



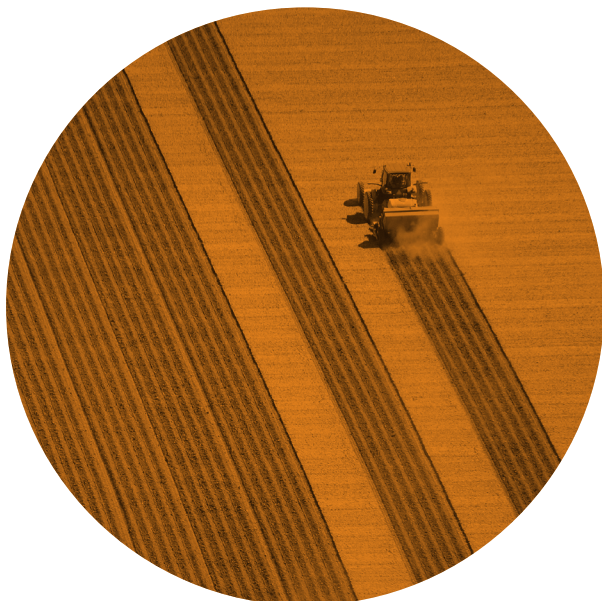
**Australian Government**  
**Department of Agriculture**  
ABARES

# Agricultural commodities

Research by the Australian Bureau of Agricultural  
and Resource Economics and Sciences

SEPTEMBER QUARTER 2015





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# Regional Outlook conferences 2015



## Join ABARES at a Regional Outlook conference in your area in 2015

The ABARES Regional Outlook conferences are one-day events held in regional towns in each state and the Northern Territory.

Each conference is an opportunity for people to hear from local producers, industry representatives and business people as well as meet and discuss issues relevant to the region.

The conference program is focused on the region and includes forecasts for key agricultural commodities, an economic overview, discussion of local challenges such as labour and water issues and case studies from innovative regional business people.

The Regional Outlook conferences follow from the national Outlook 2015 conference in Canberra with its theme of *The business of agriculture: producing for profit*.

Delegates include farmers and other producers, bankers, consultants and other service providers, rural counsellors, local business owners, state and local government staff and others with an interest in their region.



For inquiries and to register  
your interest contact

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abares/regional](http://agriculture.gov.au/abares/regional)

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### 2015 locations and dates

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Tasmania	Devonport	29 April
South Australia	Strathalbyn	10 June
Northern Territory	Darwin	8 July
Queensland	Rockhampton	29 July
Western Australia	Geraldton	26 August
Victoria	Hamilton	23 September
New South Wales	Coffs Harbour	28 October

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# Economic overview



# Economic overview

Natasha Frawley and Matthew Hyde

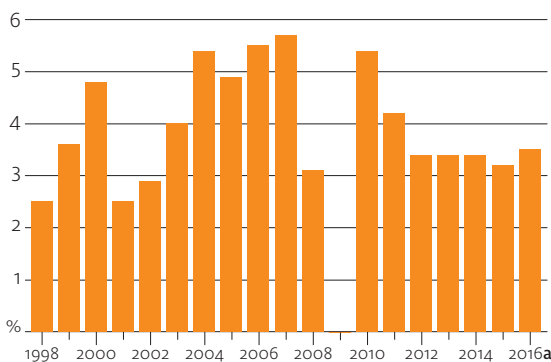
- World economic growth is assumed to weaken to 3.2 per cent in 2015 and then to increase to 3.5 per cent in 2016.
- Economic growth in China is assumed to continue to moderate, with considerable downside risks as a result of recent declines in equity market valuations.
- The pace of recovery in the United States, and to a lesser extent in Europe, is expected to continue in the remainder of 2015 and in 2016 but conditions in Japan remain fragile.
- Lower oil prices are expected to benefit the global economy but have added to deflationary pressures in some economies, including Japan and the eurozone countries.

## Global economy

### Economic growth in 2015 and 2016

Global economic growth is estimated to have averaged 3.4 per cent in 2014, the same as in both 2013 and 2012. However, this aggregate growth rate hides significant variation in economic performance between countries and regions.

#### World economic growth



a ABARES assumption.



Economic growth in OECD countries strengthened in 2014 and is expected to remain at around the same level for the remainder of 2015. The US economy recovered further, with growth of 2.8 per cent year-on-year in the first half of 2015. Strengthening employment markets and growing consumer spending supported this recovery. In Europe, economic growth has strengthened in 2015 but remains slow. Economic conditions in Japan remain fragile. Monetary stimulus and lower oil prices are expected to aid recovery in these economies. For the OECD overall, economic growth is assumed to be 1.8 per cent in 2015, the same as in 2014, and to strengthen to 2.2 per cent in 2016.

