

Deloitte.

Access Economics

Market opportunities for
Queensland agribusiness
from FTA with China

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 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 profiles four key opportunities in more detail to identify any non-tariff barriers, supply chain constraints and their strengths, weaknesses, opportunities and threats (SWOT). This profiling was informed through further desktop research and consultation with Queensland Government, Industry Associations, traders, and selected in-market contacts in China, Japan and South Korea.

This document is the **stage 2 report for China** and profiles the selected commodities of **beef, mandarin, macadamia** and **high protein grains and pulses**.

Key findings

Beef

Beef is by far the largest opportunity for Queensland agribusiness into China. This is because Queensland production volumes are high, export markets have been established, there are significant tariff reductions under ChAFTA, and Chinese consumption growth expectations are high.

To maximise this potential, the further development of market access protocols for fresh and chilled beef outside of tier one cities would provide Queensland producers and processors with the opportunity to supply greater volumes of this high-margin product. Work is currently being undertaken by industry bodies and the Australian Government to develop chilled beef protocols. Similarly, there is no protocol in place for the export of tripe or white offal. Being able to export these parts would help processors further optimise carcass utilisation across various markets.

Executive summary

Key findings

Furthermore, it was identified that there are a limited number of Queensland certified processors and exporters of beef into China. Increasing the number of abattoirs with certification to export beef products to China would reduce transportation (and other supply chain) costs and open up increased options to export for Queensland producers. Further niche opportunities for beef are the export of live feeder and slaughter cattle and supply of beef to the organic market.

Mandarin

The Murcott variety of mandarins is the main Queensland export to China, and is well suited to Queensland growing conditions. With 12% tariffs being eliminated for mandarins over nine years and Chinese demand strong and growing, there is an opportunity to increase Queensland mandarin exports to China. The China market is for class one mandarins for high end consumers. At the moment, it is estimated that Australia is only meeting around 20% of the market order. Given the size of the Chinese market, there may be benefits from greater grower collaboration around production and marketing of class one premium fruit to achieve greater volumes and supply consistency and secure a greater proportion of market demand.

While the Murcott is currently popular, it is still important that Queensland growers continue to work on developing easier-peel and reduced seed strains of the Murcott and other varieties. This will serve to ensure the Murcott is sustainable in the Chinese market over the long term. Furthermore, non-tariff barriers (for example, certification and phytosanitary requirements around cold treatment) were identified as creating significant barriers to export. Reducing the cost of these non-tariff barriers would ensure the commercial sustainability of this export opportunity.

Macadamia

The growth opportunity for macadamias into China is high. Chinese demand is very strong and 75% of Australia's macadamia exports are destined for China. The tariff reduction on macadamias from the FTA is the most significant of the four products identified, with the 25% tariff being fully eliminated in five years.

China is currently an in-shell market for macadamias. There may be an opportunity for Queensland suppliers to undertake greater value adding through shelling, roasting, salting and packing. This could result in higher margins, reduced freight costs (by not exporting shells) and greater product differentiation through packaging. In addition, there is currently no prominent Australian brand of macadamias. An opportunity exists to develop a strong brand based on Australia being the native home of macadamias as well as quality and safety.

High protein grains and pulses

There is currently no significant or established export market for high protein grains and pulses from Queensland to China. The main high protein grains and pulses produced in Queensland are chickpeas, mung beans and soy beans which are mainly destined for the markets in the sub-continent and South Korea. Mung beans into China may be an emerging opportunity. A cornerstone buyer for high protein grains and pulses – with some minimum volume and price to growers – could help support a more consistent planted area and supply to China.

Contents

Introduction

- Background 5
- Approach of stage 2 analysis 7
- Structure of report 9

Commodity profiles

- Beef 10
- Mandarin 17
- Macadamia 24
- High protein grains and pulses 31

- References 38

Introduction

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.

Stage 1 analysis (March 2016)

In March 2016, Deloitte Access Economics completed an initial review of the Queensland commodities which showed the most promise for increased trade and investment between China, Japan and South Korea. The review focused on four broad categories of interest to TIQ and DAF: beef, grains, horticulture and seafood/aquaculture. These reports can be downloaded from:

<https://www2.deloitte.com/au/en/pages/economics/articles/fta-opportunities-agribusiness-queensland.html>.

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

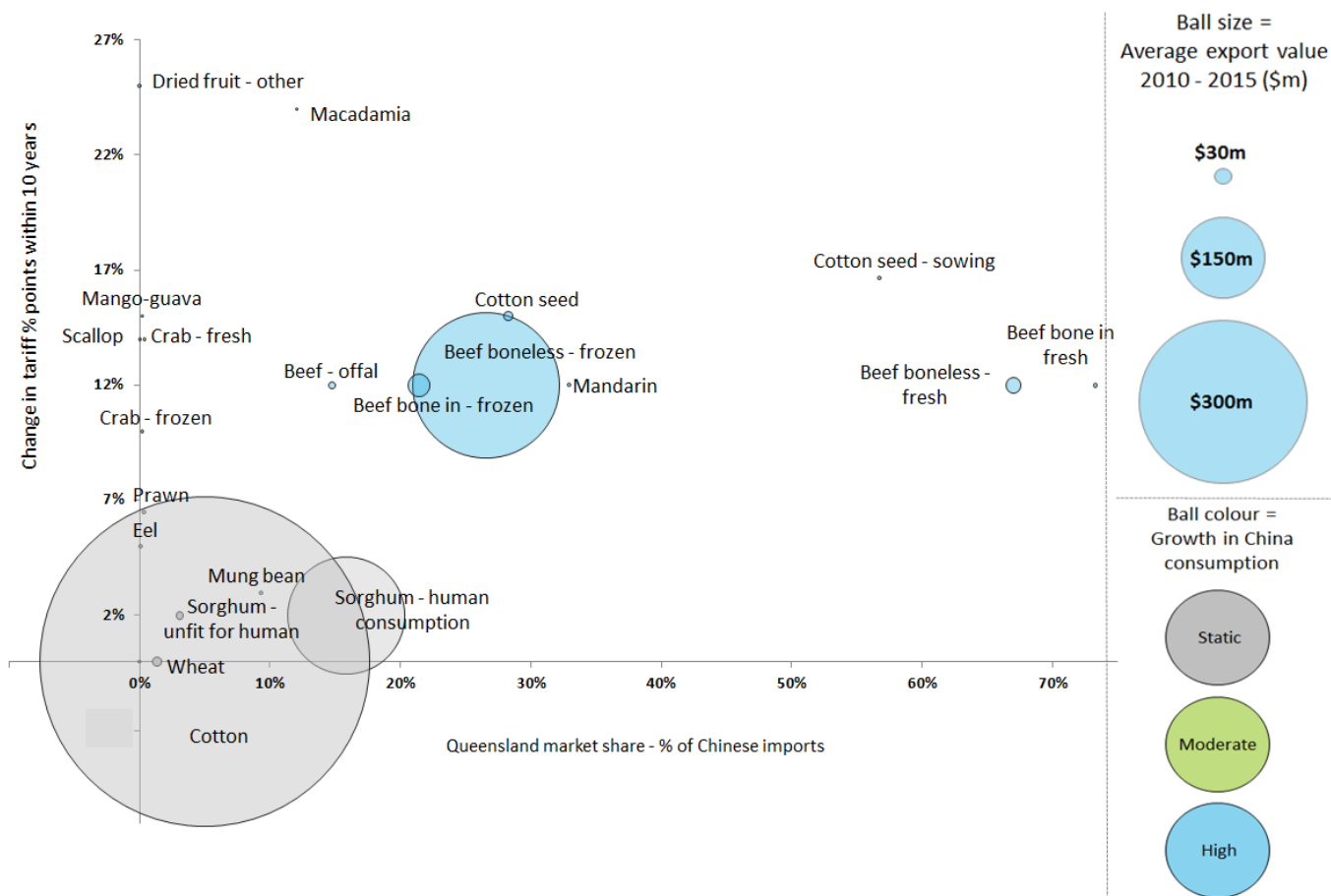
1. What does Queensland currently produce?
2. What does Queensland currently export to these markets?
3. Who does Queensland compete against in these markets?
4. What are Queensland's advantages and disadvantages compared to its competitors?
5. What is the demand for imported produce into these markets?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

For each question (and for each of the four broad agriculture categories), a separate analysis was undertaken. These analyses were then brought together in an '**opportunity map**' analysis which provided insight for where the opportunities might be the strongest.

This map highlighted opportunities for increasing agribusiness trade and investment for each 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 China is shown on the next page.

Introduction

Background (cont.)



From the opportunity map, consultations with industry stakeholders and further analysis of market access, Deloitte Access Economics identified **beef, macadamia** and **mandarin** as the strongest growth opportunities for Queensland agribusiness products into China. In addition, although not represented on the map, Deloitte Access Economics also identified through consultation that **high protein grains and pulses** were a potential growth area for Queensland agribusiness into China despite current low production and trade.

The stage 2 report provides more detailed profiling of these four commodities.

Introduction

Approach of stage 2 analysis

The objective of this second stage report is to profile **beef, macadamia, mandarin and high protein grains and pulses** in more detail. In particular, this report aims to answer the following questions:

1. What does the FTA mean for each commodity through tariff reductions and other provisions?
2. What is the demand for the commodity? What trends are driving this demand?
3. What is Queensland's ability to supply the commodity? What are the trends in production and exports? What is driving these trends?
4. How does Queensland compare to other key export competitors into this country in terms of prices, margins and other factors of competitiveness?
5. How does the market operate? Are there any technical market access issues or supply chain barriers preventing greater trade and investment?
6. Who are the key players in the Chinese market?

The questions are summarised in a strengths, weaknesses, opportunities and threats (SWOT) analysis for each commodity. Opportunities for increasing trade and investment with China are identified.

The questions are addressed through a combination of desktop research, analysis of publicly available data and consultation with both local stakeholders and potential buyers and investors in China.

Interviews were held from June to November 2016 with key industry associations and the Queensland Trade Commissioners. The **local stakeholders** were:

- Meat and Livestock Australia (MLA), with information sourced directly from MLA offices in China
- Macadamia Society
- Citrus Australia
- Australian Oilseeds Federation (Soy Australia)
- Food and Grocery Council
- Agforce
- The Queensland China Trade Commissioner.

