Deloitte. Access Economics

Market opportunities for Queensland agribusiness from FTA with Japan

FINAL REPORT



Executive summary

Background

Australia recently signed Free Trade Agreements (FTAs) with China (June 2015), Japan (July 2014) and South Korea (April 2014). These agreements substantially reduce or remove tariffs on a range of Australian food and agribusiness export products including beef, grains, horticulture, seafood and processed foods, which together represent a large share of Queensland's total agricultural production and exports.

Deloitte Access Economics has been engaged by Trade & Investment Queensland (TIQ) and the Queensland Department of Agriculture and Fisheries (DAF) to identify opportunities and barriers within Queensland agribusiness sectors arising from the FTAs.

The project has been undertaken in two stages.

Stage 1 highlighted the commodities which showed the most promise for increased trade and investment between Queensland and China, Japan and South Korea. These commodities were identified through analysis of tariff reductions, Queensland production, exports, consumption trends and major competitors as well as consultation with Queensland agribusiness stakeholders.

Stage 2 analysed these commodities in more detail to identify any non-tariff barriers, supply chain constraints, how the market operates and their Strengths, Weaknesses, Opportunities and Threats (SWOT). This profiling was informed through further desktop research and consultation with the Queensland Government, industry associations, traders, and selected in-market contacts in China, Japan and South Korea.

This document is the **stage 2 report for Japan** and profiles the selected commodities of beef, mandarin, mango, macadamia, salad products and aquaculture.

Key findings

Beef

Beef is by far the largest opportunity for Queensland agribusiness into Japan. This is because it is Queensland's largest agribusiness sector, the tariff reductions are substantial and supply chains and systems are already well established and operating effectively. There is potential for growth from continued focus on consumer demand for assured food safety. In addition, it has been identified that the trend in Japan is towards that is redder and leaner beef. The trend towards leaner meat plays to Queensland's advantage of free-range and grass-fed product, and also opens up opportunities for larger cuts of meat such as roasts and large steaks.

Executive summary

Key findings (cont.)

Mandarin

The 17% tariff for mandarins into Japan will be eliminated over 16 years, which is a sizeable, albeit gradual, reduction that will increase price competitiveness. Non-tariff barriers including certification and phytosanitary requirements to eradicate fruit fly, however, are more costly than tariffs. New methods or protocols to reduce biosecurity costs would increase the competitiveness of Queensland mandarins.

Japanese consumers prefer easy-peel, seedless, sweet and brightly coloured class one mandarins. A key opportunity for Queensland is for further selective breeding of Murcott mandarins, the predominant export variety out of Queensland. It should be noted, however, that Queensland mandarin exports to Japan have recently declined for unknown reasons. Further research may be needed to understand and respond to the decline in mandarin exports.

Macadamia

The 5% tariff on macadamias was eliminated under the FTA. Australia is a major exporter of macadamias for the kernel market to Japan and enjoys a price premium over its competitors. While Japanese demand appears to be steady for macadamias, Queensland exports have been declining in recent years. Currently, Australian macadamia kernels are purchased on a wholesale basis and repackaged and processed by Japanese brands. There is a potential opportunity to undertake retail-ready packaging in Queensland and influence greater segmentation of Queensland products to create a super-premium category of nuts based on higher quality and Australia's status as the native home of macadamias.

There is also potential to increase the macadamia production area in Queensland, however the relatively small size of existing orchards and the long lead times to crop maturity may restrict large scale investment. Any truncation of this lead time, for example through faster seedling development or accelerated orchard establishment techniques, could improve the attractiveness of macadamias for investors.

Mango

There is high demand for counter seasonal supply of Australian mangoes. The FTA resulted in the elimination of the 3% tariff on mangoes. The main barrier to exporting mangoes from Queensland is the requirement for vapour heat treatment to control fruit fly, which is costly, compromises quality and reduces shelf life. Only the best mangoes can withstand this treatment which presents a risk to exporters. Furthermore, the limited number of treatment facilities in Queensland creates a supply chain bottleneck, particularly during the peak season. There are a number of alternatives to control fruit fly in export shipments, however protocols need to be negotiated.

Executive summary

Key findings (cont.)

Salad products

Tariffs of up to 13% on vegetable and salad products will mostly be eliminated within 10 years. There is also strong demand for vegetable and salad products in retail pre-packed salads and vegetable mixes, home meal replacement and the foodservice sector.

Salad products into Japan is a relatively new market for Queensland. The development of key trading partnerships is the most pressing need. The foodservice sector is perhaps the strongest opportunity for Queensland exporters because consumers often have a preference for locally grown produce and country of origin is not disclosed to the same degree as for retail products.

Queensland will face strong competition from other low cost vegetable producers such as China and the USA. The main opportunity for Queensland vegetable producers may be in providing a complementary supply at times where local producers and competitors cannot meet demand. For example, the supply of lettuce, carrots and onions when prices are high or the counter-seasonal supply of broccoli or asparagus.

Transport is a limiting factor on the export of vegetables from Queensland to Japan. For example, there are limited direct flights between Brisbane and Tokyo, capacity constraints on connecting flights, and limited cold supply chain capacity.

Aquaculture products

Tariffs of 3% and 4% were eliminated for prawns and yellowfin tuna upon the commencement of the FTA. Prawns are the main aquaculture export product from Queensland to Japan. While Queensland is not currently a large player in the Japanese market for seafood products, there is likely to be ongoing stable demand from Japanese consumers for clean, safe, price-competitive and value-added products. Australia has a reputation for providing fresh, raw, clean and safe seafood. Japanese investors are also looking for opportunities to export from Queensland to other markets such as China.

A key limiting factor for Queensland aquaculture production and investment attraction is the strict environmental approvals necessary to establish any coastal and offshore aquaculture facilities on the east coast which are needed to protect sensitive ecosystems such as the Great Barrier Reef.

Contents

Intr	roduction	
•	Background	6
•	Approach of stage 2 analysis	8
•	Structure of report	10
Сс	ommodity profiles	
•	Beef	11
•	Mandarin	18
•	Mango	25
•	Macadamia	32
•	Salad products	39
•	Aquaculture products	46
De	foroncoc	E 2-
ĸe	nerences	52

Background

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Deloitte Access Economics has been engaged by Trade & Investment Queensland (TIQ) and the Queensland Department of Agriculture and Fisheries (DAF) to identify opportunities and barriers within Queensland agribusiness sectors arising from the FTAs.

Stage 1 analysis (March 2016)

In March 2016, Deloitte Access Economics completed an initial review of the Queensland commodities which showed opportunities for increased trade and investment between China, Japan and South Korea. The review focused on four broad categories of interest to TIQ and DAF which were beef, grains, horticulture and seafood and aquaculture.

A key objective of this first stage review was to identify which specific commodities within the broader categories of beef, grains, horticulture and seafood and aquaculture presented opportunities for increased trade and investment. To answer this, the following six questions were posed:

- 1. What does Queensland currently produce?
- 2. What does Queensland currently export to these markets?
- 3. Who does Queensland compete against in these markets?
- 4. What are Queensland's advantages and disadvantages compared to these competitors?
- 5. What is the demand for imported produce into these markets?
- 6. What is the strength of the tariff changes from the FTAs?

Separate analysis was undertaken for each question and agriculture category. These analyses were then brought together in an **'opportunity map'** which showed the strongest opportunities.

The opportunity map plotted individual commodities for each of the three FTA countries according to Queensland's export value, Queensland's competitive advantage represented by market share, the strength of the FTA through the change in tariff after 10 years and consumption growth. This map highlighted where the opportunities for increasing agribusiness trade and/or investment may be the strongest for each particular country. The sectors with a large export market, large market share, high tariff reductions, and strong consumption growth were considered the commodities with the greatest potential for growth. The opportunity map for Japan is shown in the next page.

Background (cont.)



From the above opportunity map, consultations with industry stakeholders and further analysis of market access, it was identified that **beef, macadamia, mandarin, mango** and **aquaculture products** represented the strongest growth opportunities for Queensland agribusiness products into Japan. In addition, although not represented on the map, it was also identified through consultation that **salad products** and lettuce in particular were an emerging growth area for Queensland agribusiness into Japan even though trade was not currently high.

Stage 2 of the report provides more detailed profiling of these six commodities.

Approach of stage 2 analysis

The objective of this second stage report is to profile the six identified commodities of **beef**, macadamia, mandarin, mango, aquaculture products and salad products for Japan in more detail. In particular, this report aims to answer the following questions:

- 1. What does the FTA mean for the relevant commodity?
- 2. What is the level of demand for the commodity and what trends are driving this demand?
- 3. What is Queensland's ability to supply? What are the trends in production and export for the commodity?
- 4. How does Queensland compare to other key export competitors into this country?
- 5. How does the market operate? Are there market access or supply chain barriers?
- 6. Who are the key players in the Japanese market?

The above analysis is then summarised in a strengths, weaknesses, opportunities and threats (SWOT) analysis for each commodity.

The above key questions have been addressed through a combination of desktop research, analysis of publicly available data and consultation with both local stakeholders and potential buyers and investors in Japan.