In many non-OECD countries, economic conditions weakened in early 2015. In China, economic growth was 7.0 per cent in the June and March quarters, lower than the 7.4 per cent in 2014. Moderation of growth in China has affected other world economies, especially in Asia.

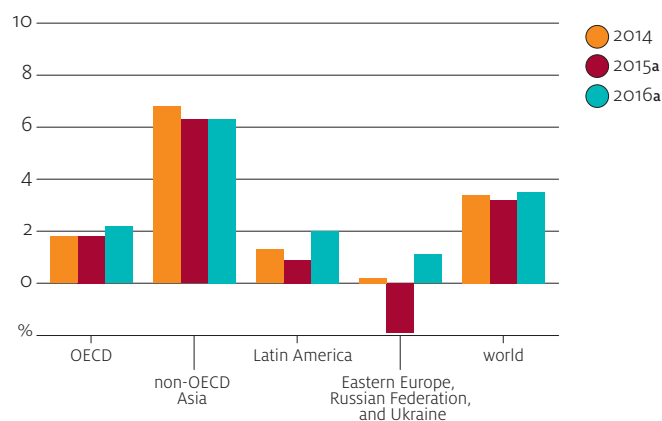
In contrast, economic conditions improved in India—with June quarter growth of 7.0 per cent year-on-year, compared with 7.1 per cent in 2014 overall. This growth was supported by higher manufacturing production alongside lower commodity prices and accommodating monetary policy. Although new investment remains weak, economic growth in India is expected to strengthen further to 7.5 per cent in 2015 and 7.7 per cent in 2016.

For all non-OECD countries, economic growth is assumed to average 3.8 per cent in 2015 before recovering to 4.5 per cent in 2016.

Recent declines in equity prices and depreciation of the currency in China have led to significant volatility in stock market valuations around the world. In the United States, the Standard and Poor's 500 index lost 11 per cent between 19 and 25 August, before partially recovering by 4 per cent on 26 August. Any further declines in equity market valuations would reduce wealth, adversely affecting consumer spending, business confidence and investment. This poses a significant downside risk to the economic outlook, especially in China.

In preparing this set of agricultural commodity forecasts, world economic growth is assumed to average 3.2 per cent in 2015 and 3.5 per cent in 2016.

## Regional economic growth



a ABARES assumption.

Note: Economic growth in the Eastern Europe, Russian Federation and Ukraine group is calculated on a weighted average basis.

## Key macroeconomic assumptions

<b>World</b>	<b>unit</b>	<b>2013</b>	<b>2014</b>	<b>2015 a</b>	<b>2016 a</b>
<b>Economic growth</b>					
OECD	%	1.4	1.8	1.8	2.2
United States	%	2.2	2.4	2.5	3.0
Japan	%	1.6	-0.1	0.8	1.0
Eurozone	%	-0.5	0.9	1.2	1.5
– Germany	%	0.2	1.6	1.6	1.7
– France	%	0.3	0.4	1.2	1.5
– Italy	%	-1.7	-0.4	0.5	1.1
United Kingdom	%	1.7	2.6	2.4	2.3
Korea, Rep. of	%	3.0	3.3	3.0	3.3
New Zealand	%	2.2	3.2	2.6	2.7
non-OECD	%	5.0	4.6	3.8	4.5
– non-OECD Asia	%	7.0	6.8	6.3	6.3
South-East Asia <b>b</b>	%	5.2	4.6	4.9	5.3
China <b>c</b>	%	7.8	7.4	6.5	6.2
Taiwan	%	2.2	3.7	3.5	3.8
Singapore	%	4.4	2.9	2.8	3.0
India	%	6.4	7.1	7.5	7.7
– Latin America	%	2.9	1.3	0.9	2.0
Russian Federation	%	1.3	0.6	-3.8	-1.1
Ukraine	%	-0.0	-6.8	-9.0	1.2
Eastern Europe	%	2.9	2.8	2.9	3.2
World <b>d</b>	%	3.4	3.4	3.2	3.5
<b>Inflation</b>					
United States	%	1.5	1.6	0.2	1.7
<b>Interest rates</b>					
US prime rate <b>e</b>	%	3.3	3.3	3.6	4.6
	<b>unit</b>	<b>2012–13</b>	<b>2013–14</b>	<b>2014–15 a</b>	<b>2015–16 a</b>
<b>Australia</b>					
Economic growth	%	2.5	2.5	2.4	2.7
Inflation	%	2.3	2.7	1.7	2.3
Interest rates <b>g</b>	%	5.2	4.6	4.3	4.1
<b>Australian exchange rates</b>					
US\$/A\$		1.03	0.92	0.84	0.72
TWI for A\$ <b>h</b>		77	71	67	62

**a** ABARES assumption. **b** Indonesia, Malaysia, the Philippines, Thailand and Vietnam.

**c** Excludes Hong Kong. **d** Weighted using 2014 purchasing-power-parity (PPP) valuation of country gross domestic product by the International Monetary Fund. **e** Commercial bank prime lending rates in the United States. **g** Large business weighted-average variable rate on credit outstanding. **h** Base: May 1970 = 100.

