreement, if ratified, will increase opportunities for U.S. suppliers by leveling the playing field against countries which already have ratified free-trade agreements with Japan including Australia, Mexico, Chile and Peru.

Once the Trans-Pacific Partnership agreement is implemented, Japan will eliminate tariffs for virtually all fresh and processed vegetables for member countries. Japan will immediately eliminate its current 10-percent tariff on adzuki, kidney, white pea, and other beans within its World Trade Organization tariff-rate quota for dried leguminous vegetables. In addition, Japan will immediately eliminate its tariffs, currently as high as 17 percent, on vegetable juices and canned and other prepared vegetable products including canned and prepared sweet corn, tomatoes, and pickles. Japan's tariffs on carrot juice, tomato paste, and tomato juice, currently ranging from 7.2 to 29.8 percent, will be eliminated in six years. Japan's 21.3-percent tariff on tomato ketchup and 17-percent tariff on tomato sauces will be eliminated in 11 years. Japan's current 13.6-percent tariff on dried peas, beans, and lentils will be eliminated in 11 years.

(*7) A news report in Nikkei (3/13/2015) says that a series of leading Japanese leading food makers including Kagome and Seven & i Food systems have switched the ingredients of some of their popular items from foreign to locally-produced

vegetables.

Table 5: U.S. Advantages and Disadvantages

Advantage	Disadvantage
・High-quality ・Reliable, stable supply ・Advanced food safety control system ・Have a long-term relationship with Japanese buyers ・Wide variety of products suitable for the Japanese food service and processing industries ・Strong interest in U.S. food culture and latest trends (Japanese industry tends to follow popular trends in the U.S.)	・Higher cost of production relative to its competitors ・Longer shipping distance compared with competitors in Asia ・Limited awareness of the product variety, versatility and uses of U.S. processed vegetables ・Less flexible in meeting specific requirements of Japanese buyers including the package size, minimum order, and processing methods ・Tariff (vs. those countries with free trade agreements with Japan) ・Japanese consumer preference for domestically produced products ・Japanese consumers tend to embrace products produced in Europe more than those in the U.S.

(Prepared by ATO)

IV. Potential Target Sectors for Processed Vegetables

The following list suggests target sectors that offer potential opportunities for U.S. suppliers of processed vegetable ingredients. Products mentioned below are given as examples and not meant to be all inclusive. Rather, it is provided as a guide for those considering entry or expansion in Japan.

1.

Market Trend

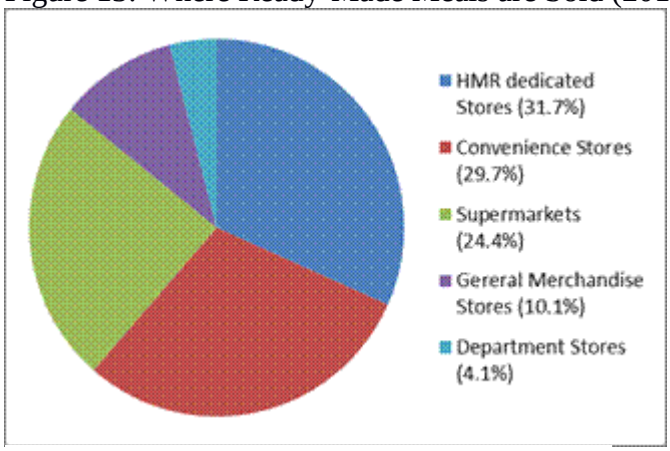
The majority of ready-made meals sold by retailers are Japanese-style dishes, as they reflect the kinds of meals Japanese households would otherwise cook from scratch. As the segment continues to expand (*9), however, the competition for differentiation among suppliers as well as retailers has become intense. In response, a growing number of them are diversifying their offering into non-Japanese dishes. (Figure 13) Even some of the ready-made food suppliers who have specialized in traditional Japanese salads are now trying to expand and offer western-style and fusion-style offerings. (Images below)

(Mixed vegetables and bean salads, using some imported ingredients)

This market segment is expected to continue to grow as their main demand comes from seniors and small households, two of the fastest-growing kinds of households in the Japanese population.

(*9) The market is projected to grow another 2.4 % to 9.1 trillion in 2014, following a similar growth the previous year, according to the Ready-Made Meal Association.