In relation to **local consultations,** interviews were held over the period of June to November 2016 with key industry associations and the Queensland Trade Commissioners. The **local stakeholders** consulted were:

- Meat and Livestock Australia (MLA), with information sourced directly from MLA offices in Japan
- Macadamia Society
- Australian Mangoes Industry Association
- Citrus Australia
- Food and Grocery Council
- Queensland Aquaculture Industries Federation
- OneHarvest
- The Queensland Japan Trade Commissioner.

The broad themes covered in the local interviews included:

- The demand and supply aspects of the commodity such as consumer demand, investment willingness and Queensland supply advantages.
- The challenges or barriers to export or investment such as market barriers and local or in-market supply chain challenges.
- The appropriate responses to opportunities and threats for Queensland agribusiness.

Approach of stage 2 analysis (cont.)

Three interviews were conducted with **potential buyers and investors** in Japan. The organisations have been anonymised. The three stakeholders were:

- A company specialising in sales and processing of fresh beef and pork. This company had 2015 sales worth \$17 billion USD. The expert had more than 10 years of relevant experience in exporting beef from Australia and importing beef to Japan.
- A food importing company which is the leading macadamia nut importer in Japan. The expert had 30 years of relevant experience.
- A food importer in specialised fruits and vegetables including lettuce. The company had annual sales of around \$500 million USD. The expert had more than 15 years of relevant experience.

Seven key questions were posed to these in-market contacts which were:

- 1. What is the level and nature of current and future demand?
- 2. Who are the direct in-market buyers in each market?
- 2. What are buyers looking for in each commodity?
- 3. How does Queensland produce compare with other importing countries?
- 4. What would potential investors be looking for in Queensland agribusinesses?
- 5. What are the main barriers to exporting from Queensland?
- 6. What actions should the Queensland Government and agribusinesses take to increase trade and investment?

Structure of commodity profiles

This remainder of this document profiles **beef**, macadamia, mandarin, mango, salad products and aquaculture products.

Consistent with the key questions for stage 2, each commodity profile outlines:

- FTA changes including specific tariff reductions and other relevant provisions
- The level of demand for the commodity including consumption trends and drivers
- Queensland supply, such as trends in production and exports
- Analysis of Queensland's competitors in terms of prices, margins and other factors of competitive advantage and differentiation
- Key elements of market operation such as technical or supply chain barriers
- SWOT analysis
- Opportunities for trade and investment.

Beef overview



Beef and beef products were identified as the largest opportunity for Queensland's trade and investment growth to Japan in the stage 1 report, which identified that:

- While Japan's beef consumption has been declining over the past three years, imports are becoming more important to meet demand over domestic production
- Japan is an established beef market for Australia, with a mutually respectful trading relationship
- Australia has a dominant market share. Between 2012 and 2014, Australian beef consisted of 49% of Japanese beef imports. The other major competitor was USA with 40% of imports
- Queensland has a large share of Australian exports to Japan, consisting of 68% of Australian exports between 2012 and 2014
- The tariff reductions applied to Australian beef are expected to serve to further strengthen exports.

FTA changes

The FTA with Japan will result in tariff reductions over 20 years for beef products. In the first year of the FTA, fresh and frozen beef experienced tariff reductions of 6% and 8%, respectively. Further reductions are incremental changes of less than 1% per year until 2032, after which there are no further tariff reductions. As a result of the FTA, in 2015, Australia enjoyed a tariff advantage for fresh and frozen beef over other key countries exporting beef to Japan.

There are no tariff reductions for beef offal under the FTA, although an increase in the quota was negotiated.

Tariff reduction schedule (18)

Beef	Base rate – 2014 (%)	Yr2	Yr4	Yr6	Yr8	Yr10	Yr12	Yr14	Yr16	Yr18	Yr20
Beef – fresh	39	32	30	29	28	26	25	24	24	24	24
Beef – frozen	39	29	27	27	26	26	25	23	21	20	20
Beef offal – frozen	13	13	13	13	13	13	13	13	13	13	13
Beef offal – fresh	13	13	13	13	13	13	13	13	13	13	13

Other FTA conditions

A tariff rate quota is applied for edible offal of 17,000 tonnes in year 1, increasing to 21,000 tonnes for the 11th and subsequent years.

Removal of global snapback tariffs, a 50% tariff import threshold, for Australia.

Competitor tariff comparison (17)

Country	2015 tariff
Australia	30%
United States	38.5%
New Zealand	38.5%
Mexico	38.5%



Japanese beef demand

In recent years, both total consumption and per capita beef consumption have declined. Total consumption has declined faster than per capita consumption partly because Japan's total population is declining. However, while beef consumption is declining, there is an ongoing need for imports to supplement domestic production.

One local stakeholder noted two key consumer trends in the Japanese market. The first is an ageing population that is increasingly health conscious with increasing demand for redder, leaner meat. There is also increasing demand for larger serving volume, such as roast beef and larger steaks. There are also niche opportunities such as premium cuts and organic.



Japan beef consumption ⁽¹⁾

The younger generation has an emerging preference for red meat over seafood.

One in-market stakeholder noted that preferences vary depending on the consumer segment. For example, for retail consumers, quality and safety are the most important factors (although consumers are price sensitive and tend to substitute away from beef and choose pork and chicken if prices rise). For fast food service outlets (e.g. McDonalds), consumers prefer lower priced products, while for restaurants quality is the key factor. The premium beef product in Japan is locally produced Wagyu, fetching higher prices than beef imports.

Consumer channels and key players

Consumer channels for fresh and chilled meat are fairly segmented. One in-market stakeholder estimated that both retail and foodservice channels account for 30% each of meat distribution, while 40% is food processing.

Of the retail channels, supermarkets are the largest provider of grocery food in Japan and cater to a range of consumers. Key players are AEON, Ito, Yokado, Uny, Daiei and Life Corp Speciality. Higher end department and general merchandise stores, such as Ito-Yokado and Jusco, also sell meat and other fresh produce. Local specialty food stores are also an important part of the retail food market, but are generally less accessible for exporters due to the higher number of paths to market involved and their often localised nature. Convenience stores are an increasingly important consumer channel. This is seen in the proliferation of stores like 7/11, Lawson, Family Mart and Sunkus. These stores are generally held in higher regard than western convenience stores, and stock a range of healthy food and fresh produce.

The food services channels are an important channel for building familiarity with meat dishes or developing innovative products, cuts or other differentiated product.

Online channels are also becoming increasingly popular as well as "omnichannel retail" which refers to multiple retailing channels (stores and eCommerce). A key trend in distribution channels is towards direct retailer and consumer small-lot imports.

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Queensland beef supply

The value of beef production in Queensland has increased in recent years. This has been driven by growth in both volumes and prices, but price growth has been the dominant factor.

Queensland production can be subject to seasonal conditions which may impact continuity of supply.

Following significant turnoff driven by poor seasonal conditions and high prices in recent years, the Queensland herd is currently in a rebuilding phase.

Queensland beef exports

The value of beef exports to Japan was almost \$1.4 billion AUD in 2015, which was the highest of the last four years. This was mainly driven by higher global beef prices rather than higher volumes. The volume of Australian beef exports has gradually declined over the last 10 years. Japan is Australia's largest chilled and grain-fed export market as well as the largest market for offal, including high value beef tongue.

Queensland has a reputation for producing quality beef for the Japanese market. In-market consultation noted that quality, safety, long shelf life, consistent supply and stable prices are





Queensland beef exports to Japan⁽⁷⁾

Volume of production

Fresh beef

250,000 200,000 800 150,000 600 100,000 400 50,000 200 0 Value Value Value Value Volume Volume Volume Volume 2012 2013 2014 2015

Frozen beef

key attributes of Queensland beef. It was noted that Queensland exporters have researched and consistently meet Japan's regulations. In contrast, other exporting countries, especially the USA, often only meet their own domestic regulations. The in-market stakeholder noted that Queensland is known for consistent supply and prices. The stakeholder is looking for a long-term relationship. It was noted that other export countries, such as the USA, have greater price fluctuations. Furthermore, Queensland offers on-time delivery which is important for processors, wholesalers and distributors. The stakeholder noted that Queensland is focused on customers which is a key point of differentiation.

1.600

Şu

300,000

Frozen offal

Queensland's key competitors

While Australia is the largest source of beef for Japan, Import market share 2012-2015 ⁽⁹⁾

the average price received is slightly lower than that received by our major competitors – the USA and New Zealand.

Research has indicated that Japanese consumers have a higher willingness to pay for quality beef, as measured by Meat Standards Australia grading, than that of Australian and USA consumers.

Recent agri-benchmark results indicated that total costs of cow-calf production are somewhat lower in Australia than the USA ⁽⁸⁾. However, American producers have lower processing costs and higher levels of profitability.

USA beef is in a stage of re-entering the Japanese market after cessation of the Bovine Spongiform Encephalopathy (BSE) ban, and are becoming more price-competitive with tariffs falling to 9%. There is also improving supply conditions in the USA with the herd recovering from a period of drought.

Brazil has also been re-granted access for beef products into Japan following a BSE ban introduced in 2012. As in other markets, Brazil could become a serious competitor to Queensland beef in Japan.

