

Deloitte Access Economics

Market opportunities for  
Queensland agribusiness  
from FTAs with China, Japan  
and South Korea

China

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# Scope

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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.

This document provides an overview of Stage 1 of a two stage project. The overarching objective of the whole project is to identify where there are the strongest opportunities arising from the FTAs and what barriers exist to realising these opportunities. Principally, the focus of identifying opportunities has been on the four broad agribusiness sectors of beef, grains, horticulture and seafood/aquaculture, including both unprocessed and processed products.

The purpose of Stage 1 is to take a 'data view' on opportunities from the three FTAs and undertake consultations with Queensland agribusiness stakeholders on opportunities and barriers. Stage 2 will investigate, in more detail, the specific opportunities identified and focus on in-market consultations in China, Japan and South Korea which are expected to lead to the generation of trade and investment leads.

# Contents

This document presents opportunities and challenges for Queensland agriculture arising from the China-Australia Free Trade Agreement (ChAFTA). The opportunities are derived after a detailed analysis of Queensland's relative competitiveness in the market, review of tariff reductions for key commodities and assessment of key production and consumption trends affecting demand for agriculture products.

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# Overview

With a population of 1.3 billion and the second largest economy globally, China is increasingly becoming an economic powerhouse.<sup>1</sup> Since its economic liberalisation in the 1980s, China's economic growth and process of urbanisation has brought about substantial changes to the structure of the economy, with changes evident in both consumption and production trends.<sup>2</sup>

The rapid economic growth has given rise to a number of challenges including high inequality, issues with environmental sustainability and demographic pressures related to an ageing population and urbanisation.

The commensurate rise in the size and purchasing power of China's middle class has had implications for the Chinese diet, with the amount, quality and composition of daily food consumption progressively shifting towards the so-called western diet. The total calorie intake per capita per day has increased by nearly half since the 1980s with the majority of the increase in calories coming from cereals and protein products.<sup>3</sup> While the calorie intake is not expected to continue to rise dramatically, dietary patterns are expected to adjust further as Chinese consumer preferences grow in experience and sophistication, and consumers are shaped by a number of domestic influences. These domestic influences include:<sup>4</sup>

- Recent food scandals and the resulting distrust towards domestic food products has seen increased demand for health foods and foreign imports in order to address anxieties about domestic food safety.
- Chinese consumers have also been increasingly turning to online retail and O2O (online to offline) platforms for their food and beverage purchases.
- Increasing rural migration to urban areas results in the reduction of fertile farming land on the edge of cities as well as changes to the location of where foods are consumed.
- An ageing population, which demands food products of different quantity, quality and variety from other age groups.
- Younger generations having more exposure to other cultures are more likely to experiment with foreign foods.
- As a result, foreign food imports have increased by approximately 15% annually in recent years and by 2018 it is expected that China will become the top importer of foreign food products.<sup>5</sup>

When coupled with the expected increase in total consumption – one third of which is attributable to population growth and two-thirds to diet change – these domestic influences present a sizeable opportunity for Australian agricultural exporters.

<sup>1</sup>National Bureau of Statistics China, 2016, China's Economy Realized a Moderate but Stable and Sound Growth in 2015

<sup>2</sup>The World Bank, 2014, China Economic Update - Special Topic: Changing Food Consumption Patterns in China: Implications for Domestic Supply and International Trade

<sup>3</sup>Ibid

<sup>4</sup>Australian Government Department of Agriculture, 2012, *Fisheries and Forestry, Food Consumption Trends in China*

<sup>5</sup>China Business Review, 2015, Going Organic: Investing in China's Growing Health Foods Market

# Food consumption

Table 1.1 presents a comparison of daily food consumption per person in China and Australia. Outstandingly, despite the shift in China to the 'western diet', Chinese diets are still predominantly made up of vegetables, fruit and rice. In contrast, Australian diets mainly consist of milk products, alcoholic beverages and vegetables.

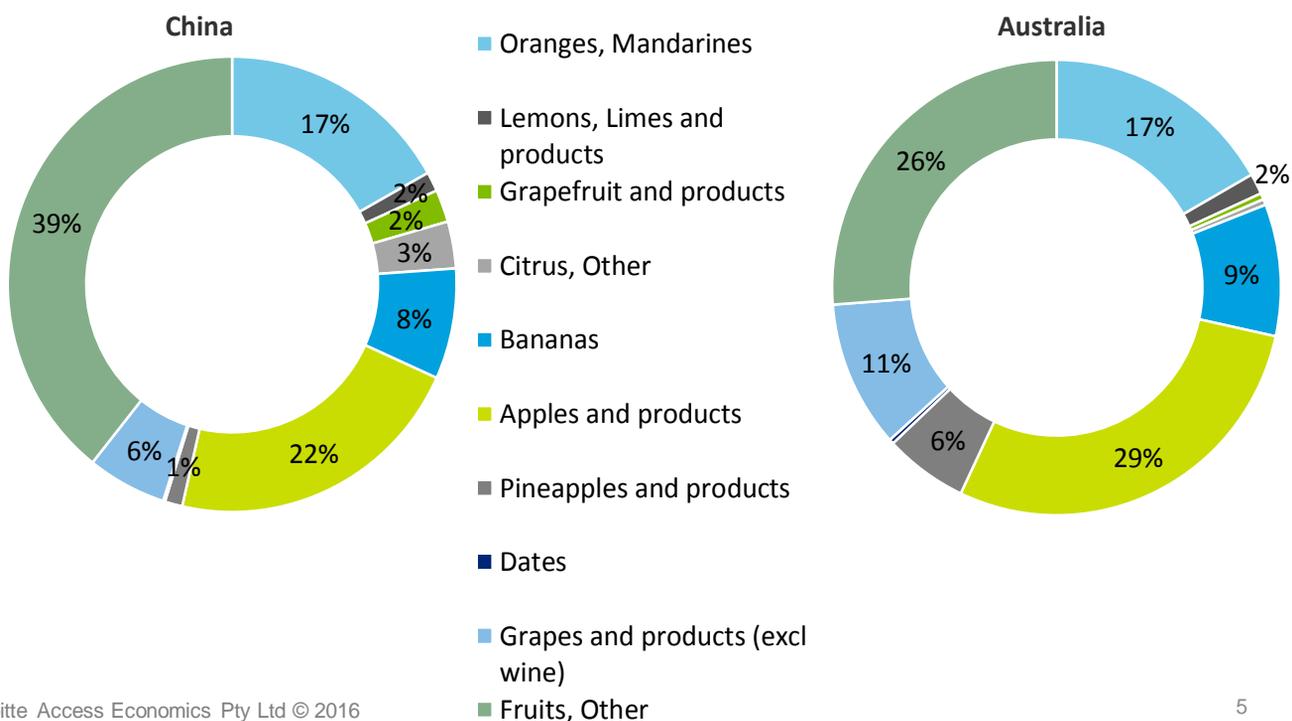
**Table 1.1: Top 10 categories of food consumption – China**

	China (grams per person per day)	Australia (grams per person per day)
Vegetables	924 [1]	262 [3]
Fruits	221 [2]	258 [4]
Rice	219 [3]	30 [15]
Starchy roots	190 [4]	141 [6]
Wheat	174 [5]	191 [5]
Alcoholic beverages	120 [6]	289 [2]
Pork	98 [7]	63 [12]
Seafood	89 [8]	70 [10]
Milk	85 [9]	630 [1]
Eggs	51 [10]	20 [16]
Beef	13 [18]	111 [9]

Source: National Geographic, *What the world eats*, 2011.