The broad themes covered in the local interviews included:

- The demand and supply aspects of the commodity such as the level and characteristics of demand in China, investment possibilities and Queensland supply advantages.
- The challenges or barriers to export or investment such as market barriers and challenges from local or in-market supply chains.
- The appropriate responses to opportunities and threats for Queensland agribusiness.

Introduction

Approach of stage 2 analysis (cont.)

Two interviews were conducted with **potential buyers and investors** in China. These parties have been anonymised. The two stakeholders were:

- An intermediate agency in the beef industry with over 100 employees that assists with exports from Australia and investments from China. The expert had 12 years of relevant experience.
- A mandarin import and export company with over 1,000 employees. The expert had more than 4 years of relevant experience.

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

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

Introduction

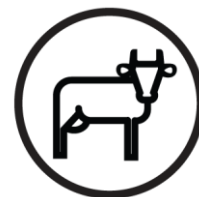
Structure of commodity profiles

The remainder of this document profiles the commodities identified for China, namely **beef, mandarin, macadamia** and **high protein grains and pulses**.

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 profile



Beef overview

Beef and beef products were identified as having the largest opportunity for Queensland's trade and investment growth to China in the stage one report.

- Beef consumption, while still relatively low on a per capita basis compared to some other markets (including Japan and South Korea), has grown in recent years and any increase across China's population translates into large total increases in demand.
- Though China is a large producer of beef itself, imports are increasingly important for satisfying domestic demand – imports grew 15-fold from 2000 to 2015.
- Beef will experience elimination of its pre-ChAFTA tariff of 12% over 10 years (with the exception of beef offal which will be over 8 years). Among major competitors in the Chinese market, only New Zealand faces a lower tariff during the phasing-in period of ChAFTA

FTA changes

The FTA with China secured a reduction in the tariff on Australian beef from pre-ChAFTA levels to 0%:

- The tariff on fresh or chilled carcasses and half-carcasses reduces from 20% to 0% by 2024.
- The tariff on other fresh or chilled beef reduces from 12% to 0% by 2024.
- The tariff on frozen carcasses or half-carcasses reduces from 25% to 0% by 2024.
- The tariff on other frozen beef reduces from 12% to 0% by 2024.
- The tariff on frozen beef offal reduces from 12% to 0% by 2019.

Importantly, ChAFTA introduced tariff advantages over Australia's other major competitors in the Chinese beef market except New Zealand.

Tariff reduction schedule ⁽¹⁸⁾

| Beef | Base rate 2014 (%) | Yr1 | Yr2 | Yr3 | Yr4 | Yr5 | Yr6 | Yr7 | Yr8 | Yr9 | Yr10 |
|-----------------------------|--------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Frozen (boneless) | 12 | 10.8 | 9.6 | 8.4 | 7.2 | 6 | 4.8 | 3.6 | 2.4 | 1.2 | 0 |
| Fresh or chilled (boneless) | 12 | 10.8 | 9.6 | 8.4 | 7.2 | 6 | 4.8 | 3.6 | 2.4 | 1.2 | 0 |
| Frozen offal | 12 | 10.5 | 9 | 7.5 | 6 | 4.5 | 3 | 1.5 | 0 | 0 | 0 |

Other FTA conditions ⁽¹⁹⁾

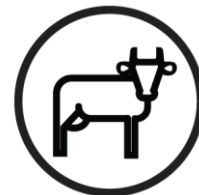
The agricultural safeguard mechanism in Article 2.14 (Special Agricultural Safeguard Measures) of Chapter 2 (Trade in Goods) applies.

The safeguard trigger in the first year is 170,000 tonnes which is 10% above Australia's historic peak beef export levels to China

Competitor tariff comparison ⁽¹⁷⁾

| Country | 2016 tariff - Fresh | 2016 tariff - Frozen |
|-------------|---------------------|----------------------|
| Australia | 11% | 10% |
| New Zealand | 0% | 0% |
| Canada | 13% | 12% |
| Argentina | 13% | 12% |
| Uruguay | 13% | 12% |
| Brazil | 13% | 12% |

Beef profile

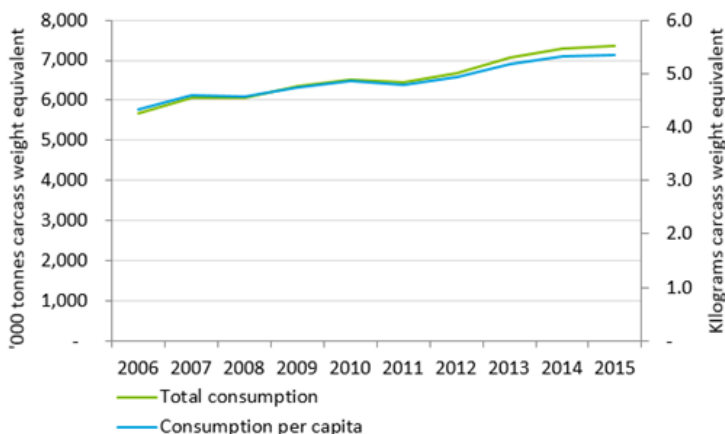


China beef demand

China's total demand for beef has increased by around 30% over the last ten years. Imports have been an important means of satisfying this demand.

One in-market stakeholder noted that while demand is increasing all over the country, preferences vary across different areas – consumers in big cities like Guangzhou, Shenzhen and Shanghai purchase high-end beef like rib-eye while provinces in the west are more likely to purchase low-end products. Chinese consumers also prefer different cuts to those in typical western diets, like shin-shank and brisket.

China beef consumption ⁽¹⁾



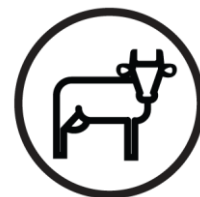
Consumer channels and key players

There are five main consumer channels for retail-ready beef products:

1. Wet markets which have traditionally been the main source of consumers' fresh meat, fruit and vegetables.
2. Supermarkets and hypermarkets which are more likely to carry processed and standardised products and cater to middle and even high income consumers. Foreign firms have sought to involve themselves in China's domestic market, such as Carrefour, Wal-Mart, Metro, Lotus and Tesco. The sector is still relatively fragmented.
3. Convenience stores and high-end retailers which have the greatest focus on imported products of all China's retail channels, with up to 80% of their product range imported. Major players in this space include City Shop Supermarket, City-Super, CRV Ole and BHG.
4. The food service sector.
5. Online platforms. Tmall, Taobao and JD account for over 90% of e-commerce in China. Sales by Tmall and JD are driven by brand image more than by price. In 2015 JD started selling Australian chilled beef directly to Chinese consumers.

Direct selling, where private firms provide food products to employees free or at a fraction of its real price, is diminishing in importance.

Beef profile



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 herd is currently rebuilding.

Chinese investors have shown interest in the Australian beef industry in recent years. This has included interest in the primary production and processing stages such as New Hope Investment Fund's group's investment in the Kilcoy Pastoral Company in 2013. The ability to export to China is seen as highly valuable in these transactions. Exports to China require approval from the General Administration of Quality Supervision Inspection and Quarantine.

Queensland beef production ⁽²⁻⁶⁾



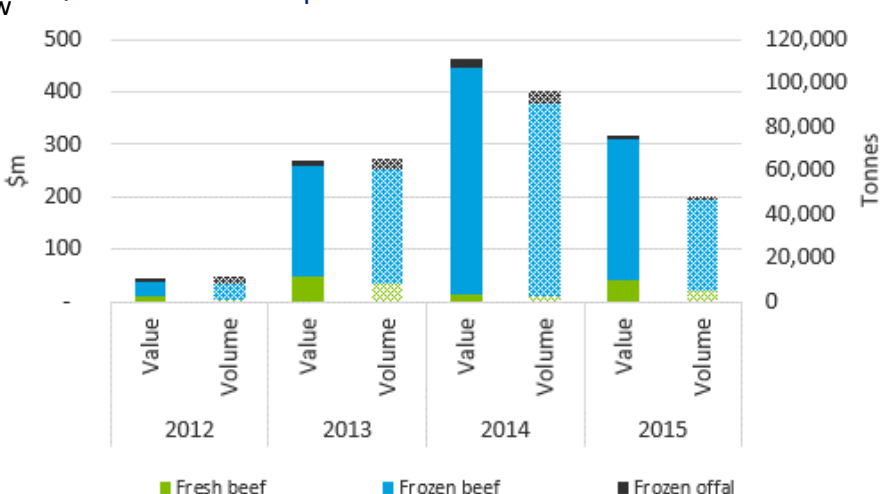
Queensland beef exports

Queensland's beef exports to China grew strongly from 2012 to 2014, but decreased in 2015.

In-market consultation suggests the growth in 2013 and 2014 was due to Australia being able to supply high quality product at low prices. Australia's market share fell in 2015 due to lower priced beef from South America entering the Chinese market.

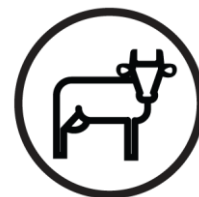
The same in-market stakeholder noted that Australian beef is back in the 'high-end' of the beef market, with mid to low-priced beef being dominated by Brazilian products.

Queensland beef exports to China ⁽⁷⁾



This trend can be seen in the trade data. In 2012 and 2015, rumps, strip loins and similar cuts made up 88% and 85% of the fresh or chilled beef that Queensland exported to China. In 2013 and 2014, bone-in cuts made up 35% and 13% of the Queensland beef exports to China. Bone-in cuts were priced, on average, 30% lower than the rump, strip loin and similar cuts in 2013 and 2014.