Figure 13: Where Ready-Made Meals are Sold (2014 estimate)



(Source: Japan Ready-Made Meal Association)

Opportunity

The sector presents great potential for U.S. suppliers of processed vegetables who can offer affordable and/or innovative deli-style applications for using their products. Many menu developers are looking for new themes such as Asian, Italian and Spanish cuisine, in their effort to stand out. In addition, they seem to have a strong interest in vegetable menu ideas. A 2015 survey conducted by the Ready-Made Meals Association says ready-made meal suppliers are keen on developing products that use plenty of vegetables (78.3% of supermarkets and 40.0% of convenience stores). The same survey however showed a strong interest in using produced-in-Japan ingredients (60.9% of supermarkets, 70.0% of convenience stores).

The data also shows that some of the most popular dishes purchased at retail markets include potato products. Croquettes, for example, made of deep-fried mashed potatoes with some kind of filling,

ranked among the top. Japanese-style potato salad is another highly popular item. U.S. potato suppliers could be an alternate source for these or similar applications by promoting the high-quality of their potatoes or by introducing new applications using their products such as U.S.-style potato salads, chowders and casseroles.

Despite the popularity of popular potato dishes, Japanese per capita annual consumption of potatoes is just 20.8 kg, as compared to 54.2 kg for the U.S. Thus there appears to be room for growth.

A similar opportunity exists for sweet corn. Japan's per capita consumption of sweet corn is still relatively low compared with that of the U.S. as usages seen here have been fairly limited. Demand will grow if product developers become more aware of extensive American-style applications that use plenty of sweet corns and appeal to Japanese consumers.

Another constraint is intense competition. The United States has long been the dominant supplier of sweet corn in Japan, supplying over 70%. Over the last ten years, however, competitors including Thailand and New Zealand have steadily expanded their market share due to their competitive prices and improving quality and appearance. While some buyers embrace the qualities of U.S. corn, others tend to look for the most affordable supplier as they see little difference otherwise. To address the constraint (Figure 10, and frozen data 62.5%), it is necessary to convince buyers and dietitians the value of using U.S. sweet corn instead of less expensive alternatives.

2. Packaged Salads

Market Trend

Another ready-to-eat meal that has shown remarkable growth is packaged salads. Consumers are cooking less at home even as they become more health-conscious. The result is a growing emphasis on packaged salads and expansion of shelf space. Thanks to the growing variety of products available at almost any store, Japanese consumption of purchased salads has been on the rise, up 40% compared to ten years ago, according to the White Paper on Ready-Made Meals 2015. This growth is significant, especially in light of the decline in Japanese per capita consumption of vegetables during the same period. New items have been developed in rapid succession to keep up with the demand. Newly introduced salads tend to reflect the latest U.S. healthy eating trends and include more varied ingredients than before, including more proteins.