Note: Rank in square brackets (out of 22).

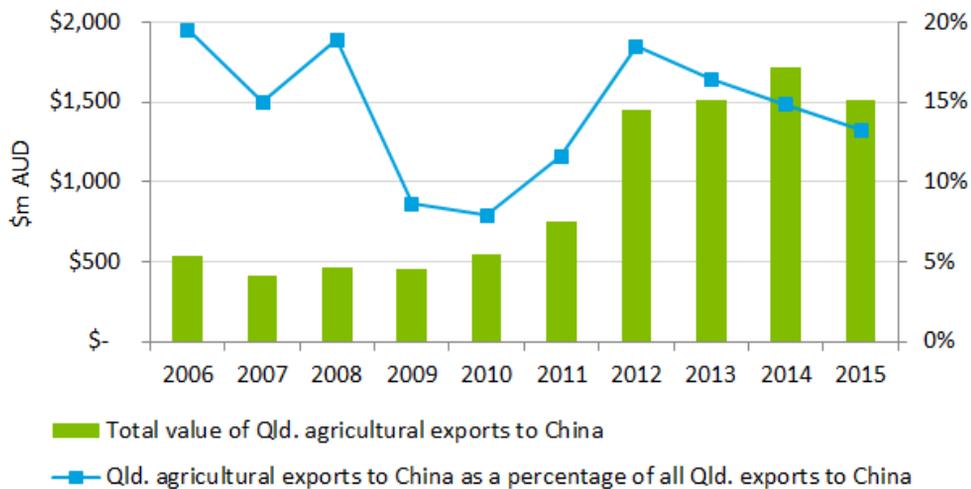
**Chart 1.1: Fruit consumption – China**



# Queensland's agricultural exports

Chart 1.2 shows the total value of agricultural exports to China for the last 10 years (2006-2015). Agricultural products represented around 14% of Queensland's total exports to China in 2015. The chart shows that the value of Queensland agricultural exports to China has increased almost four-fold since 2008, in part due to the increased prices and volumes of beef being exported to China over this time.

**Chart 1.2: Queensland's exports to China**



Source: ABS 5368.0, International merchandise exports, Australia, Information consultancy subscription service, unpublished data.

Note: Commodities defined as agricultural are based on the Harmonised Export Commodity Classification (HECC)

# Key Queensland exports

Table 1.2 (on the following page) provides further detail on Queensland's exports to China for the last three years. The table presents the five largest exports for each of the four key categories of interest (beef, grains, horticulture and seafood/aquaculture) and an 'other' category.

The table shows that cotton is by far the largest commodity by export value, representing 38% of Queensland's agricultural exports to China. There is a long established trade relationship in cotton that has formed the baseline of Queensland exports to China.

Beef and sorghum are also worthy of note, representing 22% and 12% of agricultural exports respectively. Importantly, Queensland's exports of cotton, beef and sorghum represent the majority of Australia's exports to China, indicating Queensland's competitive advantage against other Australian states for these commodities.

Horticulture and seafood/aquaculture exports are small by comparison. Mandarin, mung bean, macadamia and prawns have the highest export value relative to other commodities in their respective categories.

# Key Queensland exports

**Table 1.2: Key Queensland exports to China**

	Qld. exports to China (\$m) – current dollars			% of all Qld. agricultural exports to China – 3 year average	Qld. % of Australian exports of this product to China
	2013	2014	2015		
<b>Beef</b>					
Beef boneless – frozen	195	377	219	16%	54%
Beef bone in – frozen	14	56	50	2%	41%
Beef boneless – fresh or chilled	32	13	37	2%	70%
Offal – frozen	13	16	6	1%	52%
Beef bone in – fresh or chilled	17	2	1	0%	74%
Other beef products	0	0	2	0%	36%
<b>Sub-total</b>	<b>271</b>	<b>463</b>	<b>316</b>	<b>22%</b>	<b>54%</b>
<b>Grains</b>					
Sorghum – for human consumption	380	72	182	12%	84%
Cotton seed	36	11	0	1%	29%
Wheat	5	19	22	1%	4%
Sorghum – not human consumption	12	0	30	1%	31%
Cotton seed – for sowing	12	0	0	0%	61%
Other	4	1	3	0%	0%
<b>Sub-total</b>	<b>141</b>	<b>212</b>	<b>360</b>	<b>15%</b>	<b>14%</b>
<b>Horticulture</b>					
Mandarin	3	8	7	0%	90%
Mung bean	1	0	17	0%	83%
Macadamia nuts	-	2	6	0%	13%
Guavas and mangoes	0	1	0	0%	63%
Dried fruit – other	-	0	-	0%	50%
Other	0	0	-	0%	0%
<b>Sub-total</b>	<b>4</b>	<b>10</b>	<b>31</b>	<b>1%</b>	<b>17%</b>
<b>Seafood/aquaculture</b>					
Prawns and shrimps – frozen	2	4	2	0%	68%
Crabs – frozen	2	1	1	0%	99%
Crabs – fresh	0	0	0	0%	6%
Scallops	0	0	0	0%	83%
Eels	0	0	0	0%	67%
Other	0	0	0	0%	0%
<b>Sub-total</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>0%</b>	<b>10%</b>
<b>Other</b>					
Sugar	2	2	0	0%	93%
Cotton	777	610	398	38%	43%
Wool	23	21	17	1%	1%
Dairy	0	1	2	0%	0%
Other	271	370	370	22%	14%
<b>Sub-total</b>	<b>1,093</b>	<b>1,004</b>	<b>788</b>	<b>61%</b>	<b>17%</b>
<b>Total</b>	<b>\$1,493</b>	<b>\$1,695</b>	<b>\$1,497</b>	<b>100%</b>	<b>19%</b>

Source: ABS 5368.0, International merchandise exports, Australia Information consultancy subscription service, unpublished data. Note: Totals may differ from the sum of individual items due to rounding.

# Competition in Chinese markets

*This section presents an overview of the competitiveness of Queensland's agricultural products in Chinese markets through an analysis of import market share and the factors that contribute to relative agricultural competitiveness.*

# Market share

Market share is one indicator of a country's competitiveness. Table 1.3 (on the following page) shows the market share of major suppliers to China for each of the four agricultural categories of interest. This is compared to Australia's market share position and also shows Queensland's theoretical market share by calculating its share of Australian exports to China.<sup>6</sup>

The table shows that Australia is clearly the market leader in terms of **beef**, with a market share of 50% (of which Queensland has 54% of this share). Queensland's main competitors in this market are Uruguay, with 23% market share, and New Zealand, with 13% market share. Comments from stakeholder consultation suggested that, under the signed China-Brazil trade agreement, Brazil could also become an increasingly important competitor in China, especially given their relative advantage in cost of production compared with Australia.

Anecdotal reports from consultations of the so-called 'grey trade' (i.e. beef and cattle entering China via neighbouring countries) does serve to highlight potential understatement of demand from China for Australian beef.

**Grain** is dominated by two large players, the USA and Brazil, with a combined market share of 73%. Australia by comparison has a market share of 3% and is ranked sixth overall. With Queensland making up 14% of Australian exports to China of grain products, the state's market share is 0.4%.

For **horticulture**, there are many more market players, although the top five represent 81% of the import market value. Australia ranks tenth overall and Queensland represents 17% of Australian exports. Asian nations are dominant in supplying horticulture to China, suggesting that geographic proximity and lower cost of production are key elements for securing import volumes.