Beef profile



Queensland's key competitors

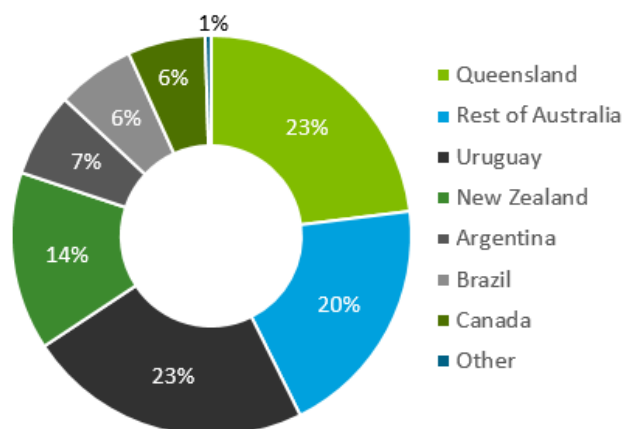
Australia has a large presence in the Chinese beef market. From 2013-2015 Australian exports made up 43% of the value of China's beef imports.

In-market consultation has highlighted price as the key driver of demand, and while Australian products tend to be positioned towards the higher end of the market, the large volumes seen in 2013 and 2014 were very price-driven, and product from Brazil has pushed in to occupy more of that segment of the market.

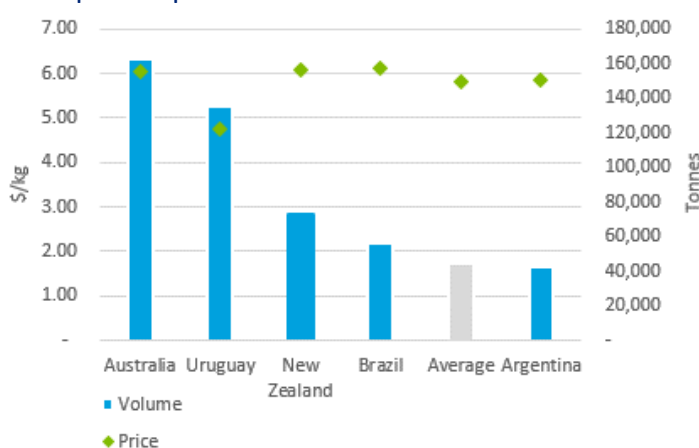
Australia's processing costs are generally higher than our competitors. For example, Australian costs are three times larger than Brazil and 1.5 times larger than New Zealand. The most recent agri-benchmark results indicate that pasture-based systems have slightly lower total average long run costs of production than some of our major competitors in the China market such as Uruguay and Brazil⁽⁸⁾. Australia ranks relatively well along a range of factors of competitiveness, including labour efficiency, the quality of infrastructure, and innovation capacity.

Market access developments are possibly the greatest threat to Queensland producers' competitiveness. ABARES has estimated that improved market access for Latin American countries to China could reduce the value of Australian beef exports to China in 2030 by nearly 30%. China has just resumed imports of beef from the United States after a 13 year ban. Australian product will likely be challenged for market share by the re-entering US product.

Import market share 2013–2015⁽⁹⁾



Competitor prices and volumes 2015⁽⁹⁾



Key factors of competitiveness

| Country | Distance to market (km) | Labour efficiency ¹ (rank - 150 countries) | Cost of inputs ² (rank - 203 countries) | Quality of infrastructure ¹ (rank - 150 countries) | Regulatory burden ¹ (rank - 150 countries) | Innovation capacity ¹ (rank - 150 countries) |
|-------------|-------------------------|---|--|---|---|---|
| Australia | 7,497 (Qld.) | 36 | 83 | 35 | 80 | 23 |
| Uruguay | 18,127 | 128 | 182 | 87 | 85 | 80 |
| New Zealand | 11,160 | 6 | 169 | 29 | 36 | 24 |
| Brazil | 16,622 | 67 | 92 | 71 | 81 | 57 |
| Argentina | 18,887 | 139 | 138 | 122 | 135 | 93 |

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

Beef profile



Supply chain and trade barriers



Farm gate

Through consultation, one stakeholder noted that though Queensland has an established export supply chain from farm gate to export terminal, there are some constraints on road for heavy vehicle configurations. In addition Australian exporters must have approval to export to China and there are currently a limited number of approved export facilities in Queensland, representing around 25% of facilities across Australia.



Export terminal

Beef exported to China must be free of Hormone Growth Promotants (HGP). There is also some restrictions on chilled meat and no protocol for tripe and white offal. It was mentioned in consultations that the live cattle health protocol ratified in June 2015 places a number of constraints on trade.

Key Chinese discharge ports include Shanghai (the most significant), Xingang, Yantai and Tianjin for fresh and frozen product, and Dalian, Qingdao, Xiamen, Shenzhen, Zhanjiakou and Nanjing for frozen products only. Supply chains beyond the initial import stage are varied.



Destination port

One in-market stakeholder noted that the beef market in China is fragmented, with even the largest companies not having a large market share, and each buyer having different requirements. Some of these buyers have long-term relationships and locked-in contracts with Australian suppliers. Others with more recent involvement in beef tend to trade in the spot market.

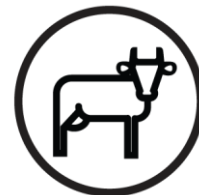
In some cases, import agents and merchant wholesalers take possession but generally not ownership of beef products. In other cases, wholesalers take ownership of beef and then sell directly to consumers and retailers. There are also businesses that act as aggregators for retail firms.

Feed lot capacity is being built near Chinese ports specifically to meet Australian live trade protocols. One stakeholder noted that there are in-market cold chain gaps, particularly inland and outside of tier one cities.



Consumer

Beef profile



SWOT analysis

Strengths

- Australia is currently the biggest exporter of beef into China, with strong demand over the last five years. Volume has increased 20-fold increase in volume while prices have increased four-fold.
- Beef is perceived to be a 'superior protein' and Australian beef is highly regarded for quality, freshness and safety.
- Local Chinese supply is constrained by land, water, feed and consumer concern for adequate quality controls, testing and monitoring systems.
- Well-developed supply chains within Queensland including traceability infrastructure in place via National Livestock Identification Scheme (NLIS).
- Slight transport cost advantage. Beef is \$0.12/kg cheaper than from Brazil and west coast USA.
- Australia is the only country to be granted access for chilled beef to China.

Opportunities

- Tariffs will be eliminated over 8 to 10 years.
- Chinese market is still in early development phase for red meat. Outside of high end retail and fine dining in tier one cities, red meat sector sales channels are underdeveloped and focused on low-priced cuts.
- Increased cold chain capacity and product knowledge and handling skills through the supply chain is likely to open up further channels to market, particularly into tier two cities and for chilled beef products.
- An agreed protocol for edible offal would enable greater carcass utilisation.
- There is a niche opportunity in increasing organic beef exports. An opportunity is for mutually recognised certification standard.
- China is currently developing feedlot capacity near port facilities to meet strict live import regulations, specifically for Australian live cattle. However, health protocol requirements mean this trade channel is likely to be slow to develop.
- There is strong interest from Chinese firms wanting to invest in cattle supply chains in Queensland to ensure security and greater efficiency of the supply chain.

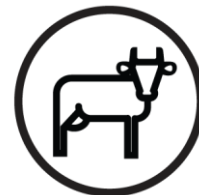
Weaknesses

- Queensland has relatively high-cost production systems compared to some other exporting nations.
- New Zealand currently has zero tariffs on beef exports to China.
- With limited cold chain protocols and cold chain infrastructure outside of tier 1 cities in China, the opportunity to maximise opportunities in online and e-commerce channels may be constrained.
- China does not currently recognise Australian organic certification credentials. Australian companies require an audit of their organic system by Chinese trained inspectors which incurs additional costs.

Threats

- Increased competition from lower cost exporting nations such as Argentina, Uruguay and Brazil. Brazil began exporting to China in mid-2015 after an earlier suspension.
- A biosecurity outbreak would threaten the clean, green image and damage the beef sector.
- An increase in phytosanitary requirements could increase the cost base of Queensland produce, further widening the price gap compared to other exporting nations.
- China's ability to supply beef domestically may improve from productivity gains and herd increases although recent trends indicate that the herd is declining.
- China may enter trade agreements with other nations which reduce the relative competitiveness of Australian product.
- Re-building the Queensland beef cattle herd may take time, limiting market share growth.

Beef profile



Key opportunities and activities

In order to maximise the Queensland beef trade and investment opportunity to China, the following opportunities and gaps have been identified:

- The development of market access protocols for chilled beef and in-market cold chain infrastructure outside of tier one cities would provide Queensland producers and processors with the opportunity to supply greater volumes of this high margin product.
- There is currently no access for offal to China. An agreed protocol here would enable greater carcass utilisation.
- Increasing the number of abattoirs with certification to produce beef for export to China would increase the marketing options for graziers, optimise the supply chain with a more direct connection between Queensland supply and Chinese consumers and develop opportunities for carcass utilisation by processors.
- Development of the live cattle trade is an opportunity. New feedlot capacity, purpose-built for Australian capital, is opening up around ports to meet strict protocol requirements. However, growth is expected to be slowed by import regulations.
- Development of high-margin market segments which play to Queensland's natural advantage, such as organic and grass-fed certification is considered a niche opportunity. However, China does not recognise Australian organic certification. Chinese-trained inspectors need to audit Australian farms prior to an organic labelling claim, which incurs significant costs.
- There is strong interest in Chinese investment in cattle supply chains in Australia. From late 2014 to late 2015, nine Chinese companies invested over \$400 million in Australian beef production and supply chains. Chinese investments are generally made with the intention to integrate supply chains back in China and achieve greater efficiency.
- Supermarkets are the main consumer channel for imported beef products in China and opportunities exist to develop direct relationships. High-end retailers such as City Shop Supermarket, City-Super, CRV Ole and BHG carry high-end beef products which is a market space that suits many Australian beef products. Online platforms are becoming increasingly important. In 2015 JD started selling Australian chilled beef directly to Chinese consumers, which presents further opportunities to grow this market.

Mandarin profile



Mandarin overview

Mandarins have been identified as a potential opportunity for Queensland's trade and investment growth to China:

- Tariffs on Australian mandarins are decreasing from 12% to 0% over nine years.
- China has been importing mandarins from Australia for a number of years.
- Queensland currently has a relatively large share of the Chinese mandarin market, with market share of around 33%. Mandarins are Queensland's most valuable horticultural export to China.
- Australian mandarin's are recognised for quality, and they are able to be supplied counter-cyclically to China's other main sources of mandarins, a major point of difference to competitors.
- China has high quality requirements, and only purchase class one produce.