Queensland has an advantage of shorter distance market over its competitors and is comparable on infrastructure quality and innovation. However, Australia's regulatory burden and input costs are higher than the USA and Mexico.



Competitor prices and volumes 2015 ⁽⁹⁾



Distance to Cost of inputs² **Quality of** capacity¹ Australia 6,507 (Qld.) 36 83 35 80 23 10,736 USA Δ 17 13 51 4 9,794 New Zealand 6 169 29 36 24 Mexico 11,536 42 65 123 59 114

Notes: ¹Indicator sourced from the World Economic Forum, Global Competitiveness Index 2015-16 ²The 'pump price for gasoline' sourced from World Bank's Development Indicators Database 2016 is used as a proxy for the cost of inputs

Key factors of competitiveness

14





Supply chain and trade barriers



One local stakeholder noted that the supply chain from farm gate to the export terminal is well-established. However, many beef producing regions of Queensland have considerable distances to travel to the export terminal and there are constraints on road transport for heavy vehicle configurations. One in-market stakeholder mentioned that cattle farms in Queensland are smaller than other exporting countries so Queensland does not benefit from economies of scale. This in-market stakeholder expressed that, in general, Queensland beef is more expensive than product from the USA, which is due to the size of cattle farms. A further disadvantage is the lack of grain feed standards for cattle. Other exporting countries have well defined grain feed standards and, while there are standards in Australia, these standards are not clear. This means importers often require clarification from exporters.

Through consultation, one local stakeholder expressed there were no restrictive trade impediments for beef exports to Japan. The trade protocols are established for both chilled and frozen product, with commercial and bilateral protocols also in place.

There are 27 approved ports of entry in Japan for meat products. Major ports of unloading for Australian beef are Tokyo, Nagoya, Osaka and Yokohama. Other key ports include Akita, Chiba, Funagawa, Hachinohe, Ibaraki, Kobe, Noshiro, Sakata, Takamatsu and Yokosuka. Key airports for airfreight are Narita (near Tokyo), Kansai, Osaka Bay and Chubu. Once landed, the cold store and distribution infrastructure for beef in Japan is world-class. Once chilled beef reaches Japan it has a shelf-life of over two months. One in-market stakeholder noted that specialised importers and large trading companies such as C.Itoh and Mitsubishi import beef. Typically, these companies just handle importation, that is, they place orders and pay invoices. Imported beef then goes straight to processors, wholesalers and distributors. The importers buy beef on behalf of these customers but are generally not engaged in actual wholesale and distribution.



Beef importers provide around 90% of beef imports to either wholesalers or processors, and a much smaller volume direct to retail channels. Meat processing occurs with Japanese companies using a mix of imported and local ingredients. The consumer channels for processed product is exclusively store-based retailing between supermarkets and smaller grocers. One local stakeholder noted that some value-adding niche opportunities may exist for Queensland products not produced by Japanese companies, such as meat pies and pre-cooked curry.

SWOT analysis



- market share for Japanese beef imports, with Queensland the main Australian supplier.
 Japan is Australia's largest chilled and grain-fed export market as well as the largest market for offal including high value beef tongue.
 Ongoing need for imports to supplement domestic Japanese production.
- Convenience food market is strong and growing through success and proliferation of convenience stores. Queensland beef is actively promoted in this market by Japanese distributors. The key target for this market is ageing consumers.

Established market with agreed protocols and long-

standing supplier relationships. Australia has 50%

- Younger generations have an emerging preference for meat over seafood.
- Tariffs of 38.5% on fresh products will be reduced to 23.5% over 15 years and frozen products will be reduced to 19.5% over 18 years.
- Removal of global snapback tariffs, a 50% tariff import threshold, for Australia.
- Opportunities

Strengths

- The ageing population is increasingly health conscious. The macro trend is towards redder, leaner meat which plays to Australia's advantage. This trend also presents opportunities for larger serving volume, such as roast beef and larger steaks.
- A niche opportunity related to health consciousness is for premium grass-fed and organic beef.
- Some value-adding niche opportunities may exist for products not produced by Japanese companies, such as meat pies and pre-cooked curry.

• While the sheer size and growth of the convenience food market presents opportunities for Queensland beef, it is also a threat as pre-packed meals, such as bento boxes, have small amounts of protein.

Projected population decline and lower

other markets.

imported product.

years.

economic growth outlook compared with some

The volume of Australian beef exports to Japan

has been in gradual decline over the last 10

• Japan-produced beef, such as Wagyu, is

considered by consumers to be a superior

product, fetching much higher prices than

 High processing costs in Australia mean that processing is usually done in a Japanese plant

closer to market such as Starzen and Hannan.

- USA product re-entering Japan market after cessation of the Bovine Spongiform Encephalopathy (BSE) ban, and becoming more price-competitive with tariffs falling to 9%.
- Improving supply conditions in the USA with the herd recovering from a period of drought.
- A biosecurity outbreak in Australia or breaches of protocol would threaten the clean, green image and be potentially catastrophic for the Queensland beef sector.

Threats

Key opportunities and activities



Beef is a large, sustainable opportunity for Queensland agribusiness into Japan. This is because beef is already Queensland's largest agribusiness sector, Japan is a long-standing trading partner in beef, the FTA will result in tariff reductions and supply chains are mature.

In order to maximise the Queensland beef trade and investment opportunity to Japan, the following opportunities have been identified.

- There is a growing health-consciousness amongst Japanese consumers due partly to an ageing
 population, and the macro trend is towards beef that is redder and leaner. This plays to Queensland's
 advantage of free-range and grass-fed product. This trend also presents opportunities for larger serving
 volume, such as roast beef and larger steaks that are leaner, rather than smaller marbled cuts.
- While most value-adding of Queensland beef is undertaken in Japan, there may be an opportunity for Queensland processors to develop some more niche value-added products that are not currently in the scope of Japanese processors but are common in Australia, such as meat pies and pre-cooked curry.
- Further promotion of the regional benefits of the FTA for beef exports could assist in creating greater community awareness and self-directed identification of trade opportunities with Japan.
- The main channels to market for Queensland produce are through specialised importers and large trading companies who on-sell to retail, foodservice and meat distributors.
- The detection of cattle infected by BSE in the USA turned many Japanese consumers off beef altogether, and particularly imported beef. Bringing these consumers back to the product would be of value to Queensland producers. Whatever growth occurs, it is important that the industry works with Japanese buyers to provide ongoing reassurance as to Australia's food safety and value credentials so that loyalty can be maintained.
- One in-market stakeholder expressed that grain feed standards for cattle were unclear. Ensuring these standards are mentioned and communicated well in dealings is important to ensure standards are understood by importers.



Mandarin overview

Mandarins were identified in the stage 1 report as being a key opportunity for Queensland's trade and investment growth to Japan. The stage 1 report identified that:

- Mandarins, along with oranges, have the largest tariff reductions under the FTA for horticultural products, with a 17% tariff eliminated over 15 years
- Mandarins have phytosanitary market access to Japan
- · Japan is an established market for Australian mandarins
- Consumption is stable for horticultural products to Japan
- Australia does not have a dominant market share position for mandarin imports, but is counter-seasonal to the USA, the leading supplier, so is not directly competing in the same seasonal window.
- Queensland has a large proportion of Australian mandarin exports to Japan.

FTA changes

The FTA with Japan will result in the 17% base rate (in 2014) being eliminated in 15 equal increments, so that by 2029 mandarins from Australia will be tariff free. Compared to its competitors, Australia had a lower tariff on mandarins in 2015 as the FTA began to take effect.

Tariff reduction schedule (18)

	Base rate – 2014 (%)	Yr2	Yr4	Yr6	Yr8	Yr10	Yr12	Yr14	Yr16	Yr18	Yr20
Mandarin	17	15	13	11	9	6	4	2	0	0	0

Other FTA conditions

No further restrictions imposed under the FTA

Competitor tariff comparison (17)

Country	2015 tariff	Comment
Australia	15%	0% by 2030
Unites States	17%	
Israel	17%	
New Zealand	17%	
Taiwan	17%	

Japan mandarin demand

Japan's total mandarin imports have declined over the past four years from around 20,000 tonnes in 2012 to around 12,000 tonnes in 2015. The reasons for this decline are not clear.

Consultations suggested that Japanese consumers have a preference for domestically produced fruit, with some regions having a brand identity. Imported product, which does make up the majority of fruit and vegetables consumed in Japan, tends to compete on price and be used in the processing and foodservice industries.

Consultations noted, however, that Australian fruit to Japan is for the premium market for Class 1 fruit, therefore only fruit that is of high quality, with tight shiny skin and no blemishes is sent to Japan.

Consultations also noted that Japanese consumers



Japanese total mandarin imports ⁽⁹⁾

prefer sweet and convenience characteristics of seedless and easy peel mandarins. The Afourer mandarin that is grown predominantly out of the Riverland region in south east Australia is known for these attributes. The Murcott variety, which is the dominant export variety out of Queensland is seen to be a seedier variety. Consultations suggested that reduced seediness and easy peel characteristics could be bred into the Murcott over time. In regards to sweetness characteristics, it was mentioned in consultation that there has been some Japanese co-investment in the southern Australia citrus industry, in particular in High Brix (sugar content) fruit grading machines.