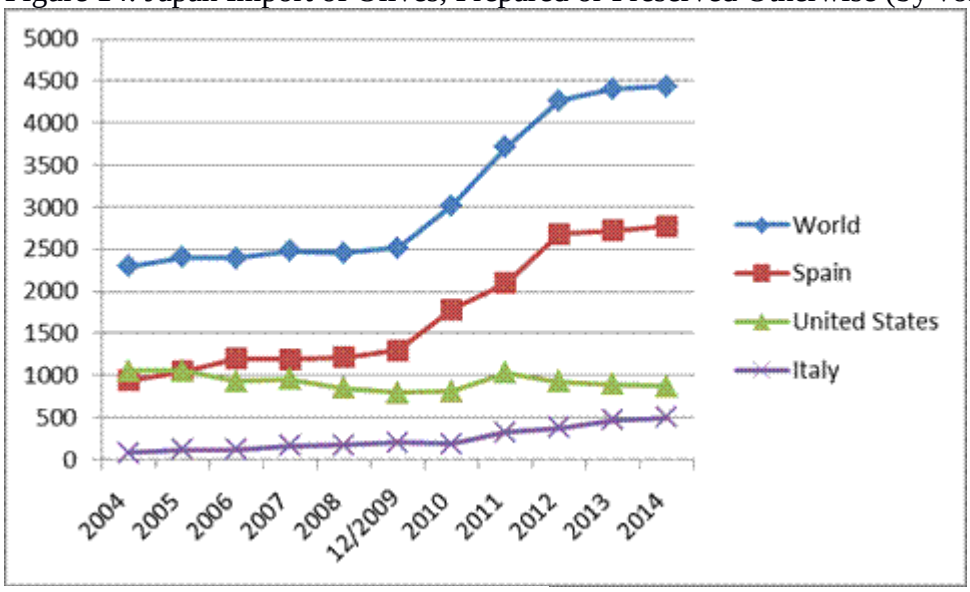
Opportunity

Product developers at retail outlets and their suppliers are eager to offer new varieties of packaged salads to take advantage of this boom. Their growing appetite for new ideas as well as interest in U.S.-style healthy eating represents a great opportunity for U.S. suppliers who can offer high-quality and affordable ingredients including sweet corn, baby corn, olives, various legumes, and fresh vegetables such as celery and kale. Offering unique and attractive usages could be one key to increasing demand. The main constraints are Japanese consumer preference for locally-grown vegetables as well as cost limitations, as mass these products tend to have fixed retail prices, i.e. $1, $2, and $3 per item.

As for olives, per capita consumption in Japan has been low, as it is not an ingredient used in traditional Japanese cuisine. The growing popularity of Italian and Spanish cuisine is starting to change that, and

Japanese imports of canned olives have been growing steadily (Figure 14). Given the current trend, potential opportunities will grow if more buyers become aware of the quality of U.S.-grown olives, and tariffs are removed under the TPP agreement.

Figure 14: Japan Import of Olives, Prepared or Preserved Otherwise (by volume, MT)



(Source: GTA, Japan Ministry of Finance)

3. Deli Pouches

Market Size

Deli Pouches, developed as a convenient alternative to fresh deli food, has been the fastest growing sub-sectors of the Ready-made meals segment. Their long life (typically good for two weeks) and a widespread distribution have been behind this growth. The nation's 55,000 convenience store outlets account for the 60% of these sales. The latest estimate from the Japan Ready-Made Meal Association shows that this sector grew 26.1% in 2013 from the previous year, reaching 250 billion yen. Given their visibly expanding shelf space, especially at convenience stores nationwide, the growth of pouch deli food seems likely to continue. The product offerings are similar to perishable ready-made meals, which include meat dishes, vegetable salads and soups.

Market Trend and Opportunity

Retail giants including 7 & i and AEON remain the biggest developers and producers of deli pouches, as they have extensive retail outlets to expand their sales. In response to the strong growth prospect, leading food manufacturers are also expanding their deli pouch offerings to take advantage of the popularity. Some of them are into offering a "premium" line in addition, using higher-quality ingredients. Just as in fresh deli food, Japanese-style potato salads, i.e. mashed potatoes mixed with some vegetables, have been one of the most popular pouched vegetable products. Soups are also popular.

The brisk pace of new product development represents a great opportunity to U.S. suppliers of various agricultural products including potato products, sweet corn and processed tomatoes.

Unlike deli products, however, pouched items come with a constraint for some U.S. products: labeling showing "produced-in-Japan". While quite a few vegetable dishes in this category count on imported vegetables including bamboo shoots, carrots, and taro from China; and sweet potatoes from Vietnam; hardly any potato products do, at least up to now. Interviews with food processors suggest that their potato salads offered today are so popular that they are unwilling to be motivated to switch their main ingredient to non-Japanese sources.

As shown below, the package of these products almost always come with a printed product name that includes "produced-in-Japan" or "produced in Hokkaido" near the top of the label on the back of the package. Hokkaido is the region in Japan well-known for its quality agricultural products, most notably potatoes, sweet corn, Japanese pumpkin and dairy. One way to address the persistent constraint would be to increase awareness of American-style usages/recipes of U.S. vegetable products that would be unique and suitable to Japanese consumer tastes. Another way is of course to convince Japanese consumers of the safety of U.S. products, or perhaps to brand a certain region with a better image such as California, Oregon, etc.

Deli Pouches available at convenience stores and supermarkets, sold for about $1. The premium type sells for about $1.5. Their names stress produced-in-Japan ingredients. (Left: "Kabocha (Japanese pumpkin) salad with rich flavor of Kabocha"; Center: "Potato Salad made of Hokkaido Danshaku Potato"; Right: "Creamy Mashed Potato with Aomori-grown garlic flavor using Produced-in-Japan potatoes and dairy cream from Hokkaido".)