There are even more players supplying **seafood/aquaculture** products to China, with the top five importing countries representing just over half of all seafood/aquaculture imports. Australia is an extremely small player in this category, and Queensland represents only 10% of Australian exports. Stakeholder feedback suggests that Queensland's (and Australia's) relatively high cost of production, compared with South-East Asian nations, could limit the size of the opportunity available to the Queensland seafood and aquaculture industry.

<sup>6</sup>Data on each country's imports from Queensland is not available. Therefore the 'theoretical' market share is calculated as each country's imports from Australia multiplied by Queensland's exports as a share of Australia's exports.

# Market share

**Table 1.3: Market share of Chinese imports for beef, grain, horticulture and seafood/aquaculture products**

	% of Chinese imports (total 2012 to 2014 by value)	Cumulative percentage
<b>Beef</b>		
Uruguay	23%	23%
New Zealand	13%	37%
Argentina	5%	42%
Brazil	3%	44%
Canada	2%	46%
Other	3%	50%
Australia	50% - ranks 1 <sup>st</sup>	100%
Queensland	54% of Australian exports (27% market share)	
<b>Grain</b>		
USA	38%	38%
Brazil	35%	73%
Argentina	7%	80%
Canada	6%	86%
Vietnam	4%	90%
Other	7%	97%
Australia	3% - ranks 6 <sup>th</sup>	100%
Queensland	14% of Australian exports (0.4% market share)	
<b>Horticulture</b>		
Thailand	29%	29%
Vietnam	17%	46%
Hong Kong	17%	63%
Chile	9%	72%
USA	8%	81%
Other	18%	99%
Australia	1% - ranks 10 <sup>th</sup>	100%
Queensland	17% of Australian exports (1.7% market share)	
<b>Seafood/aquaculture</b>		
USA	18%	18%
Russia	15%	33%
Canada	7%	41%
Norway	7%	47%
Vietnam	6%	54%
Other	46%	99%
Australia	0% - ranks 24 <sup>th</sup>	100%
Queensland	10% of Australian exports (0% market share)	

Source: UN Comtrade Database 2015.

# Competitiveness

While market share might indicate relative competitiveness for certain commodities, it does tend to reflect historical factors and, as such, does not always provide the present day picture of competitiveness nor the factors that contribute to competitiveness into the future.

Table 1.4 (on the following page) compares Australia against its major competitors in the Chinese market (top 20 competitors by value) against 14 key factors that contribute to agricultural competitiveness. The selection of these 14 factors were informed from a variety of national and international sources including the World Economic Forum (WEF)<sup>7</sup>, Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)<sup>8</sup>, Commonwealth Scientific Industry Research Organisation (CSIRO)<sup>9</sup>, Organisation for Economic Co-operation and Development (OECD)<sup>10</sup> and the Productivity Commission (PC)<sup>11</sup>. While there are many other factors of competitiveness, this selection provides an indication as to the areas of strength and weakness in Australia's competitiveness.

The table shows that Australia compares well in areas of innovation (i.e. access to technology, research and development and education) and in terms of land availability and biosecurity. However, Australia in general does not rank as well in terms of the cost of production metrics, particularly in relation to regulatory burden and labour market efficiency, or the natural resource metrics of rainfall and soil fertility. However, it should be noted that, given Australia's sheer size and diversity, there are pockets of high soil fertility and rainfall meaning that certain regions may score quite highly on soil fertility by comparison to the rest of Australia.

In terms of Australia's low ranking on regulation, this can be seen from both a positive and negative angle. There is a level of 'good and necessary' regulation to ensure Australia's reputation for high quality and safe food. However, regulation often crosses a line and becomes a 'burden' due to lack of coordination between agencies, inadequate assessment of the costs and benefits and the cumulative effect of regulations.

While Australia does have lower fertility soils in general, which is a disadvantage, this could potentially represent an opportunity for intensification of production systems and productivity increases. Australia's opportunity here is probably greater than what is possible in other countries, where even a small increase in carrying capacity (per unit area) gives rise to substantial production gains for the industry.

Queensland's advantage versus competitors is similar to Australia for most of these metrics. In relation to spatial proximity, area of arable land and average rainfall it is likely to rank slightly better than Australia. However, rainfall variability and drought across Australia will continue to disadvantage Australia as it creates additional complications and costs to ensure security of supply for some long term contracts and the honouring of any contracts entered into.

<sup>7</sup>World Economic Forum (2014), The Global Competitiveness Report 2014-2015

<sup>8</sup>Gray, E. M., Oss-Emer, M., Sheng, Y. (2014), Australian agricultural productivity growth, past reforms and future opportunities, ABARES

<sup>9</sup>CSIRO (2014), Submission 14/503 Agricultural Competitiveness Issues Paper

<sup>10</sup>OECD (2013), Agricultural Policy Monitoring and Evaluation 2013: OECD Countries and Emerging Economies. OECD Publishing

<sup>11</sup>Productivity Commission (2014), Submission to the Agricultural Competitiveness Taskforce

# Competitiveness

**Table 1.4: Factors of competitiveness – Australia rank against top 20 China importers**

Theme	Factor of competitiveness	Proxy measure	Australia rank	Sample size
Cost of production	Regulatory burden	Burden of government regulation <sup>A</sup>	18	20
	Cost of inputs – intermediates (fuel, fertiliser, chemicals)	Pump price for gasoline <sup>B</sup>	10	20
	Barriers to entry/exit	Ease of doing business (starting a business) <sup>B</sup>	6	20
	Labour costs and labour market efficiency	Labour market efficiency <sup>A</sup>	11	20
Innovation	Access to technology	Theme of technological readiness (includes availability, tech absorption, tech transfer, internet usage) <sup>A</sup>	3	20
	Research, development and extension	Theme of innovation which includes (innovation capacity, R&D institution quality, company spending on R&D, R&D collaboration) <sup>A</sup>	8	20
	Education and training	Theme of higher education and training <sup>A</sup>	4	20
	Age of workforce (ageing population)	Age dependency ratio, people older than 64 (% of working-age population) <sup>B</sup>	15	20
Natural resources	Rainfall water availability	Average annual precipitation <sup>B</sup>	18	20
	Soil fertility	Carrying capacity - Livestock total per ha of agricultural area (No/Ha) <sup>C</sup>	20	20
	Area of arable land	Arable land (hectares) <sup>C</sup>	5	20
Market access	Biosecurity	Average no of cattle disease outbreaks per year (1995 - 2004) <sup>C</sup>	3	17
	Spatial proximity to export markets	Distance to China <sup>D</sup>	14	20
	Efficient supply chain and logistics	Theme of quality of overall infrastructure (road, rail, port, air, electricity, telephone) <sup>A</sup>	8	20

Sources:

<sup>A</sup> World Economic Forum (WEF) 2015, *The Global Competitiveness Report 2015-16*,

<sup>B</sup> World Bank, *Development Indicators Database 2015*,

<sup>C</sup> Food and Agriculture Organisation (FAO) Statistics Division, *FAOSTAT database 2015*,

<sup>D</sup> Google Maps 2015

Note: Shading colour in the 'Australia rank' column groups the factors of competitiveness by rank; dark green (rank 1-5), light green (rank 6-9), light grey (rank 10 to 15) and dark grey (rank 16-20).