Consumer channels and key players

After import, fruit is purchased at wholesale markets by retailers, foodservice channels or processors. It is estimated that around 40% of fresh food is used in the foodservice sector and 40% in the retail sector.

The most important retail channel for mandarins are grocery stores, high-end department and general merchandise stores, such as Aeon, JUSCO and Ito-Yokado. Large supermarket chains are more likely to bypass the wholesale stage of the supply chain and source direct from suppliers.

This is followed by traditional small grocers and food specialists, however the number of independent grocery stores is declining in Japan. Increasingly consumers are purchasing through 24-hour supermarkets and convenience stores as well as online retailing.



Queensland mandarin supply

The overall value of mandarin production in Queensland has been increasing steadily.

Queensland is the largest producer of mandarins in Australia, consisting mainly of Imperial and Murcott varieties. Imperials are produced for the domestic market while Murcott is the most common export variety from Queensland.

The Murcott has a relatively long marketing season from June to September given the geographical spread of plantings in Queensland.

In consultation, it was suggested that providing consistency and quantum of supply was a challenge for some growers and that there was an opportunity for further grower collaboration to provide this scale and consistency.

Queensland mandarin exports

Queensland exports of mandarins to Japan has been in decline for the last four years. Through consultation, the reason was uncertain, although it does follow the overall trend of Japan reducing its total mandarin imports.

While Australia has a different seasonal window, compared to northern hemisphere producers, such as the USA. Australia exports during Japan's summer and therefore competes with summer fruit such as melons and grapes.

Queensland mandarin exports to Japan⁽⁷⁾

Volume of production





Queensland mandarin production (3-6, 10-13)



Queensland's key competitors

Australia held a 15% import market share in the Japanese mandarin market between 2013 and 2015. Queensland exports to Japan represented one third of Australian mandarin exports to Japan. The USA is the dominant supplier of mandarins to Japan, with a 68% market share. New Zealand is also a key player with a 10% market share.

Australian mandarins appear to receive a lower price compared to USA imports at around \$2 per kilogram. New Zealand also attracts a higher price compared to other competitors in the space. However, this price may be due to a different product mix as international trade data for mandarins also includes tangerines and satsumas.

The Riverland region producers in Victoria, New South Wales and South Australia have an advantage over Queensland producers in that they have recognition as a fruit fly pest free area so product does not have to undergo cold treatment. The main export variety out of the Riverland is the Afourer mandarin and consultation suggested that this was a popular variety in Japan.

In terms of key competitiveness factors, Australia has a clear advantage in distance to market but ranks lower on labour efficiency and regulatory burden than the USA and New Zealand. Australia is comparable across innovation capacity and infrastructure.



Import market share 2013-2015 (9)



Country **Distance to** Cost of inputs² **Quality of** market (km) Australia 6,507 (Qld.) 36 83 35 80 23 USA 10,736 4 17 13 51 4 New Zealand 9,794 6 169 29 36 24 3 Israel 8,279 45 188 60 98

Key factors of competitiveness

Notes: 1Indicator sourced from the World Economic Forum, Global Competitiveness Index 2015-16 ²The 'pump price for gasoline' sourced from World Bank's Development Indicators Database 2016 is used as a proxy for the cost of inputs

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Supply chain and trade barriers





One stakeholder noted that there is a well-established and reliable supply chain within Queensland for mandarin exports. Most growers pack and market their own product, while commercial fruit exporters handle most export trade relationships.

A key export barrier is that all fruit must undergo cold treatment (while in transit) to comply with phytosanitary requirements to control fruit fly with accompanying strict certification requirements. Japan also has strict maximum residue limits (MRL) for certain pesticides. Any breach of these limits can lead to rejection or downgrading of the consignment.



Mandarins are typically transported by sea, due to the need for in-transit cold treatment. Major ports of unloading include Tokyo, Nagoya, Osaka and Yokohama. Other key ports include Akita, Chiba, Funagawa, Hachinohe, Ibaraki, Kobe, Noshiro, Sakata, Takamatsu and Yokosuka. It was noted by one stakeholder in consultation that certification requirements to substantiate the absence of fruit fly can lead to substantial delays in unloading mandarins at the destination port.



Produce will generally move from exporters to importers and onto Japanese trading companies, such as Union and AISS, or fruit merchants before making its way to a wholesaler. Fruit is purchased at wholesale markets by retailers, foodservice channels or processors.

SWOT analysis



Weaknesses

Threats

Strengths	 Established production systems and supply chain into Japan. Australian fruit is perceived to be of high quality. Japan is a premium market for Class 1 fruit. From 2011 to 2015 Australia was the second largest provider of mandarins to Japan behind the USA. Australian mandarins are counter-seasonal to northern hemisphere suppliers. There is relatively little competition for mandarin supply from other southern hemisphere countries. 	 Mandarin production in Victoria and New South Wales is competing with Queensland Murcott mandarins. The Afourer mandarin, which is not grown easily in Queensland, is a popular variety with Japanese consumers. While Australia has a seasonal advantage, it also supplies into Japan's summer and therefore competes with summer fruit such as melons, grapes etc. The Murcott variety is more difficult to peel and more seedy than some other varieties, such as Afourer, so does not fully meet the consumer preference for convenience. Costly phytosanitary and certification requirements to control fruit fly and strict minimum residue limits (MRLs). The Imperial variety (common in Queensland) does not travel well, so it is not well suited to export markets.
Opportunities	 Tariff of 17% reduced to 0% over 16 years Further development of the Murcott and other varieties suited to Queensland conditions to increase easy-peel traits and reduce seediness. Further Queensland grower collaboration on the Japanese market to provide more consistency of supply. 	 The regulatory protocols in the Japan market (e.g. MRLs) make exporting a risky proposition. If limits are breached, shipments can be rejected or the quality downgraded. Continued overall decline in Japanese demand for Queensland mandarins, as consumers continue to substitute towards other varieties, such as Afourer, and other summer fruit.

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In order to maximise the Queensland mandarin trade and investment opportunity to Japan, the following opportunities have been identified.

- Japan's mandarin imports have declined recently for reasons not fully clear. Further market research is warranted here to understand the reason for the decline and to give consideration to actions or initiatives to arrest the trend.
- Development of varieties that meet consumer preferences in Japan such as easy peel, seedless
 mandarins that still deliver on taste and colour criteria will be essential to maintaining market share. For
 Queensland, further selective breeding of the Murcott variety for easy-peel and seedlessness
 characteristics is perhaps the largest opportunity here, given it is the predominant export variety out of
 Queensland.
- Non-tariff barriers including certification and phytosanitary requirements were identified as more costly than tariffs, therefore any new methods or cost reductions in existing methods would increase the competitiveness of Queensland mandarins. Currently cold treatment is the agreed protocol, however this requires specialised air cooling capability, expensive testing materials, government inspections and onerous reporting and certification requirements. Other known methods are currently not technically feasible such as fumigation, because it degrades fruit quality, or acceptable to the Japanese consumer, such as radiation.
- There has been some Japanese co-investment in the southern Australia citrus industry, in particular in High Brix (sugar content) fruit grading machines. There may be an opportunity here to attract similar investment in Queensland's mandarin supply chain.
- After import, fruit is purchased at wholesale markets by retailers, foodservice channels or processors. It is estimated that around 40% of fresh food is used in the foodservice sector and 40% in the retail sector.
- The most important retail channel for mandarins are grocery stores, high-end department and general merchandise stores, such as Aeon, JUSCO and Ito-Yokado. Large supermarket chains are more likely to bypass the wholesale stage of the supply chain and source direct from suppliers. Increasingly consumers are purchasing through 24-hour supermarkets and convenience stores as well as online retailing.

Mango overview

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Mangoes were identified in the stage 1 report as being a key opportunity for Queensland's trade and investment growth to Japan. The stage 1 report identified that:

- The 3% tariff on mangoes in 2014 was eliminated upon the ratification of the FTA
- Mangoes have market access to Japan from a phytosanitary perspective, subject to certain protocols and conditions
- Consumption is stable for horticultural products to Japan
- Australia does not have a dominant market share position for mango imports but is a counter-seasonal supplier to northern hemisphere producers.

FTA changes

The FTA with Japan eliminated the 3% tariff on mangoes upon commencement. This brought Australia in line with the 0% tariffs of its competitors such as Mexico, Thailand and the Philippines.

Tariff reduction schedule (18)

	Base rate – 2014 (%)	Yr2	Yr4	Yr6	Yr8	Yr10	Yr12	Yr14	Yr16	Yr18	Yr20
Mango	3	0	0	0	0	0	0	0	0	0	0

Other FTA conditions

No further restrictions imposed under the FTA.

Competitor tariff comparison (17)

Country	2016 tariff
Australia	0%
Mexico	0%
Thailand	0%
Philippines	0%
Taiwan	3%

Japanese mango demand

For unknown reasons, total Japanese mango imports steadily declined from 2012 to 2015.