4. Food Manufacturers (Packaged Soups)

Market Size and Trends

Reflecting a growing demand for ready-to-eat, easy-to-eat, healthy and small portion foods, the Japanese western-style packaged soup market has been growing in recent years. It is projected to grow nearly 3.0% to 114.5 billion yen in 2015, following a similar growth the previous year, according to The Beverage & Food Statistics Monthly. The strong demand has led to a host of new soup products from leading food manufacturers and convenience store chains, including "premium" lines that contain more substantial ingredients than conventional ones.

Opportunity
The latest product development trend, especially a shift to chunkier and healthier soups, has created a new demand for high-quality ingredients that are suitable for soups. While highly price-conscious, the expanding consumer soup market represents a new opportunity for U.S. vegetables including sweet corn, potato products, processed tomatoes and vegetable purees as ingredients. One of the new premium soups (individually packaged, chilled) called "Corn Chowder for Breakfast" introduced by a leading food maker, for example, uses sweet corn from both Thailand and the U.S. One of the keys to adoption is offering the right usages/recipes of U.S. products that would help food manufacturers stand out from their rivals.

Consumer preference for produced-in-Japan products remains a persistent constraint for U.S. suppliers. Just as in the case of pouch deli, the labeling on the package stands as a barrier. However, some products such as locally-produced processed tomatoes can cost nearly 4 to 5 times as much (*10), and the use of imported vegetables has become common for many items other than potatoes. Thus many ready-made meals (excluding tomato juice) tend to use imported tomato products. In using imported ingredients, they tend to go to lower-cost countries for sourcing, however. If branded successfully for their high-quality and other features, U.S. processed tomatoes could become an attractive alternative to locally-produced ones for the premium products. (Figure 11)

(*10) Between the high tariffs on processed tomatoes and local demand, the import quota (low tariff) exits for food manufacturers for years.

5. Frozen Prepared Foods

Market Size (Potato Products)
Japanese production of prepared and deep-fried frozen food declined slightly to 1.3 million MT, worth 560 billion yen (about $4.7 billion) in 2014. Of all the product varieties, potato products, namely croquettes, are among the top 2 items in terms of sales. These deep fried mashed potatoes often contain fillings in the center or other vegetables such as corn mixed in. The annual production of frozen potato croquettes was 168,595 MT in 2014, up 2.8% from a year before despite the sluggish overall economy. Croquettes accounted for 12.8% by volume and 9.2% by value of the total frozen food output. Over 40% of vegetable ingredients in frozen prepared foods are estimated to be potatoes. Croquettes are manufactured for both consumer packages and the deli section at retail locations as well as for foodservice operators. The other biggest item is bagged frozen Japanese udon noodles. Among other kinds prepared frozen foods, the U.S. has been the dominant supplier of onion rings, but no market data is available.

Opportunity
The overall demand for frozen croquettes will likely continue to increase in line with the projected expansion of the ready-made food market in the coming years. The growing market for potato products and sweet corn will present a great potential for U.S. suppliers.

Imported potatoes used by frozen food manufacturers as an ingredient already account for 17.8% of total demand, according to a 2014 study by the MAFF. The U.S., Belgium and China are the non-Japanese suppliers, accounting for 7.1%, 7.1%, and 3.6% respectively. The rest (82.2%) are sourced from Hokkaido, the biggest potato producing prefecture.
As for sweet corn as an ingredient, manufacturers count on imports far more heavily, though its usage

per croquette is fairly limited. U.S. supplied 36.4% of the total demand while Thailand supplied 9.1%. The rest (54.5%) came from Hokkaido.

Key to further growth for U.S. suppliers is to increase awareness of U.S.-grown vegetables as ingredients and convince Japanese industry of the merits of introducing new items using them. Opportunity will grow if Japanese product developers and dietitians who influence them become more aware of the unique applications as well as the taste, the variety and other unique features of U.S. ingredients as something they can take advantage of to differentiate their products.

6. Food Service

Market Size and Trend

The Japanese food industry has shown signs of recovery after years of stagnation, growing to 23.9 trillion in 2013, up 2.9% from the previous year. Growth has been driven by leading restaurant chains' success in attracting customers by offering more higher-quality meals. Consumers of all ages are becoming more selective in their spending. One of the most visible trends over the last few years is a growing popularity in American-style dining options, including a boom in steak houses, premium burger outlets, American-style brunch and breakfast places, and high-end American-style bakeries.