FTA changes

The FTA with China secured a reduction in the tariff of Australian mandarins from the pre-ChAFTA levels to 0% by 2022.

One of Australia's key competitors in the Chinese mandarin market, Peru, currently faces lower tariffs, and will also face no tariffs in the future a new trade agreement. However, consultation has suggested that product from Peru occupies a different, lower-value place in the Chinese mandarin market.

Tariff reduction schedule ⁽¹⁸⁾

| | Base rate 2014 (%) | Yr1 | Yr2 | Yr3 | Yr4 | Yr5 | Yr6 | Yr7 | Yr8 | Yr9 | Yr10 |
|-----------------|--------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Mandarin | 12 | 10.7 | 9.3 | 8 | 6.7 | 5.3 | 4 | 2.7 | 1.3 | 0 | 0 |

Other FTA conditions

No further restrictions imposed under the FTA.

Competitor tariff comparison ⁽¹⁷⁾

| Country | 2016 tariff | Comment |
|--------------|-------------|-------------------------|
| Australia | 9.3% | 0% by 2023 |
| South Africa | 12% | |
| Peru | 2.9% | Will reach 0% under FTA |
| Thailand | 0% | |
| Argentina | 12% | |
| USA | 12% | |

Mandarin profile



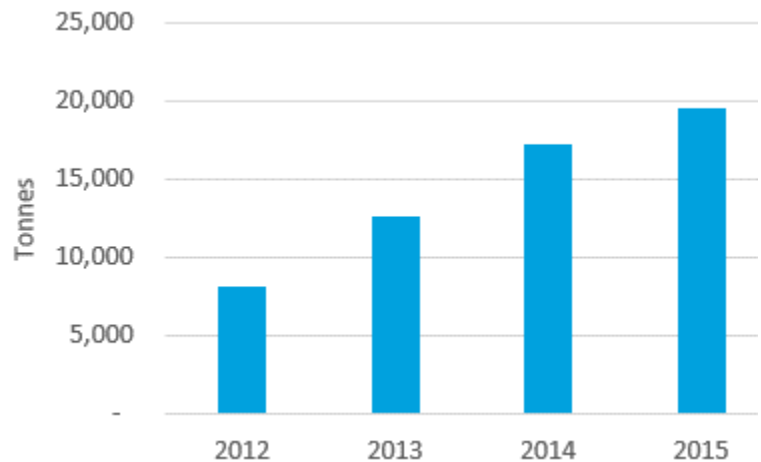
Chinese mandarin demand

China's demand for mandarins, as indicated by their total imports, has shown consistent growth in recent years. From 2012 to 2015 total imports more than doubled, from around 8,000 tonnes to nearly 20,000 tonnes.

Consultation has indicated that demand in China is for high-quality, blemish-free mandarins. They are often purchased as gifts during festivals in China.

One industry stakeholder has pointed out that Chinese consumers are more accepting of mandarins with seeds in them than some other markets like Japan. However, they also noted a trend towards preferences for seedless mandarins.

Chinese total mandarin imports ⁽⁹⁾



Consumer channels and key players

Supermarkets, wet markets and secondary wholesale markets will typically purchase imported fruit. However Australian mandarins are considered premium and will typically be picked up by high-end supermarkets.

A number of major supermarkets stock Australian mandarins and some directly source Australian mandarins to guarantee food safety. Little value adding is undertaken in-market for Australian premium mandarins, although they are sometimes gift packaged.

Consultations suggested there is significant concentration in the mandarin market in China, with the state-owned COFCO as the biggest buyer. Other key purchasers of Australian mandarins include Joyvio, Golden Wing Mau, Dalian Yidu Group and Fruit Day (an online seller).

Key retailers include Sam's club (club shopping like Costco), Carrefour, Vanguard, Lotte Mart, Lotus, PARKnSHOP, Tesco, Wal-Mart and Wellcome. In-market consultation indicated that most imported mandarins tend to be purchased at high-end shops rather than local markets which are more likely to sell domestically produced mandarins.

There is some development in e-commerce channels, although consumers still prefer traditional retail. In-market consultation indicated that many Chinese e-commerce companies are trying to engage Queensland businesses, but a lack of cold chain infrastructure is a barrier to success. Stakeholders anticipate that these issues could be solved within the next one to two years.

Mandarin profile



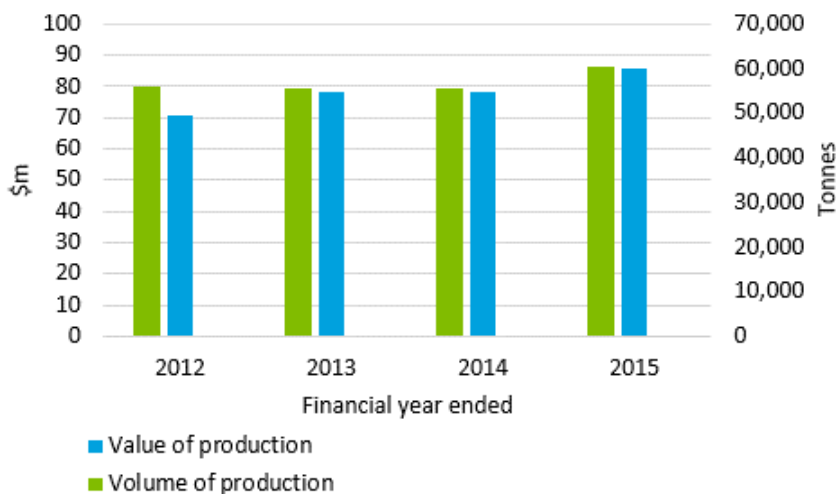
Queensland mandarin supply

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 – they are regarded as ‘bulletproof’, so can be exported as class one product.

There is also a long marketing season for Murcott from June to September.

In-market consultation indicated that COFCO and Golden Wing Mau Group have looked for investment options in the Australian mandarin and wider fruit industry. No deals have been made, partly because of the relatively small size of horticultural businesses in Australia.

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

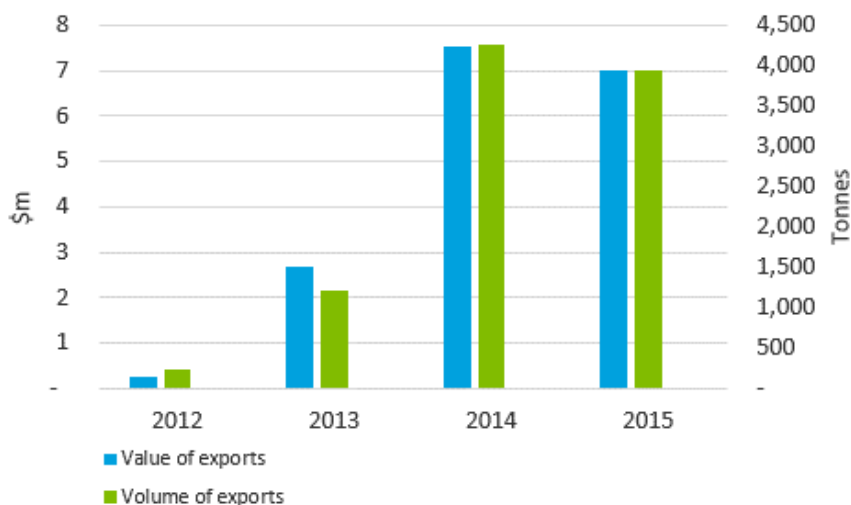


Queensland mandarin exports

Queensland’s mandarin exports were worth around \$7 million in 2014 and 2015 – higher than 2012 and 2013, where less than \$3 million of mandarins were exported in total.

Exports to China are solely focused on high-value, class one produce. One industry member said that the class one fruit “sells itself”, and the challenge is to find buyers for the remaining 80% of product that falls outside the class one category.

Queensland mandarin exports to China ⁽⁷⁾



Mandarin profile



Queensland's key competitors

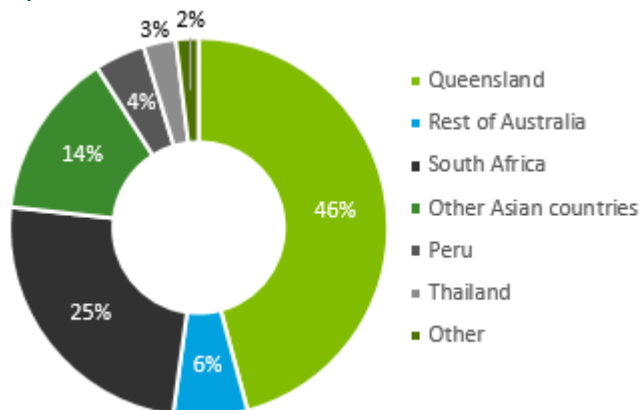
As well as being the largest source of mandarin imports for China, Australia also enjoys advantages and can charge a price premium over other competitors.

South Africa is a key competitor for Australia. As a southern hemisphere country, they are able to supply in similar time frames to Australia. However, one industry stakeholder suggested that phytosanitary conditions and lower quality fruit make them less of a threat than the data indicate. Australia also has a tariff advantage over South Africa.

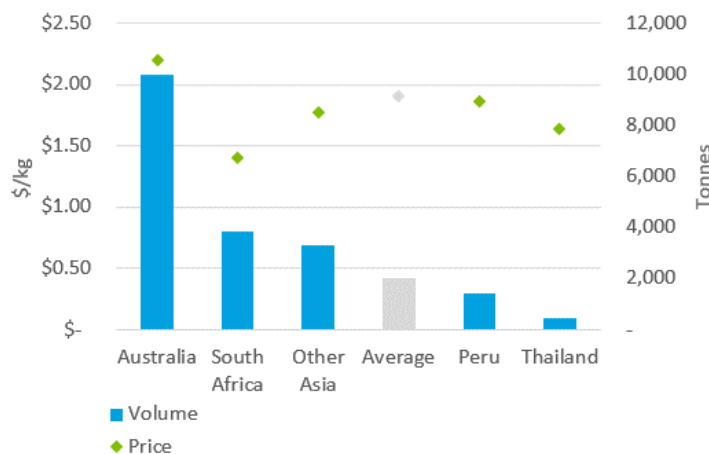
Other main exporters to China are in the northern hemisphere and therefore are counter-seasonal, or they have low volumes and quality such as Peru.