Mangoes are a speciality product and are often sold as gifts in Japan. Fruit quality is the highest consideration and attracts a premium. Consultations noted that Japanese demand for high quality mangoes is strong. Affluent customers are able to afford Australian mangoes.

Discussions with representatives of the Japanese Ministry of Agriculture, Forestry and Fisheries highlighted the importance of domestically supplied mangoes, which attract a price premium.

Japanese total mango imports ⁽⁹⁾



Consumer channels and key players

Japanese trading companies, such as Union and AISS, or fruit merchants will typically be the first to handle mango shipments, before on-selling to a wholesaler.

Mangoes are typically purchased in high-end department stores and speciality fruit shops, such as Mitsokushi Ltd and Sembikiya.

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Queensland mango supply

Queensland's mango supply window runs from mid-November in the north of the state to January-February in the south-east. Precise timing varies from year to year based on seasonal conditions.

A number of varieties are grown, including Kensington Pride (65%), Calypso™ (20%), R2E2 (6%), Honey Gold™ (4%) and Keitt (3%).

From 2013 to 2015 production and prices have fluctuated, with the largest variation seen in volumes produced. Over this period Queensland produced around 28,000 tonnes of mangoes each year, on average.

90% of Queensland mangoes are sold domestically.

Queensland mango production (3-6, 10-13)



Value of production

Volume of production

Queensland mango exports

Queensland is the main source of all Australian mango exports currently to Japan.

Consultations noted that Australian mangoes are considered a premium product in the Japanese market and are sold as fresh fruit and often sold as gifts.

Australia is seeking improved maximum residue limits, particularly setting one for the fungicide chemical fludioxonil, to support expansion of mango exports to Japan.

Queensland mango exports to Japan⁽⁷⁾



Queensland's key competitors

While Australia only has a small share of the Japanese market at present, Australian mangoes are a premium product. In 2015 the average price received was 66% higher than the average of around \$6 per kilogram.

As the only notable southern hemisphere exporter to Japan, Australia provides a counter-seasonal supply of mangoes to Japan. Other current southern hemisphere producers (Brazil and Peru) do not have the same genetics as Australia and have longer supply chains. Through consultation it was also noted that Australian mangoes are distinct in appearance and taste from mangoes from the other major exporters.

There is little competitive benefit for Australia from the FTA, with all major competitors now on 0% tariffs.

Growth in this market will have to come through increasing consumer demand for Australian product or improving productivity in the domestic sindustry.

In terms of key factors of competitiveness, Australia has the edge in terms of quality of infrastructure, innovation and labour market efficiency.

Key factors of competitiveness



Competitor prices and volumes 2015 (9)

Import market share 2013-2015 (9)



Distance to Quality of efficiency¹ infrastructure¹ capacity¹ Australia 6,507 (Qld.) 83 35 23 36 80 Mexico 11,536 114 42 65 123 59 Thailand 3,460 67 92 71 81 57 Philippines 2,628 82 48 106 101 48

Notes: ¹Indicator sourced from the World Economic Forum, Global Competitiveness Index 2015-16

²The 'pump price for gasoline' sourced from World Bank's Development Indicators Database 2016 is used as a proxy for the cost of inputs



Supply chain and trade barriers





Only Kent, Keitt, Palmer, R2E2 and Kensington varieties of mango can be exported to Japan.

All mangoes exported to Japan must be vapour heat treated which is a costly process and diminishes the quality of the fruit. One stakeholder commented that only the best quality mangoes can withstand this treatment and still be marketable. Consultations suggested that other options exist, such as radiation or low dose methyl bromide fumigation, which are much cheaper, flexible and streamlined options. However Japanese consumers may not accept these treatment methods. A longer term market access protocol could be to get agreement on the export of hard and green mangoes which are not a host for fruit fly. It was noted that the Northern Territory Government is building up the database of evidence to support this claim. It was also noted in consultation that there is a current supply chain constraint for vapour treatment with only two treatment facilities in Queensland, Mareeba and Ayr, although a new facility is being constructed in Brisbane. The Mareeba facility does not export to Japan.

Further export requirements include Japanese inspections of each season's fruit prior to exporting, which is expensive, and Maximum Residue Limits (MRL) on anti-fungal treatments for mangoes entering Japan.

Destination port

Mangoes are typically airfreighted to Japan due to the limited shelf life of fresh product. Key airports for airfreight are Narita near Tokyo, Kansai, Osaka Bay and Chubu.

As a high-end product, mangoes will generally have stricter requirements around handling and quality. As a result, they will have 'shorter' supply chains with long-term relationships being more important than short-term price-based competition.



Produce generally moves from exporters to importers and onto Japanese trading companies or fruit merchants before making its way to a wholesaler. Mangoes are then typically purchased in high-end department stores and speciality fruit shops.

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SWOT analysis

Strengths	 Queensland is the main source of all Australian mango exports currently to Japan. Australian mangoes are distinctly different to mangoes from the other major exporters in appearance and taste. Australian mangoes are considered a premium product. Southern hemisphere counter seasonal supply for Australian mangoes compared to northern hemisphere suppliers to Japan, including Mexico, Thailand and the Philippines. Current southern hemisphere competitors (Brazil and Peru) do not have the same genetics as Australia and have longer supply chains. Japanese demand for high quality mangoes is strong with affluent customers being able to afford Australian mangoes. 	 The market is currently dominated by Thailand and the Philippines (although this is counter- seasonal to Australian supply windows). Australia currently has a very small slice of the market with less than 2% of the value of all imports from 2011 to 2015. Only very high end supermarkets tend to stock Australian mangoes. Queensland's mango industry is focused on the local market with 90% of mangoes sold domestically. Current phytosanitary requirements to prevent fruit fly, such as vapour treatment, is a major barrier to export as it is costly and compromises fruit quality and flavour. There is a bottleneck on this vapour treatment processing capacity, particularly in the peak of the season. Insufficient export supply at the moment to warrant large scale marketing push.
Opportunities	 Tariff of 3% has been removed already, however this is quite a small reduction. Development of better market access protocols, particularly around fruit fly. In the short term, there is potential to move towards radiation, although this may not be acceptable to Japanese consumers, or low dose methyl bromide fumigation, which is a much cheaper, flexible and streamlined option within the supply chain than vapour treatment. Setting a MRL for fludioxonil is an opportunity. A longer term market access protocol would be to get agreement on the export of hard and green mangoes which are not a host for fruit fly. The Northern Territory Government is building the database of evidence to support this claim. 	 Biosecurity outbreaks or phytosanitary breaches that affect market access and damage brand. Changes to market access protocols, such as greater requirements around Maximum Residue Limits. Increased competition from southern hemisphere suppliers, such as Peru and Brazil.

Threats

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Key opportunities and activities

In order to maximise the Queensland mango trade and investment opportunity to Japan, the following opportunities and gaps have been identified.

- Demand for counter-seasonal supply of Australian mangoes which are of the highest quality is strong and the 3% tariff elimination on commencement of the FTA is a small but welcome reduction.
- Companies such as Union and AISS or fruit merchants will typically be the first to handle mango shipments in Japan, before on-selling to a wholesaler.
- The main barrier to exporting mangoes to Japan is the requirement for vapour heat treatment, which is costly and compromises the quality advantage that Australian mangoes have.
 Furthermore, the limited facilities for this type of treatment creates a bottleneck in the supply chain particularly in the peak of the mango season. There are a number of short or long term alternatives for this treatment, however protocols need to be negotiated and agreed. This includes agreement on the export of hard and green mangoes which are not a host for fruit fly. These mangoes could also be sea freighted which would provide for more cost-effective transport.



Macadamia overview

Macadamias were identified in the stage 1 report as being a key opportunity for Queensland's trade and investment growth to Japan. The stage 1 report identified that:

- Macadamias 5% tariff in 2014 was eliminated upon the ratification of the FTA
- Macadamias have market access to Japan from a phytosanitary perspective
- Consumption is stable for horticultural products to Japan
- Australia has a dominant market share position for imported macadamias, representing 56% of all Japanese macadamia imports
- Queensland exports to Japan are strong and growing, and represent around one fifth of Australian exports to Japan.

FTA changes

The FTA with Japan meant the 5% base rate tariff for macadamias was eliminated upon commencement of the agreement. This elimination brought Australia in line with the 0% tariffs of its competitors such as Malawi and a slight tariff advantage over competitors of South Africa, Guatemala and China.

Tariff reduction schedule (18)

	Base rate – 2014 (%)	Yr2	Yr4	Yr6	Yr8	Yr10	Yr12	Yr14	Yr16	Yr18	Yr20
Macadamia	5	0	0	0	0	0	0	0	0	0	0

Other FTA conditions

No further restrictions imposed under the FTA.

Competitor tariff comparison (17)

Country	2015 tariff
Australia	0%
Malawi	0%
South Africa	2.5%
Guatemala	2.5%
China	2.5%

Japanese macadamia demand

Total Japanese macadamia imports

declined slightly over the past four years from around 2,500 tonnes in 2012 to around 2,300 tonnes in 2015. In-market consultation suggested the overall market size for macadamia nuts is about 3,000 tonnes.