Opportunity

The popularity of American-style cuisine is creating a fresh new opportunity to promote U.S. vegetables as a side dish. Possibilities include baked and mashed potatoes, sweet corn dishes, mix vegetables, and soups such as corn, potato, and clam chowder. Demand for U.S. non-fried potatoes (frozen, dehydrated) had already been on the rise, and the latest trend is reinforcing this demand. The biggest hurdle for adoption seems to be the relatively high cost of U.S. products compared with their third-country competitors.

Similar potential exists for U.S. sweet potatoes (frozen) as a side dish for American cuisine. Sweet potatoes are one of Japanese's traditional staple foods, which are consumed in various ways including baked, steamed, deep-fried, and cooked for tempura.(*11) They are also baked in-store and available as a "to go" item at some supermarkets and convenience stores. Reflecting its popularity, the pouched cooked sweet potato has been one of the main items sold at retailers. U.S. sweet potato fries, however, are a much more different than those available in Japan, and can be offered as a unique alternative. It is a nutritious option, higher in beta carotene than many other vegetables, and would appeal to health-conscious Japanese consumers. While U.S. sweet potatoes have attracted attention, their higher cost relative to French fries, however, has been the main obstacle to their expansion in this extremely price-competitive sector.

Additionally, Japan has lately seen a mini-boom of sweet potatoes as a premium dessert. Certain parts of the country are known for sweet potatoes and successfully branded their unique varieties, boosting demand for them as a snack. One of them, a rare variety, has led the boom thanks to its unique texture and extremely sweet taste. In response to the popularity, scores of confectionary makers are producing premium desserts from Japanese sweet potatoes. An example like this suggests a potential for U.S. sweet potatoes as a snack or dessert as well, perhaps of the sweet potato pie variety.

(*11) Sweet potatoes widely available in Japan have red skin and cream-colored flesh. Premium varieties include ones with orange flesh.

VI. HOW TO ENTER THE MARKET

The Japanese distribution system is complex. Strategies for entering the Japanese market will vary depending on product characteristics, competition, and the market environment. Typically, end users including retailers, food service operators, food processors and manufacturers buy ingredients from wholesalers, who procure them from importers. As an exporter, your point of contact is most likely to be Japanese importers.

However, as we have described above, the Japanese food market structure has been changing. Therefore, as a long-term strategy, we also recommend trying to develop relationships with retailers, distributors, food processors and manufacturers including their product developers and dietitians, who are having an increasing say in determining what ingredients to use. We also recommend bring resources to educate these contacts about the unique features of your products and their various applications.

The best way to find buyers and other contacts in Japan is to attend trade shows such as FOODEX, Supermarket Trade Show, and/or the Food and Beverage Expo (FABEX). This is also a good way to meet learn about the latest trends in Japan. Sending e-mails or trying to "cold call" buyers using buyer's lists is often not effective, due to the high level of competition in Japan and the preference for face-to-face contact.

VII: USDA CONTACTS

If you have any questions or comments regarding this report , please contact the U.S. Agricultural Trade Offices in Tokyo or Osaka at the following addresses:

Osaka (U.S. Agricultural Trade Office)
U.S. Consulate General, Osaka-Kobe 2-11-5, Nishi-tenma, Kita-ku, Osaka 530-8543
Tel: 81-6-6315-5904 Fax: 81-6-6315-5906 E-mail: atoosaka@fas.usda.gov

Tokyo (U.S. Agricultural Trade Office)
U.S. Embassy, Tokyo 1-10-5 Akasaka, Minato-ku Tokyo 107-8420
Tel: 81-3-3224-5115 Fax: 81-3-3582-6429 E-mail: atotokyo@fas.usda.gov

APPENDIX 1: Japanese Imports of Processed Vegetables and Pulses (GTA)

Japanese Imports of Processed Vegetables and Pulses (by volume)

Commodity: _Processed Vegetables & Pulses Total 2012,								
Year To Date: January – December								
Partner Country	Unit	Quantity			% Share			% Change
		2012	2013	2014	2012	2013	2014	2014/2013
World	T	1895990	1821095	1741552	100.00	100.00	100.00	- 4.37
China	T	944748	929416	895346	49.83	51.04	51.41	- 3.67