Australia's key advantages are that transport distances are shorter, particularly compared to South Africa and Peru, and that the quality of fruit is higher. A key competitor for Queensland producers may actually be other Australian producers. The South Australian Riverland region's Pest Free Area is now recognised by China for stone fruit, and citrus may follow. This could provide South Australian producers with cost and ease of supply advantages. Australia's key disadvantages are high labour costs and regulatory burden.

Import market share 2012–2015 ⁽⁹⁾



Competitor prices and volumes 2015 ⁽⁹⁾



Key factors of competitiveness

| Country | Distance to market (km) | Labour efficiency ¹ (rank - 150 countries) | Cost of inputs ² (rank - 203 countries) | Quality of infrastructure ¹ (rank - 150 countries) | Regulatory burden ¹ (rank - 150 countries) | Innovation capacity ¹ (rank - 150 countries) |
|--------------|-------------------------|---|--|---|---|---|
| Australia | 7,497 (Qld.) | 36 | 83 | 35 | 80 | 23 |
| South Africa | 12,434 | 107 | 76 | 59 | 117 | 38 |
| Peru | 17,038 | 64 | 130 | 112 | 133 | 116 |
| Thailand | 2,244 | 67 | 92 | 71 | 81 | 57 |
| Argentina | 18,887 | 139 | 138 | 122 | 135 | 93 |

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

Mandarin profile



Supply chain and trade barriers



Farm gate

There is a well-established and reliable supply chain in Australia, though consultation highlighted the fact that road freight within Australia is more expensive than sea freight from Australia to China.



Export terminal

Growers, orchards, packhouses and onshore cold treatment facilities must be export-approved. COFCO sends representatives to orchards during harvest periods to check on product quality.

All fruit must undergo cold treatment while in transit to comply with phytosanitary requirements to control fruit fly. This is an expensive process. One industry stakeholder indicated it could cost around \$3,000 per container of mandarins worth around \$30,000. The treatment cost is sometimes equivalent to harvest costs.



Destination port

Most produce lands in four ports on the Chinese eastern seaboard to access the tier one cities. Certification requirements can lead to substantial delays in unloading mandarins at the destination port. Most cold-chain infrastructure is concentrated in tier one cities and it is costly to transport produce inland. However consultations suggest that tier two cities are potential markets.



Consumer

Fruit is distributed to wholesalers in major tier one markets. Supermarkets, wet markets and secondary wholesale markets will typically purchase fruit. Australian mandarins are considered premium and will typically be sold by high-end supermarkets.

Mandarin profile



SWOT analysis

Strengths

- High demand for citrus – oranges and mandarins collectively comprise 17% of Chinese fruit consumption.
- Australia is the largest single source of mandarin imports to China. Queensland has supplied up to 90% of Australia's mandarin exports to China over the last three years.
- Premium market – Queensland exports class one fruit which is high quality, with minimal blemishing and tight shiny skin.
- Very little competition in southern hemisphere for the quality and variety preferences of Chinese consumers.
- Reliable supply chain.
- Australia's clean, green image.
- Current Chinese consumers not adverse to seeds, a trait of Queensland's export variety of Murcott.

Weaknesses

- Costly phytosanitary and certification requirements, including continuous temperature monitoring during transit to control fruit fly.
- Currently only around 20% of the Queensland crop meets the class one standard.
- No real market in China for value adding mandarins – such as packaged fruit or juice.
- There are other markets for class two fruit, such as Thailand which has recently opened its market.
- Australia's mandarin industry is mostly focused on the domestic market, with limited market testing or development work undertaken with Chinese consumers.
- The Imperial variety does not travel well, so is not suitable for export. Afourer mandarin which is grown in southern Australia does not grow easily in Queensland.
- Many growers recently experienced droughts and floods and many are not in a position to invest.

Opportunities

- Tariff of 12% eliminated by 2023.
- Continuing strong demand is expected, Australia only fulfilling 20% of the current demand for class one fruit.
- Improving easy-peel and producing seedless Murcott will ensure this market continues to be strong in the long term.
- Higher focus on producing class one fruit for the Chinese market – there are a number of production techniques that can be employed to increase the proportion of class one fruit.
- Greater industry collaboration with the class one Chinese market can lead to greater supply consistency and greater volumes to meet demand. For example, a recent collaborative grower program for selling class two fruit to Thailand was very successful.

Threats

- Although Chinese consumers currently accept mandarins with seeds, consumer preferences may change as they are exposed to new varieties.
- China may enter agreements with other nations which reduce the relative competitiveness of Australian product.
- Citrus produced in the South Australian Riverland Pest Free Area may be recognised as fruit fly free by China which would provide cost and ease of supply advantages for South Australian producers relative to Queensland producers.

Mandarin profile



Key opportunities and activities

In order to maximise the Queensland mandarin trade and investment opportunity to China, the following opportunities and gaps have been identified:

- The market for class one mandarins into China is very strong. At the moment, it is estimated that Australia is only meeting 20% of the market order. The main opportunity for mandarins is to increase production of class one fruit.
- Non-tariff barriers such as phytosanitary requirements to control fruit fly and the certification process were identified as more costly than tariffs. At the moment, mandarins undergo a cold treatment process which is extremely costly and can add between \$2-\$2.50 per 15kg carton. Alternative methods such as fumigation and radiation have not been successful. Reduction of these non-tariff barriers would be extremely beneficial to Queensland producers.
- The Murcott is currently a popular variety in China, and is suited to Queensland growing conditions. It is, however, important that Queensland growers continue to work on developing easier-peel and reduced seed strains of the Murcott and possibly other varieties. This will serve to ensure the Murcott is sustainable in the Chinese market over the long term.
- There is significant concentration in the mandarin market in China. Relationship development with new purchasers is required to promote Queensland mandarins. Other key purchasers of Australian mandarins include Joyvio, Golden Wing Mau, Dalian Yidu Group and Fruit Day (an online seller).

Macadamia profile



Macadamia overview

Macadamias have been identified as a potential opportunity for Queensland's trade and investment growth to China:

- Queensland produces around 45% of Australia's macadamias. The 2016 crop is expected to reach record highs.
- Australia dominates the Chinese macadamia market – 55% of the value of China's macadamia imports from 2013-2015 came from Australia.
- Despite Queensland's significant share of Australian macadamia production, only around 13% of Australia's macadamia exports to China come from Queensland.
- Tariffs on Australian mandarins are decreasing from 24% to 0% over five years.
- While Queensland's exports were worth around \$6 million, compared to gross value of production of around \$75 million, there is potential to grow the market.

FTA changes

The tariff is currently 14.4%, and will be 0% by 2019. Queensland's major competitors face higher tariffs than Australian macadamias in China, though this could change from future trade agreements.

Tariff reduction schedule ⁽¹⁸⁾

| | Base rate (%) | Yr1 | Yr2 | Yr3 | Yr4 | Yr5 | Yr6 | Yr7 | Yr8 | Yr9 | Yr10 |
|-----------|---------------|------|------|-----|-----|-----|-----|-----|-----|-----|------|
| Macadamia | 24 | 19.2 | 14.4 | 9.6 | 4.8 | 0 | 0 | 0 | 0 | 0 | 0 |

Other FTA conditions

There are no further restrictions imposed under the FTA.

Competitor tariff comparison ⁽¹⁷⁾

| Country | 2016 tariff (shelled) | Comment |
|--------------|-----------------------|------------|
| Australia | 14.4% | 0% by 2023 |
| USA | 24% | |
| South Africa | 24% | |
| Costa Rica | 14.4% | 0% by 2023 |
| Guatemala | 24% | |

Macadamia profile



Chinese macadamia demand

China's macadamia nut imports were around the 10,000 tonnes per year for a number of years, but more than doubled from 2014 to 2015 to over 20,000 tonnes. China is primarily a nut in shell market. Nut in shell imports accounted for 85% of imports, on average, over the last four years.

One industry stakeholder noted that current demand for macadamias in China is partly the result of a Chinese Government initiative that involved subsidisation of the domestic planting of macadamia trees. This was intended as a rural poverty alleviation measure because macadamias were identified as a suitable and profitable crop, with low perishability.

As in other parts of the world, there is a growing appreciation of the contribution that nuts make to a healthy diet. There is also growing understanding of the versatility of nuts.

One industry stakeholder suggested that market growth is mostly occurring in tier one cities, where up to 80% of macadamia purchases are gifts, with significant sales spikes around Singles' Day and Chinese New Year.

Australian macadamias are considered premium because the macadamias originated in Australia and Australia has a strong food safety record.

Consumer channels and key players

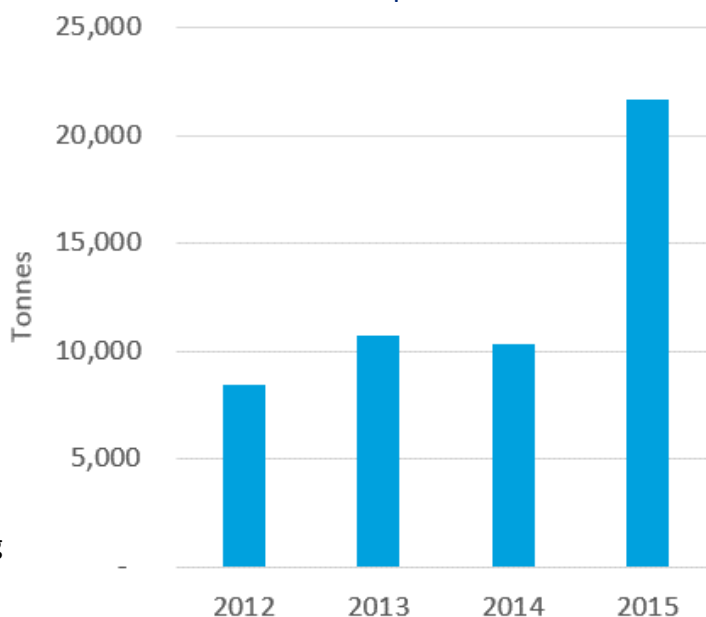
Chinese consumers utilise a range of channels to buy macadamias, but an important channel is online. Key players are Tmall, Taobo, JD and Alibaba.