Japan is a kernel market, but a lot of value adding such chocolate coating, roasting, flavour adding is undertaken in Japan. In-market consultation suggested that over 90% of macadamias are used as ingredients, for example in ice cream and chocolate, with less than 10% consumed as nuts.

In-market consultation noted that macadamia nut halves are in demand. There is an international standard for macadamia kernel styles, ranging

3,000 2,500 2,000 **Tonnes** 1,500 1,000 500

2013

2012

Japan total macadamia imports ⁽⁹⁾

2014

2015

from style 0 to 8. In Japan the demand is mainly for style 4, premium halves. Styles 0 and 1 are whole nuts, that is, may contain 10-15% broken nuts, whereas style 2 contains a mix of wholes and halves.

In-market consultation expressed that, as macadamias are mainly used as ingredients, price is the most important factor. Prices have been increasing due to increasing demand in China. If the price keeps increasing, some customers and food and confectionery companies, are at risk of dropping macadamias from their product offering. However, consultations with local stakeholders noted that total demand is relatively inelastic with consumption mostly stable despite price increases from \$12 per kg to \$20 per kg in recent years.

One in-market stakeholder anticipates that there will be no significant increase in demand for macadamias. However, this same stakeholder suggested that increases in demand were possible if new applications were cultivated, for example through promoting macadamia as being good for health.

Consumer channels and key players

The buyers of macadamia nuts are specialised trading companies. As the market is not large enough for the larger trading companies, it is not economically feasible to employ one dedicated person to handle macadamia nuts at these companies.

Most imported macadamias are used in the manufacture of confectionary, with chocolate coated nuts being the most important market category followed by cakes and ice cream toppings. One in-market stakeholder (an importer) commented that they sell macadamia nuts to Meiji, the leading Japanese confectionery with their product "Macadamia Nut Chocolate". Meiji is the only customer that purchases macadamia nuts by the container, with no one else doing so.

Most macadamias are sold through the retail channel. Grocery and convenience stores as well as dedicated candy stores are part of this retail landscape. While there are country of origin labelling requirements for processed product, macadamias are typically Japanese-branded.

Queensland macadamia supply



Queensland's macadamia production has had a clear upward trajectory over the last four years, which is the direct result of investment over the last decade. Strong price growth in 2015 led to the value of production increasing by 30%, while the volume of production grew by 15%, which is itself still a relatively significant figure for a perennial crop like macadamias.

While consultations noted there is some foreign investment already, there is difficulty attracting capital into the industry mainly due to the long lead times involved. Seedling production takes 3 years, which is followed by a 7-10 year period while the tree matures.



A difficulty that particularly relates to the attraction of institutional capital is the scale of the industry. Individual properties are

of institutional capital is the scale of the industry. Individual properties are in general too small to be of interest to institutional investors, that is, around \$20 million minimum per property investment, but ideally in the \$50-\$100 million range. Packaging up properties to a sufficient scale is not a straightforward process. In-market consultation suggested that current demand also does not justify direct investment from Japan, and there was no need to secure supply sources. This stakeholder also noted the long lead times as a barrier. Local consultations, however, expressed great potential for industry expansion. Queensland has seen the biggest growth in macadamia area in recent years, particularly in the Bundaberg region. This growth has been driven by low land prices relative to northern NSW, access to water, and experienced growers.

Queensland macadamia exports

Queensland macadamia exports to Japan increased dramatically in 2015 and more than doubled 2014 exports in value and volume.

Consultations suggested that Queensland's industry is already export-focused with macadamia being the largest horticultural export product by value.

In consultation it was noted that Australian exporters have good relationships with Japanese food importers and food manufacturers which its competitors do not have. One in-market stakeholder noted that it has a long term relationship with producers/growers and therefore does not have concerns over supply or quality.



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Queensland's key competitors

Australia has a dominant import market share position in Japan consisting of 56% of imports between 2013-2015.

While Australian macadamia products appear to receive a relatively low price per kilogram compared with other countries' products, consultations noted that Japanese consumers prefer Australian macadamias over other suppliers, due to perceived higher quality and Australia being the native home of macadamia. Price premiums of around 5-10% have been observed.

It was noted, however, that because most nuts are processed, this hides blemishes and imperfections on lower quality nuts from other countries. This diminishes Queensland's quality advantage compared with other exporters.

In terms of some key competitiveness factors, Australia compares favourably against its competitors for innovation capacity, quality of infrastructure and labour market efficiency as well as having a clear cost of transport advantage.



Import market share 2013-2015 (9)



Key factors of competitiveness

Country	Distance to market (km)	Labour efficiency ¹ (rank - 150 countries)	Cost of inputs² (rank – 203 countries)	Quality of infrastructure ¹ (rank - 150 countries)	Regulatory burden ¹ (rank - 150 countries)	Innovation capacity ¹ (rank - 150 countries)
Australia	e,507 (Qld) 6,507	36	83	35	80	23
Malawi	11,167	29	178	125	72	121
South Africa	13,165	107	7 6	59	117	38
Guatemala	13,007	90	38	70	52	91

Notes: ¹Indicator sourced from the World Economic Forum, Global Competitiveness Index 2015-16

²The 'pump price for gasoline' sourced from World Bank's Development Indicators Database 2016 is used as a proxy for the cost of inputs



Supply chain and trade barriers





SWOT analysis

Strengths	 Tariff of 5% has already been removed. Australia supplies around two-thirds of all macadamias imported into Japan. Japan is a kernel market, but a lot of value adding such as roasting, flavour adding, chocolate coating and ice cream toppings is undertaken in Japan. Consumer preference is for Australian macadamia as the native home of macadamia, and perceived higher quality. Queensland's industry is already export-focused with macadamia the largest horticultural export product by value. Relatively inelastic demand, with consumption mostly stable, despite price increases from \$12 per kg to \$20 per kg in recent years. Good relationships with food manufacturers in Japan which competitors do not have. 	 Long lead time to ramp up production therefore difficult to respond quickly to market signals. Expensive relative to other edible nut options and other sources of macadamia. South Africa and Kenya product is typically around 10% cheaper. Market share has been declining however this has been offset through higher prices Chocolate coating can be used to hide blemishes and visual and taste imperfections for lower quality nuts from other countries. This diminishes Queensland's quality advantage compared with other exporters. 					
Opportunities	 The demand for Australian macadamia is extremely strong, which means the key opportunity is the ability to meet demand through increasing production volume. It is reported that there is suitable land and water resources for increasing area under macadamia as well as increasing productivity of existing plantations. A further opportunity is increasing the scale of existing macadamia businesses, which could help attract further investment activity. New product development, such as raw and roasted, that plays to Queensland advantage for unblemished, high quality nuts. 	 Persistently high prices could result in a more elastic demand situation than currently exists. In that case, lower priced product from suppliers such as South Africa and Kenya, may erode Australian market share. Increasing production from new producers, such as China. Macadamias are currently on a high risk rating from USDA as a result of salmonella detection in a Kenyan shipment. Repeat occurrences may result in requirement for pasteurisation across all countries which would add significant cost to all exports. 					



Key opportunities and activities

In order to maximise the Queensland macadamia trade and investment opportunity to Japan, the following opportunities and gaps have been identified.

- Given the strong demand from Japan, the major opportunity is the ability to meet demand through increasing production. It is reported that there is potential to increase the area under macadamia production in Queensland, however the relatively small size of existing Australian orchards and the long lead times to crop maturity appears to restrict large scale investment. Truncation of this lead time, for example through faster seedling development or accelerated orchard establishment techniques, could improve the attractiveness of macadamias for investors.
- Currently, Australian macadamia kernels are mostly bought by Japan on a wholesale basis and repackaged under Japanese brands. There is a potential opportunity to undertake greater retail-ready packaging in Queensland than what is currently the case.
- The buyers of macadamia nuts are specialised trading companies, who then sell them to food processing companies. Meiji, for example, purchases nuts from importers by the container to produce their 'Macadamia Nut Chocolate' product.
- A market development opportunity is to influence consumers towards more raw and roasted consumption, which would increase this market segment and play to Queensland's advantages of high quality, unblemished nuts.
- One in-market stakeholder suggested that Queensland macadamia stakeholders must take active steps to promote macadamias from Queensland against competing states in Australia and other countries. Promoting macadamias as being good for lifelong health may also increase demand.



Salad product overview

Salad products, primarily lettuce, were identified as being a potential emerging opportunity for increasing Queensland's trade with Japan. This view was expressed by local stakeholders through consultation on the stage 1 report. In summary:

- Tariffs on fresh salad products will be eliminated in the first 10 years of the FTA
- Most salad products have market access to Japan from a phytosanitary perspective
- Consumption is stable for horticultural products in Japan
- Australia has a very minor market share currently, with China and the USA the major players
- Demand for convenience, fresh and pre-packed salads are growing in demand in Japan.

FTA changes

The FTA with Japan will result in tariffs being eliminated for the majority of fresh salad products over 10 years. Most salad products that have market access, such as lettuce, carrot, cucumber and capsicum, had the tariff eliminated upon the FTA commencement. Onion had a slightly higher base rate tariff of 9% which is to be eliminated over five equal increments. Australia's key competitors of China and the USA had equivalent tariffs in 2014.