United States	T	449388	391210	373745	23.70	21.48	21.46	- 4.46
Italy	T	107812	108056	108836	5.69	5.93	6.25	0.72
Thailand	T	118958	108777	95295	6.27	5.97	5.47	- 12.39
Taiwan	T	33539	30758	31595	1.77	1.69	1.81	2.72
Portugal	T	27017	32440	29575	1.42	1.78	1.70	- 8.83
Canada	T	29139	38303	27782	1.54	2.10	1.60	- 27.47
Belgium	T	16282	19501	18877	0.86	1.07	1.08	- 3.20
Vietnam	T	15040	17988	18128	0.79	0.99	1.04	0.78
Spain	T	9868	16674	17257	0.52	0.92	0.99	3.50
Korea South	T	22137	19609	16862	1.17	1.08	0.97	- 14.01
New Zealand	T	19502	17558	16124	1.03	0.96	0.93	- 8.17
Turkey	T	19816	17240	15102	1.05	0.95	0.87	- 12.40
Ecuador	T	14094	12045	14971	0.74	0.66	0.86	24.30
Indonesia	T	11767	11437	10955	0.62	0.63	0.63	- 4.21
Chile	T	18820	11959	9941	0.99	0.66	0.57	- 16.87
Netherlands	T	3882	6388	9791	0.20	0.35	0.56	53.28

(Source: GTA, Japan Ministry of Finance)

Japanese Imports of Processed Vegetables and Pulses (by value)

Commodity: Processed Vegetables & Pulses Total 2012,							
Year To Date: January – December							
Partner Country	United States Dollars			% Share			% Change
	2012	2013	2014	2012	2013	2014	2014/2013
World	3,434,031,717	3,278,136,314	3,190,701,276	100.00	100.00	100.00	- 2.67
China	1,913,901,247	1,857,225,575	1,822,379,831	55.73	56.65	57.12	- 1.88
United States	656,380,045	576,040,212	534,031,093	19.11	17.57	16.74	- 7.29
Thailand	192,165,215	170,325,335	172,204,115	5.60	5.20	5.40	1.10
Italy	128,274,192	133,372,853	142,089,254	3.74	4.07	4.45	6.54
Taiwan	75,954,262	70,916,869	72,154,715	2.21	2.16	2.26	1.75
Korea South	88,820,349	68,090,426	57,151,930	2.59	2.08	1.79	- 16.06
Vietnam	34,360,767	43,068,425	47,611,820	1.00	1.31	1.49	10.55
Portugal	33,803,771	43,818,910	41,557,150	0.98	1.34	1.30	- 5.16
Canada	39,677,153	50,490,143	36,831,522	1.16	1.54	1.15	- 27.05
New Zealand	41,114,762	37,199,844	33,431,930	1.20	1.13	1.05	- 10.13
Ecuador	29,561,037	25,292,191	32,111,506	0.86	0.77	1.01	26.96
Spain	17,170,596	28,029,222	30,548,758	0.50	0.86	0.96	8.99
Belgium	20,065,128	25,889,358	24,352,349	0.58	0.79	0.76	- 5.94
Turkey	28,436,018	23,252,899	22,295,522	0.83	0.71	0.70	- 4.12
Chile	29,734,683	23,194,006	21,418,741	0.87	0.71	0.67	- 7.65
Indonesia	21,076,803	20,284,183	19,045,758	0.61	0.62	0.60	- 6.11
Netherlands	5,560,104	8,509,740	12,479,615	0.16	0.26	0.39	46.65

(Source: GTA, Japan Ministry of Finance)

APPENDIX 2: U.S. Exports of Processed Vegetables to Japan ($ million)

	2008	2009	2010	2011	2012	2013	2014	2013-14 Growth
All Processed Vegetables & Pulses	408.4	445.6	476.1	486.2	551.9	492.1	478.0	-3.30%
Canned Vegetables and Pulses	59.9	53.9	58.9	62.0	69.5	70.6	62.6	-11.32%
Frozen & Dried Vegetables excluding. Potatoes	86.6	98.9	97.3	103.4	107.7	99.8	93.9	-5.88%
Frozen potatoes & Other potato products	261.9	292.8	319.9	320.8	374.6	321.7	321.5	-0.05%

(Source: FAS/USDA)

APPENDIX 3: Breakdown of Processed Vegetables Imported to Japan

By Volume (MT)