80% of macadamias are purchased as gifts, and therefore are often adorned in elaborate packaging. Most Chinese consumption occurs during the Singles' Day and Chinese New Year.

Talks between the Australian macadamia industry and key players in the online retail space – JD and Alibaba – indicate that Chinese consumers desire Australian grown, processed and branded products. However Australian branded products are currently lacking.

As with other products entering China, it is crucial that macadamia imports comply with all appropriate regulations. In 2015 South African imports were halted because of non-compliance with regulations around country of origin.

Chinese total macadamia imports ⁽⁹⁾



Macadamia profile



Queensland macadamia supply

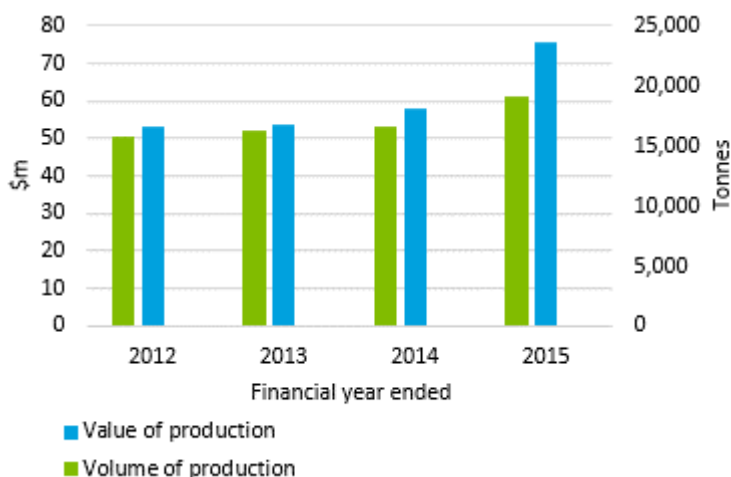
Queensland's macadamia production has had a clear upward trajectory over the last four years, which is the direct result of investment over the last decade.

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 significant figure for a perennial crop.

There is difficulty attracting investment into the industry 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.

While there is some foreign investment, the scale of the macadamia industry presents a difficulty for attracting institutional capital. Individual properties are in general too small to be of interest to institutional investors who prefer properties worth a minimum of \$20 million, but ideally in the \$50-\$100 million range. While grouping properties to a sufficient scale is not straightforward, there is potential for industry expansion. Queensland has seen significant growth in macadamia production, particularly in the Bundaberg region. This growth has been driven by low land prices, access to water, and experienced growers.

Queensland macadamia production ^(3-6, 10-13)

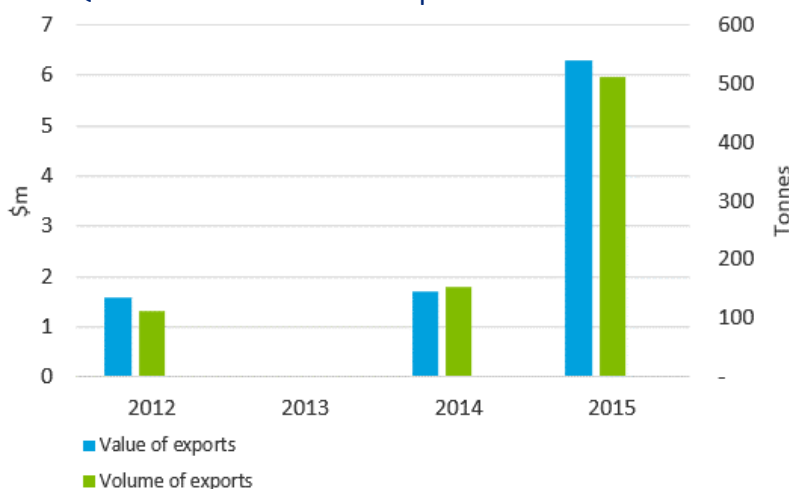


Queensland macadamia exports

Queensland's macadamia exports to China reached over \$6 million in 2015, a more than three-fold increase over exports in 2014 and 2012. No exports were recorded in 2013.

The strong growth observed does not simply reflect preference for Australian produce. Demand growth is strong enough that China will purchase nuts from anywhere. One industry stakeholder suggested that China currently consumes 35% of the global crop.

Queensland macadamia exports ⁽⁹⁾



Macadamia profile



Queensland's key competitors

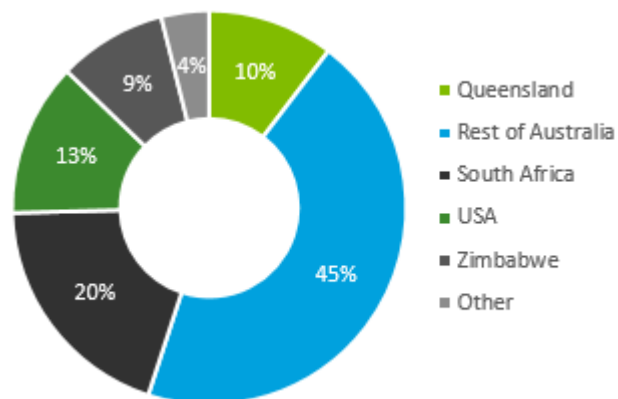
The prices for Australian macadamias are very similar to those paid for South African product. However, Australia maintains a clear market share advantage.

While most macadamias are exported to China in shell, there is latent demand for Australian grown, processed and branded products. This is an opportunity for Queensland producers.

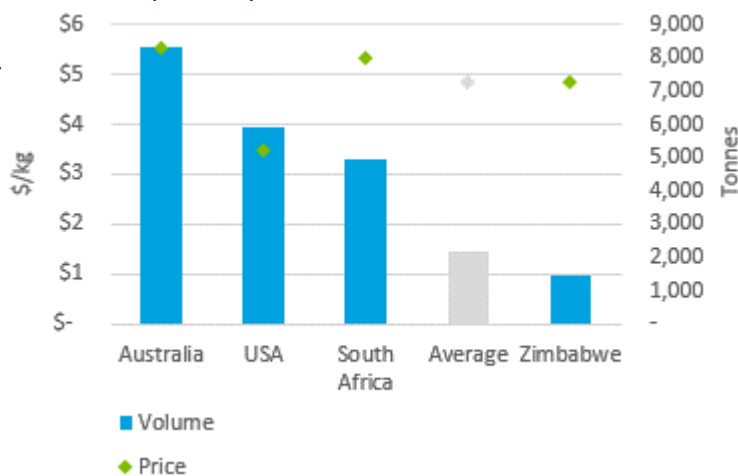
While the reporting here is focused on other countries exporting macadamias to China, it must be noted that China itself is a major macadamia producer. The Australian Macadamia Society's Chief Executive Officer has estimated that China could be the world's largest producer of macadamias within 15 years.

Australia ranks relatively favourably against major competitors in the Chinese macadamia market, with higher labour efficiency, better quality infrastructure, lower regulatory burden and higher innovation capacity than South Africa.

Import market share 2013–2015 ⁽⁹⁾



Competitor prices and volumes 2015 ⁽⁹⁾



Key factors of competitiveness

| Country | Distance to market (km) | Labour efficiency ¹ (rank - 150 countries) | Cost of inputs ² (rank - 203 countries) | Quality of infrastructure ¹ (rank - 150 countries) | Regulatory burden ¹ (rank - 150 countries) | Innovation capacity ¹ (rank - 150 countries) |
|--------------|-------------------------|---|--|---|---|---|
| Australia | 7,497 (Qld.) | 36 | 83 | 35 | 80 | 23 |
| South Africa | 12,434 | 107 | 76 | 59 | 117 | 38 |
| USA | 11,671 | 4 | 17 | 13 | 51 | 4 |
| Zimbabwe | 9,957 | 134 | 147 | 121 | 129 | N/A |

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

Macadamia profile



Supply chain and trade barriers



Farm gate

The supply chain from farm gate to export terminal is short, well-structured and efficient. There are opportunities for production expansion as current processing capacity exceeds production by around 30%.

Macadamias are subject to general requirements only, such as a phytosanitary certificate. However, the nut is currently on the USDA's highest risk rating due to salmonella detection in a Kenyan crop. As such, there is potential for phytosanitary requirements to be increased, such as pasteurisation. Investment may be required as there are only limited pasteurisation facilities at the moment.



Export terminal

There is potential for improved monitoring and management of cool chain after produce leaves Australian ports.



Destination port

Most produce passes through the ports on the Chinese eastern seaboard, namely Guangzhou, Shanghai or Dalian (Beijing), to access tier one cities.



Consumer

Distributors and aggregators transport product to wholesalers or direct to retailers, online traders and processors. Macadamias are currently a 'high margin' product so are being pursued vigorously by traders.

While most nuts are sold in shell, a proportion of Australian nuts are being substituted in packaged brands, such as Blue Diamond or Mauna Loa packaged nuts, which are recognised brands in China. In addition, some macadamias are purchased for processing into oil and skin-care products.

Macadamia profile



SWOT analysis

Strengths

- China is Australia's biggest export market.
- Strong demand is underpinned by consumer awareness of health benefits and product versatility.
- High market share and high margins.
- Premium product with macadamias purchased as gifts.
- Preference for Australian product due to quality perceptions and status as the native home of macadamias, however no price premium is apparent.
- Chinese consumers utilising a range of channels to buy macadamias, but a key channel is online.
- Current consumers tend to be better educated and wealthier, and therefore more likely to seek premium quality.
- Queensland's industry is already export-focused with macadamias the largest horticultural export product.

Weaknesses

- Long lead time to ramp up production, therefore it is difficult to respond quickly to market signals.
- Expensive relative to other edible nut options and other sources of macadamias such as South Africa and Kenya where production costs are around 10% lower.