		-		-							
	Base rate 2014 (%)	Yr2	Yr4	Yr6	Yr8	Yr10	Yr12	Yr14	Yr16	Yr18	Yr20
Fresh salad products (various)	0-13	Fresh s	alad pro	oducts h	iave a b	ase rate 10	of up to 2) years	L3%, allı	reducing	to 0% in	the first
Lettuce	3	0	0	0	0	0	0	0	0	0	0
Onion	9	6	3	0	0	0	0	0	0	0	0
Carrot	3	0	0	0	0	0	0	0	0	0	0

Tariff reduction schedule (18)

Other FTA conditions

No further restrictions imposed under the FTA.

Competitor tariff comparison (17)

Country	2014 tariff (lettuce)	2014 tariff (onion)	2014 tariff (carrot)
Australia	3%	4%	3%
United States	3%	4%	3%
China	3%	4%	3%
Taiwan	3%	4%	3%



Japanese salad product demand

Japan's total imports of lettuce, onions and carrots have been relatively steady over the past four years.

In-market consultation noted that lettuce is considered a seasonal vegetable which is mainly consumed in summer, and it is generally domestically produced with consumer preference for locally grown lettuce. The demand comes from consumers and institutional buyers like restaurants. In addition, there are processing companies which buy fresh vegetables and cut, slice and pack according to users' requests.

Lettuce is imported when the price of domestic lettuce is too high. Due to various reasons, for example, bad weather, the price of lettuce can become too



Japanese total salad product imports ⁽⁹⁾

high for consumers. In these times, importers will buy foreign lettuce from the USA, Taiwan, South Korea, Australia and other countries, generally on the spot market. Lettuce produced in Taiwan and South Korea, and to a certain extent in Australia, are not as firm as those produced in the USA.

Japanese consumers prefer a less firm crisp-head lettuce. However, lettuce processors which cut and slice for institutional market prefer the firm crisp-head lettuce as they can get more lettuce leaf out of one head of lettuce. USA lettuce has been imported for fast-food and restaurant segments of the market.

Consumer channels and key players

In-market consultation noted that buyers for lettuce are specialised importers, although sometimes grocery chains, such as Ito-Yokado and Aeon – the two largest grocery chains, buy directly. Given the relatively short shelf life of vegetables (and salad in particular), imported vegetables are often processed, while some whole vegetables make it to wholesale markets. Processors prepare pre-cut or pre-packaged product and sell to retail or foodservice providers.

The processing stage is characterised by many small-scale companies with a handful of larger companies such as Delica Foods and Salad Club. The sector is becoming increasingly concentrated as investments in cutting technology are necessary to maintain competitiveness. There is also evidence of processing being undertaken by retailers through development of private label brands. Examples include AEON, Ito Yokado, 7-Eleven and Lawson. The most frequently used salad products are cabbage, onion, daikon, lettuce and carrots.

The two main consumer channels are large scale retailers and supermarkets, with nearly 30% of sales, and foodservice operators, with around 25% of all sales. These channels are followed by home meal replacement (HMR) operators, institutional meals such as hospitals, and convenience stores. The openness of the Japanese market to imported salad products varies by commodity, with onions and carrots fairly well accepted. Typically foodservice operators source more imported product than retailers as consumer preference is for locally grown, and foodservice operators are not required to disclose country of origin to end consumers.



Queensland salad product supply

There is year-round production for most vegetables due to geographically diverse production areas, including Atherton Tableland, Bundaberg, Lockyer Valley, eastern Darling Downs and Granite Belt.

Production is primarily geared towards the domestic market.

In-market consultation suggested that there is not a strong reason for Japanese companies to invest in lettuce due to the mismatch in growing season and peak demand, and the qualities of Queensland lettuce. It was mentioned that there is a better investment case to be made for broccoli. Queensland salad product production (3-6, 10-13)



Queensland salad product exports

Queensland exports of lettuce to Japan was around 1.2 tonnes in 2015, with no recorded exports prior to this. No Queensland exports of onions or carrots to Japan have been recorded in the last four years.

Although companies buy lettuce from Australia, lettuce from Queensland is not looked on favourably. This is because Queensland lettuce is available only when the Japanese demand is low as the Queensland lettuce season coincides with winter in Japan.

Queensland salad product exports to Japan⁽⁷⁾





Queensland's key competitors

Australian produce currently accounts for around 1% of the total annual value of vegetables exported to Japan. China and the USA are major players, with over 60% and 10% of the market respectively.

In-market consultation suggested that Queensland lettuce is not as firm as USA lettuce, with Japanese processors preferring hard/firm crisp-head lettuce. Because of this, it was noted that losses are higher as non-firm lettuce is packed in ice, increasing the cost of export and make it potentially uncompetitive with lettuce from the USA.

It was noted that specialised trading companies import USA lettuce year-round and sell to such processors; therefore, there is no particular seasonal advantage for lettuce. Local consultations noted that Australia did have a seasonal window for asparagus and broccoli.

Though Queensland does not currently export its major vegetable and salad products to Japan, some Australian jurisdictions do export these, and Queensland does export them to other countries. Tasmania, Victoria and Western Australia have all recorded exports of carrots to Japan within the last three years.

Carrots, which Queensland exports more of than lettuce and onions, are mainly exported to Thailand, Papua New Guinea and Singapore.

China is the main source of Japan's imported carrots, and provides a relatively low value product.

In terms of the key factors of competitiveness, China has a clear advantage in being close to Japan while Australia has an advantage over the USA in this. However, the USA ranks highly across most indicators including labour market efficiency, cost of inputs, infrastructure and innovative capacity.



Competitor prices and volumes (carrots) 2015 ⁽⁹⁾



Notes: ¹Indicator sourced from the World Economic Forum, Global Competitiveness Index 2015-16

²The 'pump price for gasoline' sourced from World Bank's Development Indicators Database 2016 is used as a proxy for the cost of inputs

Key factors of competitiveness



Supply chain and trade barriers





Given the relatively short shelf life of vegetables, and salad in particular, distributors will generally direct import vegetable and salad products to processors to prepare pre-cut or pre-packaged product or to foodservice providers. Some product will also make its way to wholesale markets as whole vegetables. After processing, value added product is then sold directly to the consumer interface.



SWOT analysis

- There is strong and increasing demand for cut vegetables, ready made meals and pre-mix salad products.
- Australian produce is generally perceived as clean, green and safe in Japan, which is an important consideration for Japanese consumers and critical for fresh vegetables and salad products.
- Small volumes of lettuce were exported to Japan out of Queensland in 2015.
- The Japanese market is subject to seasonal shortages due to weather conditions. Therefore, Japan is increasingly relying on imports to meet demand.

- Consumer preference is for locally grown vegetables.
- Processors prefer firm lettuce which is not a known attribute of Queensland lettuce.
- Queensland cannot currently compete on price against competitors such as China, the USA and South American countries. Japanese lettuce imports are currently dominated by the USA, and onion and carrot imports by China.
- Currently no in-flight cold chain. Cold-chain exists either side of flight, although there are some capacity constraints, so minimising flight time is essential to maintaining product freshness.
- Airfreight is currently expensive and there is limited capacity with higher value products like prime beef cuts and seafood having greater capacity to pay than vegetables.
- Pre-packaged lettuce is too bulky for export, indicating potentially limited opportunity to value-add in Australia.
- No obvious seasonal advantage for lettuce, as most salad can be grown year round or in controlled undercover environments.

- Opportunities
- Tariff of up to 13% to be eliminated, depending on the product. Lettuce and carrot had a 3% tariff eliminated in the first year, broccoli a 6% tariff elimination over 5 years and onions a 9% tariff eliminated over 5 years.
 - Providing a complementary supply at times where local producers cannot meet demand. This might be the counter-seasonal supply of broccoli or asparagus or lettuce supplied at a competitive price.
 - Given Japanese preference for locally grown, the foodservice sector is a possible supply channel for vegetables given country of origin is not required to be disclosed to consumers.
- Increasing capacity of Japanese domestic production of salad products – particularly for lettuce which can be grown quickly in hightech vertical greenhouses with highly controlled growing conditions.

Weaknesses



Key opportunities and activities

In order to maximise the Queensland salad product trade and investment opportunity to Japan, the following opportunities have been identified.

- There is strong demand for vegetable and salad products for retail pre-packed salad and vegetable mixes, home meal replacement and the foodservice sector. Given salad products into Japan is a relatively new market for Queensland, the development of key trading partnerships is the most pressing need. In light of consumer preference for locally grown, home meal replacement operators and the foodservice sector is perhaps the strongest opportunity for Queensland exporters as country of origin is not disclosed to the same degree as for retail products.
- Buyers for lettuce are specialised importers, although sometimes grocery chains, such as Ito-Yokado and Aeon – the two largest grocery chains, buy directly. Given the relatively short shelf life of vegetables, and salad in particular, imported vegetables are often processed, while some whole vegetables make it to wholesale markets.
- Queensland will face strong competition from other low cost vegetable producers such as China and the USA. With this in mind, the main opportunity for Queensland vegetable producers appears to be in providing a complementary supply at times where local producers and competitors cannot meet demand. This might be the opportunistic supply of lettuce, carrots and onions at certain times when the price is high or the counter-seasonal supply of broccoli or asparagus.
- Air freight transport is a major limiting factor on the export of vegetables from Queensland to Japan. For example, there are limited direct flights between Brisbane and Tokyo meaning that freight has to be transferred from one plane to another. This lengthens the supply chain and increases the risk of spoilage. There are also capacity constraints on other flights which makes airfreight expensive such that only higher value products like prime beef cuts and seafood are transported.