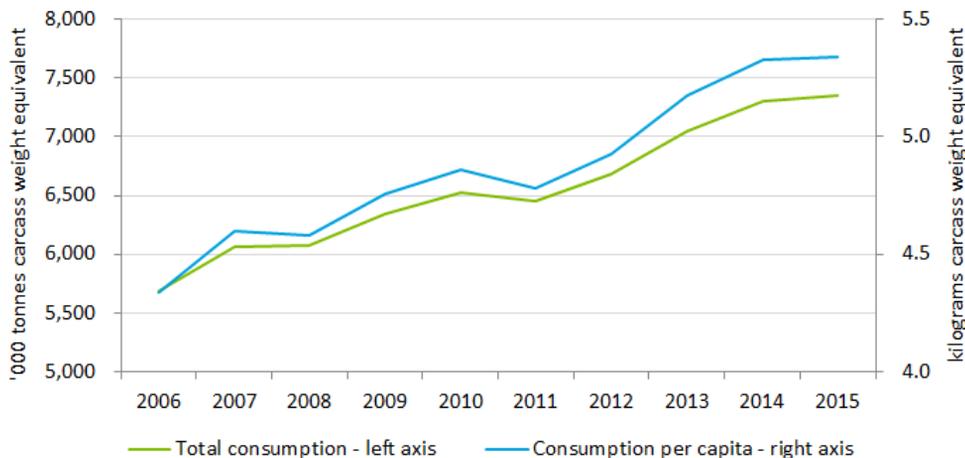
# Food demand and supply in China

*For each of the four key areas of focus (**beef, grains, horticulture and seafood/aquaculture**), this section presents data on consumption trends (i.e. the current and future demand for food in China) and local Chinese production, exports and imports for each commodity group (i.e. how this demand is supplied or the 'food balance'). This analysis gives a sense of how China currently supplies its food demand and how it is likely to meet future demand.*

# Beef consumption

Chart 1.3 shows growth in total consumption and per capita consumption of beef in China. Over the decade to 2015 total consumption increased from around 5.7 million tonnes to nearly 7.4 million tonnes (a 30% increase). Per capita consumption increased by 23% over the period.

**Chart 1.3: China – beef consumption**



Source: United States Department of Agriculture (USDA) (2015) Production, Supply and Distribution Online, livestock dataset.

Note: Specifically, the data is for 'Meat, Beef and Veal'

ABARES analysis suggests that the real value of beef consumption in China could more than double by 2050.<sup>12</sup> This scale of growth is likely to support demand for Queensland exports to China for some time.

However, through consultation, some stakeholders indicated that the current drought, strong saleyard prices and baseline domestic Australian demand for beef will mean that supplying any further Chinese demand is likely to come only after domestic demand and Japan and South Korean demand have been satisfied. In addition, in terms of a non-tariff barrier for Queensland, there remains uncertainty around how the potential live cattle export opportunity into China can be realised given the bluetongue virus zone extends across much of Queensland. This means that there are additional quarantine requirements and limitations on approved ports of entry into China.<sup>13</sup>

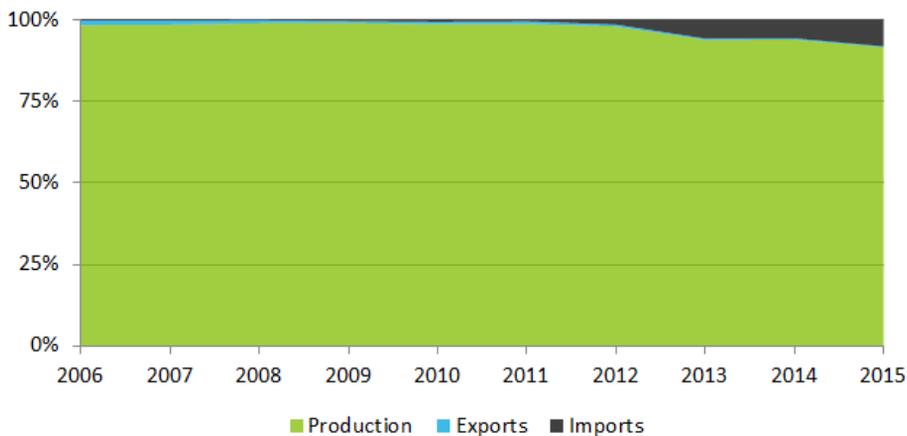
<sup>12</sup>ABARES, 2014, What China wants: Analysis of China's food demand to 2050

<sup>13</sup>[http://namp.animalhealthaustralia.com.au/public.php?page=namp\\_map&raw=1&aha\\_program=2&recid=101](http://namp.animalhealthaustralia.com.au/public.php?page=namp_map&raw=1&aha_program=2&recid=101)

# Beef food balance

Chart 1.4 shows that China's imports and exports of beef are relatively small compared to domestic production. 'Relative' is a key word here; in 2015, China was the fourth largest importer in the world for beef products, even though imports were only 9% of domestic production. There has, however, been rapid growth in imports over the last five years. From 2000 to 2015 beef imports increased 15-fold. In 2014, China imported \$1.4 billion worth of frozen and chilled beef products, over one third of the total value of Queensland production, while it produced around \$23 billion worth of beef products.<sup>14</sup>

**Chart 1.4: China – Beef food balance**



Source: United States Department of Agriculture (USDA) (2015) Production, Supply and Distribution Online, livestock dataset.

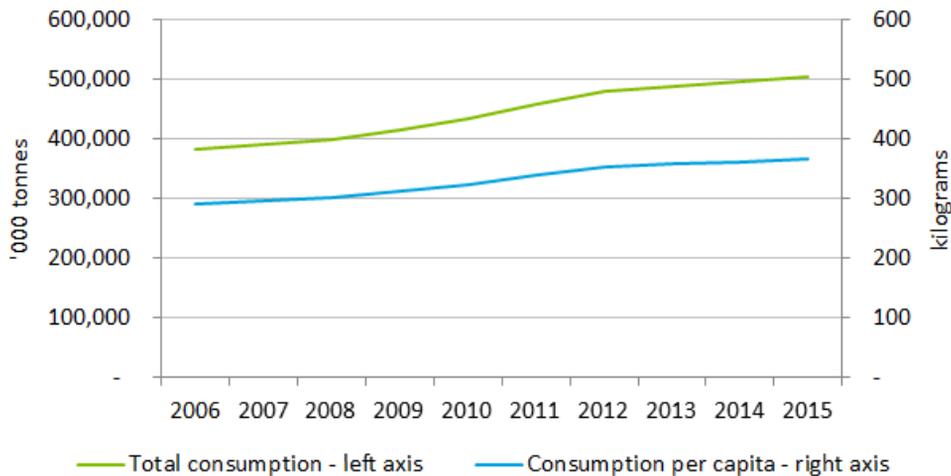
Note: Specifically, the data is for 'Meat, Beef and Veal'

<sup>14</sup>This has been calculated by multiplying the volume of Chinese production as per USDA (2015) by the price implied by the value of imports as per the UN Comtrade Database and the volume of imports as per USDA (2015). The same methodology has been applied to the estimates of the value of production for other commodities

# Grain consumption

Chart 1.5 shows that similar to what has occurred with beef, growth in per capita consumption of grain products has been a major driver of growth in total consumption in China. Over the decade to 2015, per capita consumption accounted for most of the growth in total consumption; total consumption grew by 25% and per capita consumption grew by 31%.

**Chart 1.5: China – Grain consumption**



Source: USDA Production, Supply and Distribution Online, grains dataset.