Opportunities

- Tariff of 24% being eliminated completely by 2019, although initial reduction to 19% was applied to all countries so there is no tariff advantage as yet.
- Chinese demand for nuts is growing rapidly and there has been rapid growth in Australian exports to China in the last 3-4 years.
- Given strong demand, a key opportunity is to increase Queensland production – through increasing area under macadamia, increasing productivity and achieving greater scale of orchards.
- Current production spikes around Chinese New Year. As understanding of the health benefits of nuts develops, year round consumption is likely to increase, for example beyond the gift giving period.
- In addition to increasing production, there is potential to develop a specific Australian brand around macadamias. Online purchasers are desiring Australian grown, processed and branded products. Currently, there is no prominent Australian branded product.
- Increasing kernel market segment.

Threats

- Potential for higher food safety requirements should concerns around salmonella persist – adding to export costs.
- China may enter trade agreements with other key suppliers which reduces the relative competitiveness of Queensland product.
- Main competitors in China market in last 2 years are Chinese domestic production, South Africa and Kenya – there is potential for production to increase in these countries which could then threaten Queensland's market share.

Macadamia profile



Key opportunities and activities

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

- Given the strong demand for macadamias from China, the major opportunity is the ability to meet demand through increasing production volume. It is reported that there is potential to increase the macadamia area 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.
- In addition to increasing production, there is an opportunity to maximise product differentiation from other export and in-market competitors through the development of Australian branded macadamias – highlighting macadamia as Australia’s native nut and track record of high quality produce. This would position Queensland macadamias as a premium product.
- China is currently an ‘in-shell’ market for macadamias. As consumer preferences change over time, there may be an opportunity for Australian suppliers to develop more value-added product such as shelling, roasting, salting and packing. This could result in higher margins, reduced freight costs as the shell will not be exported and will enable greater product differentiation through packaging.
- Online stores such as Tmall, Taobo, JD and Alibaba are key channels by which Chinese consumers purchase macadamias. Opportunities exist for Queensland growers to market more directly to consumers, rather than selling to processors.

Grains and pulses profile



High protein grains and pulses overview

High protein grains and pulses have been identified as a potential opportunity for Queensland's trade and investment growth to China:

- Queensland has been the main Australian jurisdiction exporting these types of products to China, though volumes have historically been small.
- Tariffs have been or are being reduced to 0% for these commodities.
- Australia mostly produces green mung beans, which are the type of bean that China imports.

Mung beans is the primary traded high protein grain or pulse from Queensland to China at present. Although there are opportunities for similar trade and purchasing arrangements for other high protein grains and pulses.

FTA changes

ChAFTA is resulting in the elimination of tariffs on a number of high protein grains and pulses:

- The 3% tariff on dried mung beans or adzuki beans was reduced to 0% immediately following the implementation of ChAFTA.
- The 7% tariffs on chickpeas and lentils is being reduced to 0% over five years. The current tariff is 4.2% and will be 0% by 2019.

Tariff reduction schedule ⁽¹⁸⁾

| | Base rate (%) | Yr1 | Yr2 | Yr3 | Yr4 | Yr5 | Yr6 | Yr7 | Yr8 | Yr9 | Yr10 |
|----------------------------------|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Dried mung beans or adzuki beans | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dried chickpeas | 7 | 6 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dried lentils | 7 | 6 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Other FTA conditions

There are no further restrictions imposed under the FTA.

Competitor tariff comparison ⁽¹⁷⁾

| Country | 2016 tariff (mung bean) |
|-----------|-------------------------|
| Australia | 0% |
| Myanmar | 0% |
| Thailand | 0% |
| Indonesia | 0% |
| Guatemala | 0% |

Grains and pulses profile

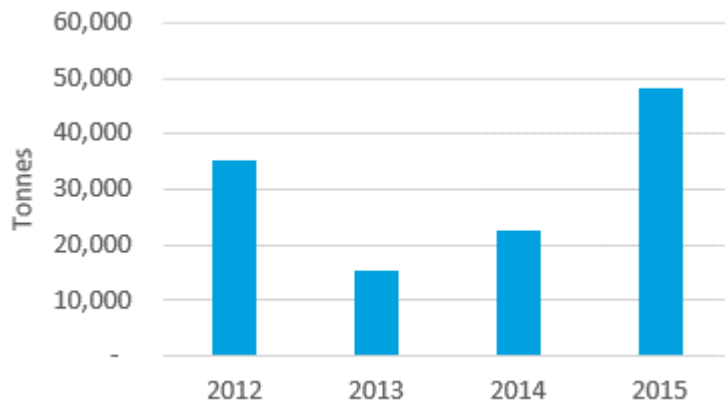


China high protein grains and pulses demand

China is a producer, importer and exporter of high protein grains and pulses. The chart on the right includes information on leguminous vegetables, chickpeas, lentils, adzuki beans and mung beans.

While China is a net exporter of high protein grains and pulses, they are relatively more reliant on imports for mung beans compared to other gains and pulses. From 2012 to 2015 exports of other high protein grains and pulses were worth nearly 14 times as much as imports. For mung beans, this figure decreased to around 8. There has been a trend towards more imports over recent decades as local demand has grown quickly.

Total Chinese imports of high protein grains and pulses ⁽⁹⁾



Note: data relate to leguminous vegetables, chickpeas, lentils, adzuki beans and mung beans.

As a producer, China's demand for mung beans and other crops in this category is sensitive to seasonal conditions, with demand in 2015 driven up by low plantings and a poor growing season.

Mung beans are widely used in Chinese cooking. They are used to prepare porridge, especially during summer. They are also processed into a bean paste, which is both used domestically and exported ⁽¹⁴⁾. One industry player has commented that increasing awareness of the nutritional benefits of pulses will increase their consumption over time ⁽¹⁵⁾. The mung beans that China imports are of the green variety.

Consumer channels and key players

The state owned enterprise COFCO still plays a large role in the distribution network, purchasing grains and pulses from abroad and processing them in China. This role is likely to expand in the coming years based on the enterprise's stated ambition to source 50 million tonnes of grain from overseas markets by 2020 ⁽¹⁶⁾.

Grains and pulses profile

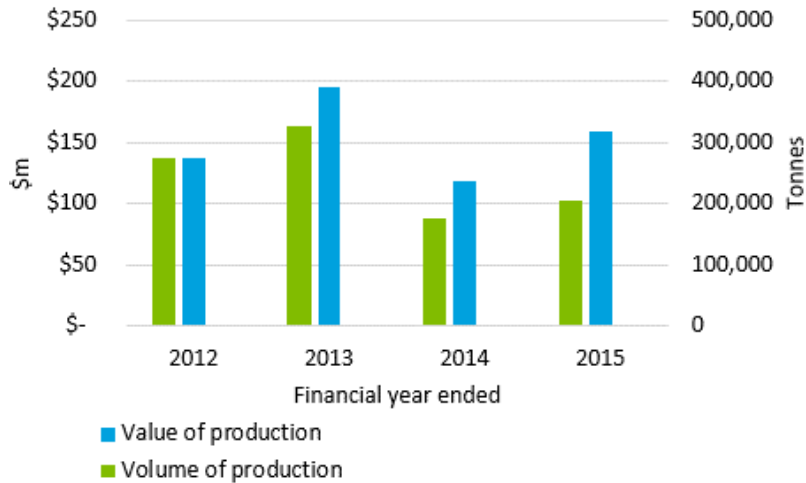


Queensland high protein grains and pulses supply

Queensland produced around 300,000 tonnes of 'other pulses' in 2015. This category includes mung beans, lupins and chick peas. In the last year for which detailed data were available (2012) chickpea production alone was around 220,000 tonnes.

Volumes do vary relatively significantly from year to year in this commodity grouping, with planting variations based on seasonal conditions, prices and cropping rotation practices.

Queensland high protein grains and pulses production (3-6,10-13)

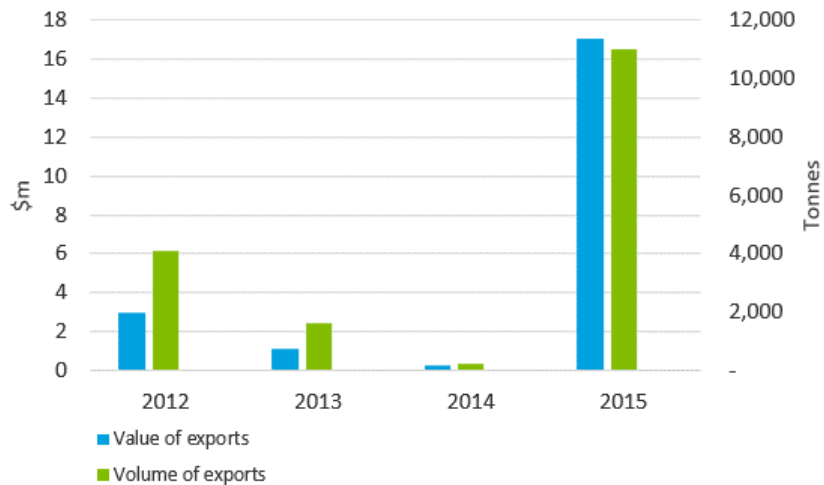


Queensland high protein grains and pulses exports

Queensland usually exports a relatively small number of these products to China. 2015 appears to have been an anomaly, with a rapid increase in mung bean exports being driven by low plantings and poor seasonal conditions within China.

Most Queensland mung beans are exported to India (34% of all mung beans exported from Queensland over the last five years).

Queensland high protein grains and pulses exports to China ⁽⁷⁾



Note: data relate to mung beans only (no chick peas, lentils etc. were exported).