Aquaculture overview

Aquaculture products were identified as being a potential emerging opportunity for increasing Queensland's trade with Japan. This view was expressed by local stakeholders through consultation on the stage 1 report. In summary:

- Tariffs will be eliminated within 10 years for all the top five seafood commodities with the exception of bigeye tuna.
- Prawns and shrimps are Queensland's predominant export seafood/aquaculture commodity with an annual average export value of \$16.7m.
- Australia has a very minor import market share to Japan currently around 2%, with China, Chile, Vietnam, the USA and Thailand making up 53% of market share between 2012 and 2014.
- Total demand has been relatively static in the five years to 2011, although there is a longer term declining trend observed.

FTA changes

The FTA with Japan will result in tariffs being eliminated within 10 years for all the top five seafood commodities with the exception of bigeye tuna. Australia's tariff for bigeye tuna will remain at 4% for the foreseeable future, but JAEPA foreshadows that this could be renegotiated in five years. These tariff reductions will happen immediately for prawns, swordfish and fish liver, and over 10 years for yellowfin tuna. Australia now enjoys a tariff advantage over some its competitors for prawns and yellowfin tuna with the commencement of the FTA.

Tariff reduction schedule (18)

	Base rate – 2014 (%)	Yr2	Yr4	Yr6	Yr8	Yr10	Yr12	Yr14	Yr16	Yr18	Yr20
Prawn	3	0	0	0	0	0	0	0	0	0	0
Tuna – Bigeye	4	4	4	4	4	4	4	4	4	4	4
Tuna – Yellowfin	4	0	0	0	0	0	0	0	0	0	0

Other FTA conditions

The FTA foreshadows that Bigeye Tuna's tariff rate will be re-negotiated in five years' time.

Competitor tariff comparison (17)

Country	2014 tariff (prawn)	2014 tariff (yellowfin tuna)
Australia	3%	4%
China	2%	4%
Vietnam	0%	4%
Taiwan	3%	4%



Japanese seafood demand

Total and per capita consumption of seafood and aquaculture products in 2011 was around 20% lower than 2002 levels.

Declining per capita consumption has been partly attributed to Japan's ageing population and changing consumption patterns amongst younger people, which is likely to continue.

Given total population is also likely to decline in the coming decades, prospects for increased domestic demand are limited.

It was noted in consultation that wild catch seafood is considered to be the premium product in Japan, and is far superior to farmed seafood. Japanese consumers desire clean, safe, price-competitive and value-added products. Japanese consumers prefer fish that has limited smell.

Consumer channels and key players



——Total consumption ——Consumption per capita

Wholesale seafood markets in Japan are operated by municipal or prefectural governments, and wholesalers require permission from the Japanese Minister for Agriculture, Forestry and Fisheries to operate in them.

Tonnes

There are multiple levels of wholesaling in the Japanese seafood industry. Authorised or 'first-line' wholesalers may sell on to secondary and even tertiary wholesalers. The number of stages has in general been decreasing over time as has their number. Tokyo now only has three central wholesale markets: Tsukiji, Adachi and Ota. Authorised wholesalers collect 5.5% on the sale of fish which is fixed by legislation.

Wholesalers sell product to brokers, who then sell product on to supermarkets and seafood-focused retailers. Wholesaler to broker prices are determined using both auctions and negotiations.

Most retail purchases of fish in Japan is through supermarkets, followed by convenience stores, speciality seafood-focused retailers and the food service sector. The foodservice channel is actually the single largest channel through which fish and seafood is consumed in Japan.



Queensland aquaculture supply

Wild-caught products make up around 70% of the value of Queensland seafood.

In the aquaculture sector, prawns are the most valuable fish species – with production worth \$59 million in 2013-14. Barramundi was the second most valuable worth \$25.1 million in 2013-14.

It was noted in consultation that the expansion of aquaculture farms in Queensland is constrained by strict environmental conditions on new proposals on the east coast.

Environmental approvals may be easier to obtain in the gulf region, however infrastructure is underdeveloped.

One stakeholder noted that the Queensland aquaculture industry is seen to have strong environmental credentials.

Queensland seafood exports

Queensland seafood exports to Japan have been declining over the past three years. Prawns are by far the largest export to Japan and was worth around \$14 million in 2015.





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Queensland's key competitors

Australia has a very minor market share when it comes to seafood. The dominant countries include Thailand, Vietnam and China.

Australian bigeye and yellowfin tuna exports to Japan receive a price premium relative to other major exporters. In 2015, the average price per kilogram across these product categories was over \$12 for Australian product, and closer to \$6 per kilogram for major competitors. This price difference suggests that those other major countries (China, Indonesia, and various other Asian countries) are competing in different, lower value, markets within Japan.

In terms of factors of competitiveness, Thailand, China and Vietnam all enjoy relative close proximity to Japan. Across other indicators, each country has its strengths and weaknesses. Australia is ranked the highest in terms of innovation capacity, infrastructure and labour market efficiency and is comparable for regulatory burden and the cost of inputs.



Competitor prices and volumes 2015 (9)



Note: The data shows bigeye and yellowfin tuna only. International data does not show prawn exports from Australia to Japan.

Country	Distance to market (km)	Labour efficiency ¹ (rank - 150 countries)	Cost of inputs² (rank – 203 countries)	Quality of infrastructure ¹ (rank - 150 countries)	Regulatory burden¹ (rank - 150 countries)	Innovation capacity ¹ (rank - 150 countries)
Australia	6,365 (Qld.)	36	83	35	80	23
Thailand	4,312	67	92	71	81	57
Vietnam	3,863	52	45	99	90	73
China	3,045	37	65	51	26	31

Key factors of competitiveness

Notes: ¹Indicator sourced from the World Economic Forum, Global Competitiveness Index 2015-16

²The 'pump price for gasoline' sourced from World Bank's Development Indicators Database 2016 is used as a proxy for the cost of inputs





Supply chain and trade barriers





Japan has import regulations for seafood in relation to food sanitation and product labelling. There are, however, a few issues with current air freight infrastructure out of Queensland. The first is that there is currently no 'in flight' cold chain and also some cold chain infrastructure constraints around airports. Secondly, direct flights from Brisbane to Tokyo are relatively infrequent which means cargo needs to be transferred between planes, increasing risks for breaks in the cold chain and diminishing quality. Thirdly, there are current capacity constraints on air freight.



Seafood products to Japan are typically airfreighted, due to the limited shelf life of fresh product. Key airports for airfreight are Narita (near Tokyo), Kansai, Osaka Bay and Chubu.



Japanese importers of seafood products sell to wholesalers, processors, brokers, or retailers. Wholesale markets are operated by municipal or prefectural governments, and wholesalers require permission from the Japanese Minister for Agriculture, Forestry and Fisheries to operate in them. Their number has been declining over time, and even Tokyo now only has three central wholesale markets: Tsukiji, Adachi and Ota.



SWOT analysis

Strengths

 Stable seafood demand in Japan. Prawns are the largest Queensland seafood commodity exported to Japan. This is from a combination of wild caught and aquaculture production. Queensland is seen as a supplier of quality, safe and fresh seafood. The Queensland industry is seen to have strong environmental credentials. Japan is a long-term trading partner with Australia on a range of commodities. Counter-seasonal supply to northern hemisphere producers. 	 Japanese consumers view wild catch as a superior product. While viewed as good quality and safe, Australian seafood products are typically not considered as high premium product. Queensland aquaculture production is constrained by strict environmental conditions on new proposals on the east coast. Environmental approvals may be easier to obtain in the gulf region, however infrastructure is underdeveloped. There is no active aquaculture industry body in Queensland. This means that marketing efforts are not coordinated and there is no interface of the industry to liaise with on potentially interested consumers or importers. 	Weaknesses
 3% tariff elimination for prawns make Queensland products more price-competitive. Japanese consumers desire clean, safe, price- competitive and value-added products, all of which Queensland can provide. 	 Increasing levels of environmental regulation would further constrain industry growth. Growth in aquaculture industries in other countries, particularly those with access to wild catch fisheries. 	Threats

Opportunities

Key opportunities and activities

In order to maximise the Queensland aquaculture product trade and investment opportunity to Japan, the following opportunities and gaps have been identified.

- Japanese consumers desire clean, safe, price-competitive and value-added products, all of which Queensland can provide. Queensland currently supplies Japan with prawns from both wild catch and aquaculture sources and are price competitive in this market.
- Tokyo now only has three central wholesale markets: Tsukiji, Adachi and Ota. Most retail purchases are through supermarkets, but the foodservice channel is actually the single largest channel through which fish and seafood is consumed in Japan.

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