Note: The chart reflects data for barley, corn, millet, mixed grain, oats, rice (milled), rye, sorghum and wheat.

Despite the growth observed in grain consumption over the last 10 years, future growth may be relatively subdued due to more of the Chinese population moving into urban areas and adopting increasingly westernised diets, which are more protein and less grain-focused.<sup>15</sup> However, if diets do evolve to more closely resemble a more typical western diet, this will likely require greater use of feed grains for domestic livestock production (which, as noted above, is a potentially significant emerging market opportunity).

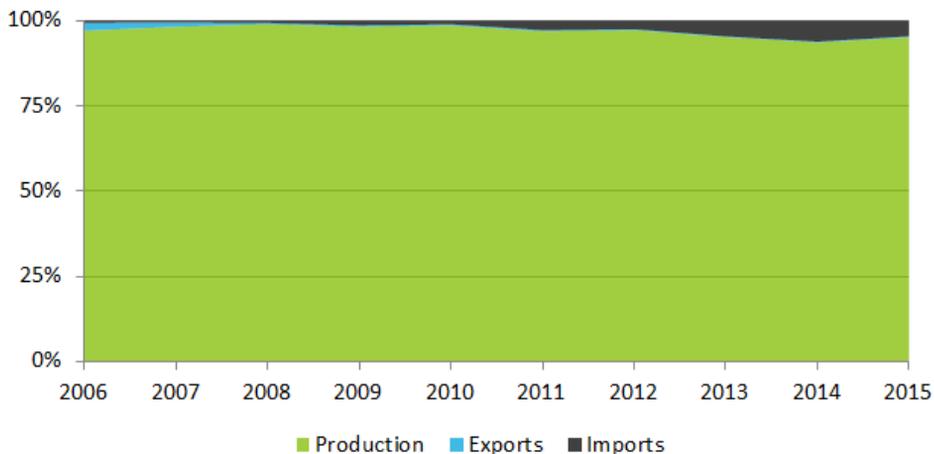
<sup>15</sup>ABARES, 2014, *What China wants: Analysis of China's food demand to 2050*

# Grain food balance

Chart 1.6 shows that domestic production satisfies most of China's demand for grain products. However, China is still the world's single largest importer of grain products, and in 2015 imported only marginally less than the entire European Union.<sup>16</sup> In 2014 grain imports were worth \$5.4 billion, nearly eight times the total value of Queensland production. China itself produced around \$84 billion worth of grain products. Clearly, the total volume of demand for grains from China is an opportunity for Queensland in this space.<sup>17</sup>

As was observed with beef, there has been significant growth in imports relative to production in recent years. The level of imports in 2015 was substantially higher than 2006 levels showing that imports are becoming more significant in China's grains food balance. The boom in Australian sorghum exports to China in the last two years is illustrative of this potential demand with almost all of Australia's 2.2 million tonne export crop being exported to China in 2014.

**Chart 1.6: China – Grain food balance**



Source: USDA Production, Supply and Distribution Online, grains dataset.

Note: The chart reflects data for barley, corn, millet, mixed grain, oats, rice (milled), rye, sorghum and wheat.

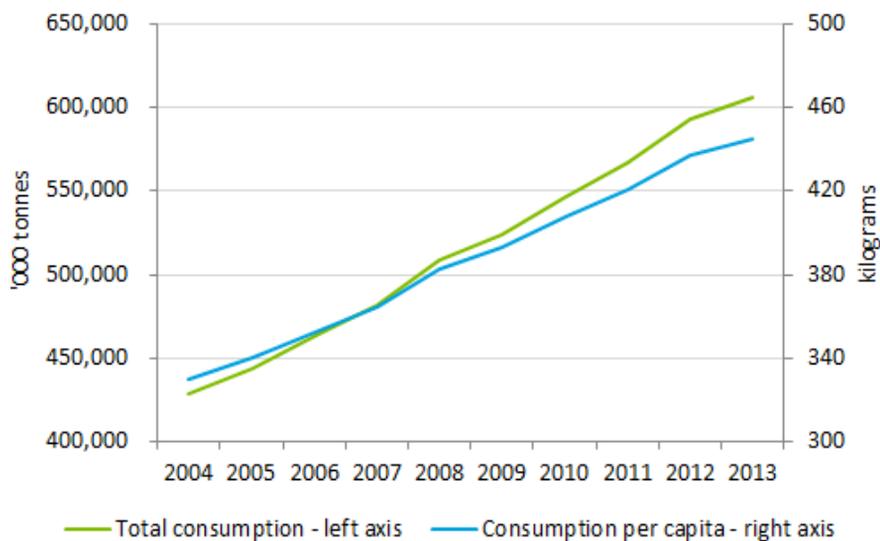
<sup>16</sup> USDA Production, Supply and Distribution Online, grains dataset

<sup>17</sup> Import values are drawn from the UN Comtrade Database, with production value calculated as per the methodology described in footnote 14.

# Horticulture consumption

Chart 1.7 shows that China's total consumption and per capita consumption of horticultural products increased significantly between 2004 and 2013. In the future, key drivers of income growth and urbanisation are projected to have varying effects on demand for different types of horticultural products. Demand for vegetables are expected to decline (per person), but fruit is expected to increase. The interaction of demand and supply (which can be sourced from domestic production or imports) is projected to result in a near-tripling of imports of fruit products to China by 2050, but a 44% decrease in vegetable imports.<sup>18</sup>

**Chart 1.7: China – Horticulture consumption**



Source: Food and Agriculture Organisation (2015), FAOSTAT statistics database - Food Balance Sheets

Note: Chart represents data for 'vegetables', 'fruit – excluding wine' and 'nuts and products'.

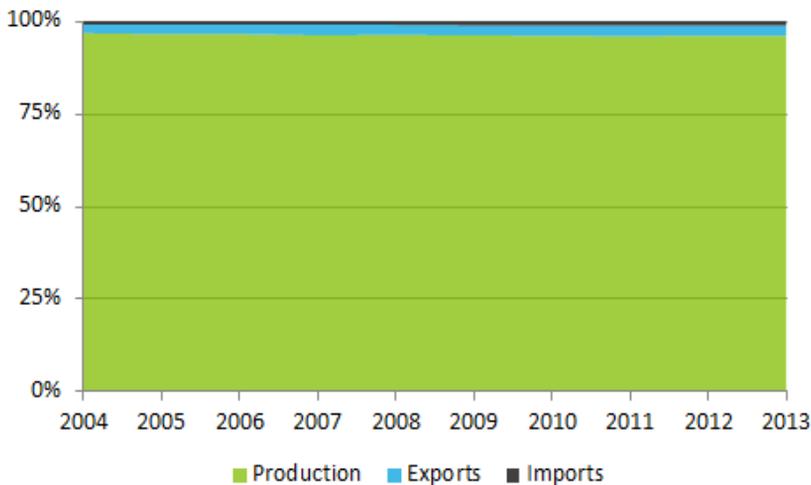
<sup>18</sup>ABARES, 2014, What China wants: Analysis of China's food demand to 2050

# Horticulture food balance

Chart 1.8 shows that the relative size of production, exports and imports of horticultural products in China has been much more stable than for beef or grain products. China exported around 2% of domestic production of horticultural products over the decade to 2013, and imported an amount equivalent to less than 1% of domestic production.