Grains and pulses profile



Queensland's key competitors

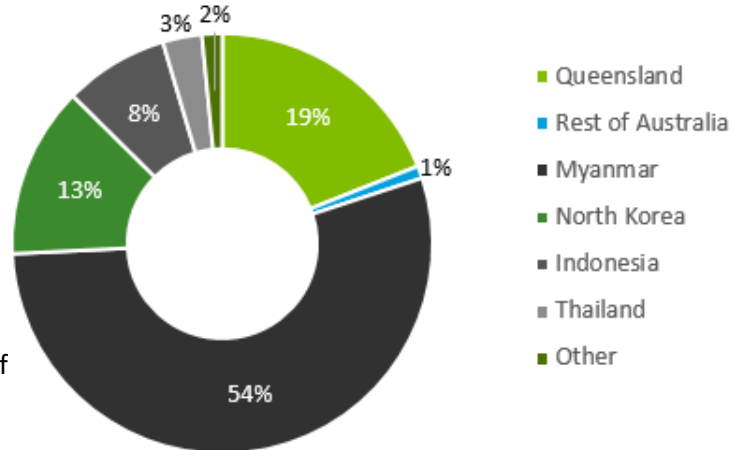
Queensland's major competitor is Myanmar, which supplied 54% of all high protein grains and pulses imported by China from 2013-2015. 84% of these imports were mung beans, which are also the only noteworthy high protein grain or pulse being exported from Queensland at the moment.

Australian mung bean exports grew from around 100 tonnes in 2013 to nearly 13,000 tonnes in 2015 (approximately one third of total Chinese imports). This sharp increase was driven by low plantings and poor seasonal conditions in China. Was the source of the vast majority of these mung beans.

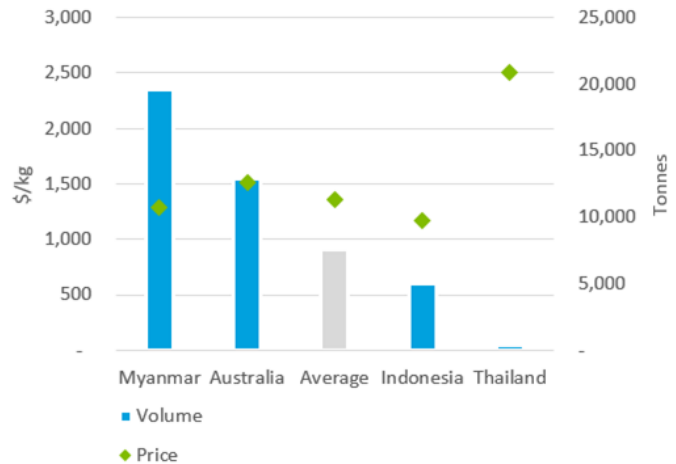
There is not wide variation in the price of mung beans – with the apparent exception of a very small volume of high value mung beans exported from Thailand in 2015. However, Australia produces a large variety of mung bean which attracts price premiums of around \$100 per tonne in China.

Myanmar shares a border with China so has a powerful geographic advantage over all other competitors. However, Australia has advantages over Myanmar in the areas of labour efficiency, quality of infrastructure, regulatory burden and innovation capacity.

Import market share 2013-2015 ⁽⁹⁾



Competitor prices and volumes 2015 ⁽⁹⁾



Note: data relate to mung beans (which account for 85% of China's imports of high protein grains and pulses). A 5 tonne shipment recorded from France has been excluded from the calculations.

Key factors of competitiveness

| Country | Distance to market (km) | Labour efficiency ¹ (rank - 150 countries) | Cost of inputs ² (rank - 203 countries) | Quality of infrastructure ¹ (rank - 150 countries) | Regulatory burden ¹ (rank - 150 countries) | Innovation capacity ¹ (rank - 150 countries) |
|-----------|-------------------------|---|--|---|---|---|
| Australia | 7,497 (Qld.) | 36 | 83 | 35 | 80 | 23 |
| Myanmar | 1,743 | 73 | 60 | 135 | 111 | 132 |
| Indonesia | 4,195 | 115 | 30 | 81 | 41 | 30 |
| Thailand | 2,244 | 67 | 92 | 71 | 81 | 57 |

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

Grains and pulses profile



Supply chain and trade barriers



Farm gate

The supply chain for high protein grains and pulses typically utilises existing grain infrastructure in Queensland. Some smaller configuration limitations and access to food-quality containers has resulted in 'double handling' inefficiency in the supply chain in the past. However, no significant supply chain issues have been identified at the current level of exports.



Export terminal

An import permit is required for mung beans, and specific endorsements and possible visual inspections are required to confirm that exports are free of pests such as beetles, weevils and other plant material and diseases.



Destination port

China's main grain ports are Huangpu, Shenzhen and Tianjin. The ability to access the Chinese market depends on the negotiation of export protocols. There is currently no protocol in place for Australian chick pea exports to China.



Consumer

The market is experiencing ongoing liberalisation. Price support policies have been abandoned for all commodities other than wheat and rice. The market operates under the conditions imposed by the State Administration of Grain agency, as well as the protocols negotiated for the international trade of specific products. It is possible for these requirements to be changed within short time frames.

Grains and pulses profile



SWOT analysis

Strengths

- Mung beans have shown particular improvement in productivity, quality and yield in recent years through focused breeding and extension programs.
- Australia produces a large variety of mung bean which attracts price premiums of around \$100 per tonne in China.
- Global mung bean demand is currently high, including from China.
- Queensland exported \$16 million worth of exports in 2015. This large increase over earlier years was driven by production shortfalls within China, and is not necessarily an indicator of a structural change in the market.

Weaknesses

- Market is developing but is not currently as mature as other commodities, as demonstrated by the relatively small volume of trade observed to date.
- China has strong domestic supply of mung beans.
- The subcontinent demand for chickpeas and mung beans is particularly strong and remains the key export market for Queensland production.
- The vast majority of product is exported from Brisbane and therefore potentially travels long distance by road, which is comparatively more expensive than rail.
- Some configuration limitations and lack of access to food-quality containers can lead to 'double handling' of product with associated cost and shrinkage loss.
- Consistency of supply is problematic whilst these crops remain subject to relative gross margins of other crop options.
- Variable seasonal conditions, which poses risks for security of supply.

Opportunities

- Good tariff reductions. For example: mung beans from 3% to 0% immediately, chickpeas from 7% to 0% by 2019.
- Growing Chinese middle-class, and increasing preferences for the traceability and quality that Queensland can provide.
- The health benefits of pulses continues to be promoted – i.e. 'International Year of the Pulse' growing overall demand.
- Queensland product is marketed as being of quality particularly for mung beans, but also genetic-modification (GM) free status for other crops such as soybean.

Threats

- China may enter trade agreements with other nations which may reduce the relative competitiveness of Queensland's product.

Grains and pulses profile



Key opportunities and activities

In order to maximise the Queensland high protein grains and pulses trade and investment opportunity to China, the following opportunities and gaps have been identified:

- Queensland has some particular supply advantages in mung bean production with significant yield improvements in recent years and produce being of the highest quality. It would appear that there is further potential for an increase in mung bean productivity and overall production in Queensland.
- A cornerstone buyer for high protein grains and pulses – with some minimum volume and price to growers – could help support a more consistent planted area and therefore more consistent supply to China. COFCO, the state owned food processing company, is the main buyer across a range of commodities in this space so development of bilateral trading relationships are required.

References

- (1) USDA (2016), *Production, Supply and Distribution Online*. URL <https://apps.fas.usda.gov/psdonline/psdhome.aspx>. Accessed 1/12/2016
- (2) ABS (2016), *7218.0.55.001 – Livestock and Meat, Australia, Sep 2016*.
- (3) ABS (2016), *7503.0 – Value of Agricultural Commodities Produced, Australia, 2014-15*.
- (4) ABS (2015), *7503.0 – Value of Agricultural Commodities Produced, Australia, 2013-14*
- (5) ABS (2014), *7503.0 – Value of Agricultural Commodities Produced, Australia, 2012-13*.
- (6) ABS (2013), *7503.0 – Value of Agricultural Commodities Produced, Australia, 2011-12*.
- (7) ABS (2015), *5368.0 – International merchandise exports, Australia – information consultancy subscription service, unpublished data*.
- (8) MLA (2016), *How are global and Australian beef and sheepmeat producers performing? Global agri-benchmark network results 2015*.
- (9) United Nations (2016), *UN comtrade database*. URL <https://comtrade.un.org/data/> Accessed 1/12/2016.
- (10) ABS (2016), *7121.0 – Agricultural Commodities, Australia, 2014-15*.
- (11) ABS (2015), *7121.0 – Agricultural Commodities, Australia, 2013-14*.
- (12) ABS (2014), *7121.0 – Agricultural Commodities, Australia, 2012-13*.
- (13) ABS (2013), *7121.0 – Agricultural Commodities, Australia, 2011-12*.
- (14) Anderson-Sprecher, A and Lei, Z (2014), *China – Peoples Republic of, Pulse Annual*. USDA Foreign Agricultural Service.
- (15) International Food Trader (2013), *Understanding China's Pulse Trade: An Interview with Jiang Zhiyi*. URL <https://www.goift.com/news/130930-pulse-interview-understanding-chinas-pulse-trade-an-interview-with-jiang-zhiyi-higgins/>. Accessed 5/12/2016.
- (16) Lucas, T (2016), *China – Future opportunities for the Australian grain industry*. Presentation, 7 July 2016. URL http://www.ioa.uwa.edu.au/_data/assets/pdf_file/0006/2904459/Trevor-Lucas_China-future-opportunities.pdf. Accessed 5/12/2016.
- (17) International Trade Centre (2016), *Market Access Map*. URL <http://www.macmap.org/QuickSearch/CompareTariffs/>
- (18) China-Australia Free Trade Agreement, Annex I: Schedules of Tariff Reduction Commitments of Australia and China
- (19) China-Australia Free Trade Agreement, Annex 2B: Special Agricultural Safeguard Measures

General use restriction

This report is prepared solely for the Department of Agriculture and Fisheries and Trade and Investment Queensland by Deloitte Access Economics. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose of identifying the opportunities for Queensland agribusiness from the Free Trade Agreements with China, Japan and South Korea. You should not refer to or use our name or the advice for any other purpose.



General information only

This presentation contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively the "Deloitte Network") is, by means of this presentation, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this presentation.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte has in the region of 225,000 professionals, all committed to becoming the standard of excellence.

About Deloitte Australia

In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms, Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 6,000 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit our web site at www.deloitte.com.au.

Liability limited by a scheme approved under Professional Standards Legislation.

Member of Deloitte Touche Tohmatsu Limited