Type of Vegetable	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fresh	1,114,274	956,169	719,468	603,127	615,271	820,594	914,982	948,111	854,420	884,735
Frozen	814,264	857,098	850,177	797,208	784,172	852,547	922,518	970,965	940,016	916,555
Stored in Salt	171,479	158,389	143,516	132,843	111,266	111,222	107,258	108,891	99,776	92,510
Processed Tomatoes	216,474	211,090	214,696	216,974	198,810	209,553	234,086	269,954	266,861	246,221
Other *Prepared Vegetables	479,559	489,719	469,918	416,435	382,095	404,241	434,486	449,584	440,959	427,097
Others	115,287	114,638	108,642	97,203	93,284	100,168	105,160	110,708	107,067	103,103
Total	2,911,336	2,787,105	2,506,416	2,263,790	2,184,898	2,498,324	2,718,490	2,858,213	2,709,100	2,670,222

By Value (Yen Million)

Type of Vegetable	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fresh	109,059	107,732	88,311	72,217	65,896	85,321	87,167	97,299	105,311	105,631
Frozen	111,444	127,370	131,316	116,142	108,472	115,444	124,012	136,586	161,548	172,314
Stored in Salt	14,521	13,638	13,241	11,927	9,309	9,748	10,248	10,187	11,513	12,273
Processed Tomatoes	20,450	20,810	24,088	25,335	24,528	21,667	21,986	25,366	31,482	32,586
Other Prepared Vegetables	82,312	87,955	91,413	80,963	68,663	72,174	79,943	82,006	97,117	100,675
Others	35,567	39,787	40,205	32,526	29,408	34,629	35,909	36,871	43,106	46,954
Total	373,352	397,292	388,574	339,111	306,277	338,983	359,265	388,315	450,076	470,434

(Source: ALIC, Japan Ministry of Finance)
* “Other Prepared Vegetables” include canned vegetables and vegetable juice.

APPENDIX 4: Tariff Elimination Schedules (Partial)

Potato products

HS Code		Current Tariff	Tariff Elimination Schedule	
0710-10000	Frozen, uncooked, or cooked in steam or boiling water	8.5%	To be eliminated in 6 years	
0712-90050	Dried, cut or diced, not prepared	12.8%	To be eliminated in 6 years	
1105-10000	Potato flour, meal, and powder	20.0%	To be eliminated in 11 years	
1105.20000	Dehydrated potato flakes, granules, and pellets	20.0%	To be eliminated in 6 years	
2004-10100	Frozen french fries	8.5%	To be eliminated in 4 years	
2004-10210	Prepared frozen mashed potatoes	13.6%	To be eliminated in 6 years	
2004-10220	Other prepared/preserved frozen potatoes	9.0%	To be eliminated in 6 years	
2005-20100	Prepared mashed potatoes and flakes, not frozen	13.6%	To be eliminated in 11 years	

2005-20210	Other prepared/preserved potatoes, not frozen	12.0%	To be eliminated in 6 years	
2005-20220	Other prepared/preserved potatoes, not frozen	9.0%	To be eliminated in 8 years	

Sweet corn (frozen, canned)

0710-40000	Frozen sweet corn, steamed or cooked in water	10.6%	To be eliminated immediately
200190120	Sweet corn, sugar added, vinegar	10.5%	To be eliminated in 6 years
200190230	Sweet corn, no sugar added, vinegar	7.5%	To be eliminated in 6 years

Processed Tomato Products

200210000	Tomatoes, Whole or in Pieces, Prepared	9.0%	To be eliminated immediately
200290100	Tomatoes, Prepared or Preserved, Other than Whole or In Pieces, Containing Added Sugar	13.4%	To be eliminated in 6 years
200290219	Tomato purees or Tomato Paste, Prepared or Preserved, in Airtight Containers, No Added Sugar, (Other Than Those for the Pooled Quota)	16.0%	To be eliminated in 6 years
200290229	Tomato Puree and Tomato Paste, Prepared or Preserved, No added Sugar, Excluding Airtight Containers (Other Than Those for the Pooled Quota)	16.0%	To be eliminated in 6 years
200290290	Tomatoes, Prepared or Preserved, Other Than Whole or In Pieces, Tomato Puree and Tomato Paste, No added Sugar	9.0%	To be eliminated immediately

210320010	Tomato Ketchup	21.3%	To be eliminated in 11 years
210320090	Other Tomato Sauces	17.0%	To be eliminated in 11 years