As with grains, the volume of demand for imported horticultural products is an opportunity for Queensland. In 2013, China imported \$5.7 billion worth of fruit and vegetable products, over two and a half times the total value of Queensland production. With the volume of production over 90 times the volume of imports, this would imply production worth over \$500 million in 2013 (noting that the per unit value of domestically produced horticultural products may be different to that of imported products).

**Chart 1.8: China – Horticulture food balance**



Source: Food and Agriculture Organisation (2015), FAOSTAT statistics database - Food Balance Sheets

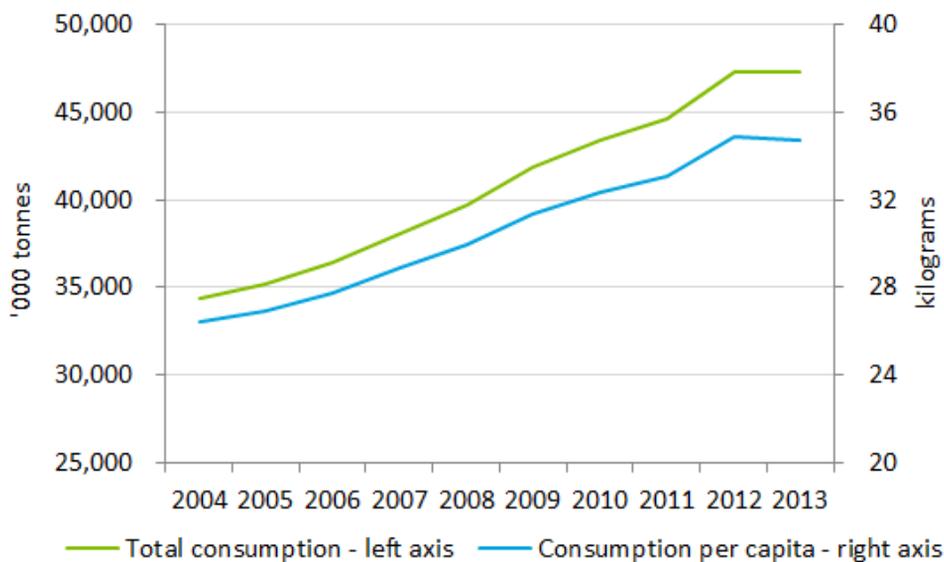
Note: Chart represents data for 'vegetables', 'fruit – excluding wine' and 'nuts and products'.

# Seafood/aquaculture consumption

Chart 1.9 shows that per capita consumption growth of seafood and aquaculture products has been the main driver of increased total consumption in China. While population grew by only 5% over the decade to 2013, per capita consumption grew by 31%, leading to total consumption growth of 38%.

It is expected that seafood/aquaculture products are one of the major commodity groups for which demand will increase in coming decades. And while China is already the world's largest producer of these products, China is expected to account for much of the increase in world imports.<sup>19</sup>

**Chart 1.9: China – Seafood/aquaculture product consumption**



Source: Food and Agriculture Organisation (2015), FAOSTAT statistics database - Food Balance Sheets

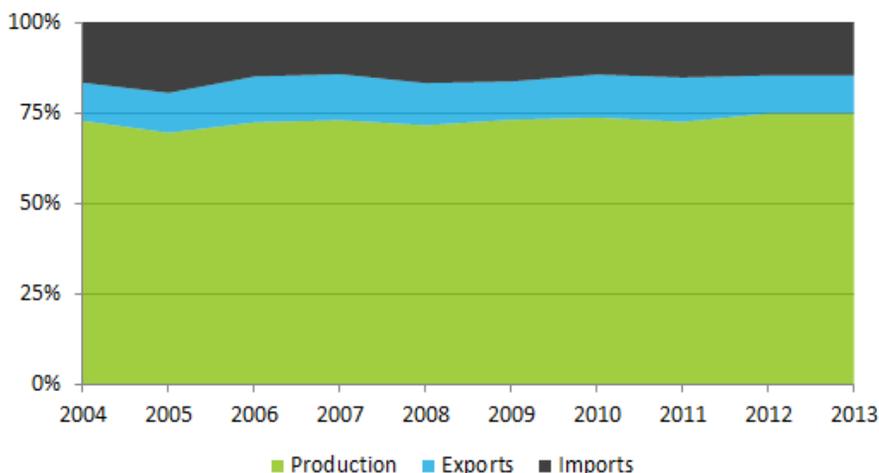
Note: Chart represents data for 'fish, seafood'.

<sup>19</sup>ABARES, 2013, *What Asia wants: Long-term food consumption trends in Asia*

# Seafood/aquaculture food balance

Chart 1.10 shows that relative to beef, grains and horticulture, China satisfies a smaller share of domestic demand for seafood and aquaculture products through domestic production. Imports were worth \$6.2 billion in 2013, which was around 20 times the total value of Queensland production. With production being over five times the size of imports, China is estimated to have produced over \$30 billion worth of seafood and aquaculture products in 2013.

**Chart 1.10: China – Seafood/aquaculture food balance**



Source: Food and Agriculture Organisation (2015), FAOSTAT statistics database - Food Balance Sheets.

Note: Chart represents data for 'fish, seafood'.

There does, however, appear to be a slight downward trend in exports and imports relative to production over the 10 years to 2013. This would imply that meeting domestic demand is becoming more important than meeting export demand for Chinese producers, and that increased domestic demand is currently being met through domestic production rather than increased imports.

Perhaps more importantly for Queensland's opportunities, increases in Chinese production have come almost solely through increased use of aquaculture, with wild-catch production essentially stable since 1998.<sup>20</sup>

<sup>20</sup>ABARES, 2013, *What Asia wants: Long-term food consumption trends in Asia*

# Changes from ChAFTA

This section summarises the key changes arising from the ChAFTA for the four key categories of interest and some 'other' commodities. For each key export commodity, Table 1.5 (on the following page) shows the current tariff rate, the expected tariff rate 10 years after the FTA has commenced, and the tariff rate after the FTA has had its full tariff effect. This is then compared to the current tariffs for the top three competitors in each commodity to show the tariff differentials between competitors. It should be noted that competitor tariffs are present day tariffs and do not represent possible tariff changes for these competitors in the future.

**Beef** will experience elimination of the 12% tariff over ten years (with the exception of beef offal which will be over eight years). In terms of the top three competitor tariff rates, only one currently has a lower tariff than Australia (New Zealand at 1.3%).

For **grains**, the 2% tariff on sorghum will be eliminated upon FTA commencement and cotton seed will be phased out over five years. There are no tariff reductions for wheat. Competitor tariff rates for grains are currently similar to Australia.

For **horticulture**, all tariffs will be eliminated within 10 years with phase-outs ranging from immediate elimination for mung beans, five years for dried fruit, mangoes and macadamias and nine years for mandarins. A number of competitors already have nil tariffs for these products, including Thailand (mangoes, mung beans, mandarin and dried fruit), Malaysia (mangoes) and Myanmar (mung beans and dried fruit).

For **seafood/aquaculture**, all tariffs will be phased out completely over five years. Australia's base rate tariff is largely equivalent to its top three competitors with a handful of exceptions: Chile (0% tariff on frozen crabs), Indonesia (0% on fresh crabs) and New Zealand (0% on eels).

# Tariff rates

**Table 1.5: China tariff rates – Australia (base rate and under FTA) versus key competitors for each key export commodity**

	Australia tariff rate				Top 3 competitors for each commodity by market share – current tariff rates		
	Base rate in FTA	Tariff rate from FTA (after 10 years)	Change in % points after 10 years	Tariff rate from FTA (full effect)	Competitor 1	Competitor 2	Competitor 3
Beef							
Beef boneless – frozen	12.0%	0.0%	12.0%	0.0%	12.0%	1.3%	12.0%
Beef bone in – frozen	12.0%	0.0%	12.0%	0.0%	12.0%	1.3%	12.0%
Beef boneless – fresh or chilled	12.0%	0.0%	12.0%	0.0%	1.3%	12.0%	12.0%
Offal – frozen	12.0%	0.0%	12.0%	0.0%	12.0%	0.0%	12.0%
Beef bone in – fresh or chilled	12.0%	0.0%	12.0%	0.0%	12.0%	12.0%	12.0%
Grains							
Sorghum – for human consumption	2.0%	0.0%	2.0%	0.0%	2.0%	N/A	N/A
Cotton seed	15.0%	0.0%	15.0%	0.0%	12.0%	15.0%	N/A
Wheat	65.0%	65.0%	0.0%	65.0%	65.0%	65.0%	65.0%
Sorghum – not human consumption	2.0%	0.0%	2.0%	0.0%	2.0%	N/A	N/A
Cotton seed – for sowing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Horticulture							
Mandarin	12.0%	0.0%	12.0%	0.0%	12.0%	12.0%	0.0%
Mung bean	3.0%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%
Macadamia nuts	24.0%	0.0%	24.0%	0.0%	24.0%	24.0%	24.0%
Guavas and mangoes	15.0%	0.0%	15.0%	0.0%	0.0%	0.0%	15.0%
Dried fruit – other	25.0%	0.0%	25.0%	0.0%	0.0%	0.0%	25.0%
Seafood/aquaculture							
Prawns and shrimps – frozen	6.5%	0.0%	6.5%	0.0%	6.5%	3.25%	6.5%
Crabs – frozen	10.0%	0.0%	10.0%	0.0%	10.0%	10.0%	0.0%
Crabs – fresh	14.0%	0.0%	14.0%	0.0%	14.0%	14.0%	0.0%
Scallops	14.0%	0.0%	14.0%	0.0%	14.0%	14.0%	14.0%
Eels	5.0%	0.0%	5.0%	0.0%	0.0%	5.0%	5.0%
Other							
Sugar	50.0%	50.0%	0.0%	50.0%	50.0%	50.0%	50.0%
Cotton	40.0%	40.0%	0.0%	40.0%	40.0%	40.0%	40.0%
Wool	38.0%	38.0%	0.0%	38.0%	38.0%	38.0%	38.0%

Sources: 'International Trade Centre (ITC) 2015, Market Access Map – tariff comparison' is used for competitor rates; 'China-Australia Free Trade Agreement, Annex I: Schedules of Tariff Reduction Commitments of Australia and China' is used to calculate tariff change in 10 years' time and tariff at full effect

Note: The current tariff rates represent Ad Valorem Equivalent (AVE) tariff according to ITC methodology for each commodity, therefore are an adjustment to account for numerous tariff lines.

# Opportunity map

This ‘opportunity map’ consolidates the preceding analysis by combining the value of Queensland food and fibre exports, tariff changes in the ChAFTA, Queensland’s market share of China imports, and consumption growth in China for specific commodities.

The sectors which are large, blue and are located towards the top right of the chart are those with the greatest opportunity for growth in the Chinese market. This is because they represent the strongest combination of:

- Being an established export market (ball size);
- Strong competitive advantage represented by market share (horizontal axis);
- Large tariff reductions from the FTA (vertical axis); and
- Strong consumption growth in the Chinese market (ball colour – where blue represents strong recent and expected continued growth, green represents moderate demand growth and grey represents static or declining demand growth).

The opportunity map shows **beef and beef products** as being the largest opportunity for trade and investment growth, given exports are currently sizeable and Queensland’s dominant market share. The tariff reductions applied to Australian beef will serve to strengthen this market further. Beef consumption is also relatively strong in China compared to other commodities.

The strength of the growth opportunity for beef is such that Queensland, or Australia, may not be able to maintain its current market share particularly given other significant beef exporting nations are likely to have also identified the size of the opportunity in China. Stakeholders have suggested that many of Queensland’s beef export competitors, particularly in South American countries, are likely to have lower costs of production than Australian producers and we could expect to see increasing competition into China. The basis of that competition would be price, in the absence of a deliberate decision for Australian beef exports to target high value, premium market segments.

For **grains**, the opportunity arising from the FTA is much smaller than that of beef however given the rise in meat production in China, the export of high quality grain feed is likely to present an opportunity. Sorghum is worthy of mention here. Sorghum has experienced a boom in demand over the last few years, and its current small 2% tariff will be eliminated upon the commencement of the FTA. However, tempering this demand in the short term is China’s large corn stockpile (i.e. a substitute for animal feed) and the USA’s sorghum stockpiles which will keep pressure on sorghum prices.<sup>21</sup>

<sup>21</sup>Queensland Country Life, Ruth Caskey, *Stockpiles reduce sorghum demand*, 26 November 2015

# Opportunity map

For **horticultural products**, the four commodities represented on this chart (mandarins, mangoes, macadamias, dried fruit) will experience significant tariff reductions. In terms of opportunity, macadamia and mandarins are the strongest, with current exports of \$4m and \$6m respectively, and a reasonable Queensland market share of 12% and 33% respectively. Demand growth is also strong for fruit and nuts in general. One stakeholder, in consultation, also specifically mentioned grapes as being a potential growth opportunity to China. However, currently no Queensland grapes are exported to China.

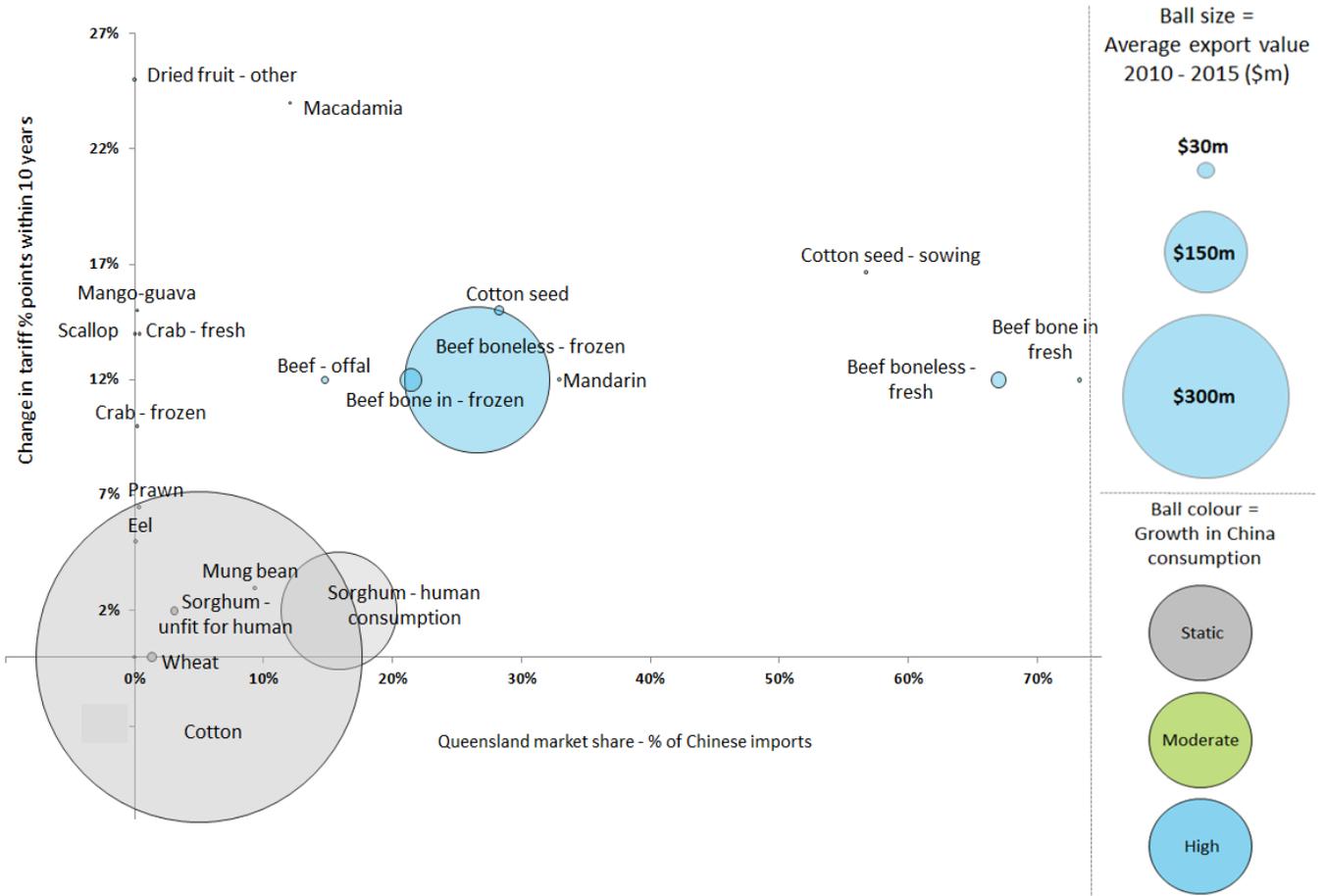
For **seafood/aquaculture products**, Queensland exports to China are currently very low with the two main commodities being prawns (\$2.7m annual average value of exports) and crabs (\$1.3m). Therefore there is currently limited Queensland market presence for this category. Nevertheless, prawns will experience tariff reductions of 6.5% on average over five years (up to 8% on some tariff lines – e.g. for frozen shelled shrimps and prawns) and crabs will experience a 14% reduction in five years. Therefore, these two products represent an opportunity to increase exports to China.

Cotton is also worth a mention given its large export value; however there is no opportunity arising out of the ChAFTA, with cotton's 40% tariff remaining in place for the foreseeable future. China has large cotton stockpiles, which will take time to unwind.<sup>22</sup>

<sup>22</sup>USDA Cotton, *World markets and trade report*, <http://apps.fas.usda.gov/psdonline/circulars/cotton.pdf>

# Opportunity map

Chart 1.11: Opportunity map of key Queensland export commodities to China



# Non-tariff considerations

According to stakeholder interviews, there are a number of non-tariff barriers that need to be navigated in order to increase the level of Queensland exports for the commodities mentioned above. These include:

- Phytosanitary requirements are complicated and difficult to navigate, often requiring expert assistance for an associated fee.
- Import protocols for mixed cargo consignments result in longer processing time at port and duplication of paperwork which has implications specifically for chilled or fresh produce with a limited shelf-life.
- A limited number of meat processing facilities in Australia have approval for the export of chilled beef products. Ideally, a systems-based approach (relying on existing Australian operational regulations, and supported by an appropriate audit program) could be an option for improving access to the chilled beef opportunity in China.
- Labelling requirements – making allowance for a range for possible in-market uses and consumers adds to the regulatory cost of supplying certain products.

# Implications

The analysis suggests that the major opportunity for Queensland is in increasing beef exports to China. However, given beef exports are already occurring and growing, the focus for Stage 2 should be on the comparatively smaller (but still significant) opportunities.

In this vein, priority should be given to horticultural products that have begun to export, namely macadamias, mandarins and mangoes.

Regarding grains, sorghum is a key export for Queensland, however low tariff reductions coupled with issues of oversupply means that this represents only a small opportunity arising from the FTA.

In terms of seafood, prawns and crabs are worthy of further investigation given the tariff reductions for these two products and their unmet demand in China.

However, there may also be other opportunities for Queensland products into China where exports do not currently occur. Identifying these opportunities would involve analysis to match Queensland's production capability, market access for each commodity, and more detailed consumption analysis for China down to the specific product level.

# Appendix

# Schedule of tariff reductions

Table A.1 shows the proposed tariff reduction schedule over 10 years for key export commodities.

**Table A.1: China – Schedule of tariff reductions**

Commodity	Tariff rate (%)										
	Base rate (%)	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10
<b>Beef</b>											
Beef boneless – frozen	12	10.8	9.6	8.4	7.2	6	4.8	3.6	2.4	1.2	0
Beef bone in – frozen	12	10.8	9.6	8.4	7.2	6	4.8	3.6	2.4	1.2	0
Beef boneless – fresh or chilled	12	10.8	9.6	8.4	7.2	6	4.8	3.6	2.4	1.2	0
Offal – frozen	12	10.5	9	7.5	6	4.5	3	1.5	0	0	0
Beef bone in – fresh or chilled	12	10.8	9.6	8.4	7.2	6	4.8	3.6	2.4	1.2	0
<b>Grains</b>											
Sorghum – for human consumption	2	0	0	0	0	0	0	0	0	0	0
Cotton seed	15	12	9	6	3	0	0	0	0	0	0
Wheat	65	65	65	65	65	65	65	65	65	65	65
Sorghum – not human consumption	2	0	0	0	0	0	0	0	0	0	0
Cotton seed – for sowing	0	0	0	0	0	0	0	0	0	0	0
<b>Horticulture</b>											
Mandarin	12	10.7	9.3	8	6.7	5.3	4	2.7	1.3	0	0
Mung bean	3	0	0	0	0	0	0	0	0	0	0
Macadamia nuts	24	19.2	14.4	9.6	4.8	0	0	0	0	0	0
Guavas and mangoes	15	12	9	6	3	0	0	0	0	0	0
Dried fruit – other	25	20	15	10	5	0	0	0	0	0	0
<b>Seafood/aquaculture</b>											
Prawns and shrimps – frozen shelled	8	6.4	4.8	3.2	1.6	0	0	0	0	0	0
Prawns and shrimps – frozen not shelled	5	0	0	0	0	0	0	0	0	0	0
Crabs – frozen	10	8	6	4	2	0	0	0	0	0	0
Crabs – fresh	14	11.2	8.4	5.6	2.8	0	0	0	0	0	0
Scallops	14	11.2	8.4	5.6	2.8	0	0	0	0	0	0
Eels (live eels, excl fry)*	10	8	6	4	2	0	0	0	0	0	0
<b>Other</b>											
Sugar	50	50	50	50	50	50	50	50	50	50	50
Cotton	40	40	40	40	40	40	40	40	40	40	40
Wool	38	38	38	38	38	38	38	38	38	38	38

\*This is the tariff rate for live eels which is what Queensland currently exports. However, different tariff rates are applied for eels depending on whether the eels are fresh, frozen, filleted or smoked. Typically the base tariff for eels is 10-12% with tariffs phased out in equal increments over five years.

Sources: 'China-Australia Free Trade Agreement, Annex I: Schedules of Tariff Reduction Commitments of Australia and China' is used to calculate tariff reduction schedules. 31

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