Sources: ABARES; Australian Bureau of Statistics; International Monetary Fund; Organisation for Economic Co-operation and Development; Reserve Bank of Australia

## Economic prospects in Australia's major export markets

### United States

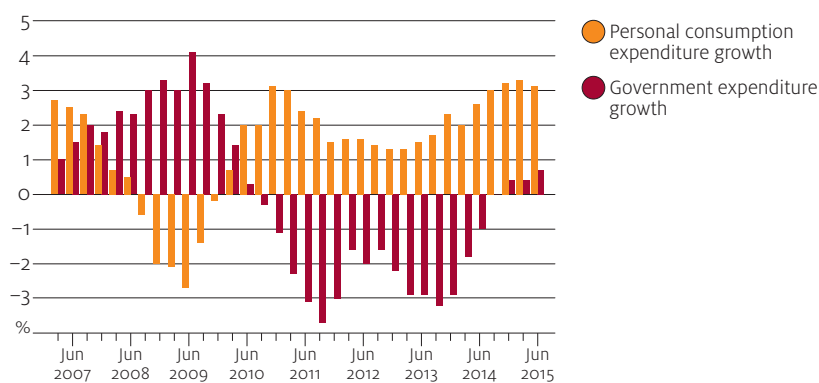
In the United States, economic activity continued to expand in the June quarter 2015, growing at 2.7 per cent year-on-year compared with 2.9 per cent in the March quarter.

Unemployment continued to decline. It fell to 5.3 per cent in June 2015, from 5.5 per cent in March and 6.1 per cent a year earlier. This is close to the US Federal Reserve's assumed natural rate of unemployment of between 5.0 and 5.2 per cent. Non-farm employment increased by 2.2 per cent year-on-year, or by more than 3 million employees, in the June quarter 2015.

Despite falling unemployment, wage growth remained subdued in the June quarter. The employment cost index is the broadest measure of labour costs. It increased by 0.2 per cent quarter-on-quarter, the slowest rate of growth since the series began in 1982. Weak wage growth is expected to assist in restricting inflationary pressure and maintaining accommodating monetary policy.

Consumer spending increased at a rate of 3.1 per cent year-on-year in the June quarter 2015, compared with 3.3 per cent in March. The major contributors were expenditure on durable goods and transport services, which grew by 5.9 per cent and 5.0 per cent respectively. The improving labour market and lower oil prices are expected to support consumer spending in the short term.

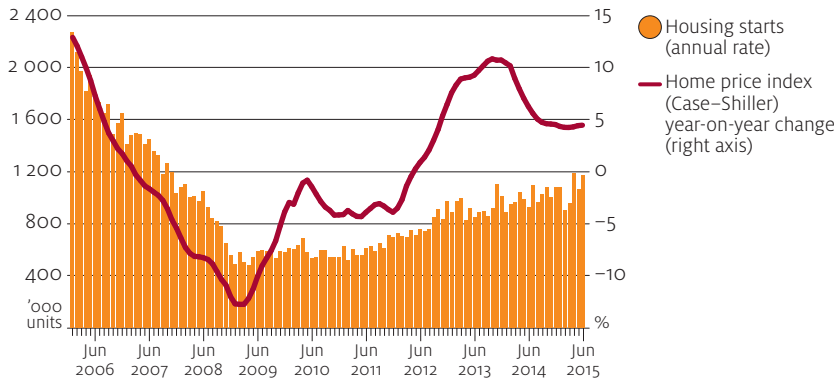
#### US personal consumption and government expenditure, year-on-year growth



Government spending increased by 0.7 per cent in the June quarter 2015 compared with 0.4 per cent in the March quarter. This made June the third consecutive quarter of increased government spending.

In the June quarter 2015, housing prices reached their highest level since December 2007. They increased by 4.4 per cent year-on-year, compared with 4.3 per cent in the March quarter. Housing starts increased by 17 per cent year-on-year in the June quarter 2015, following an increase of 4.2 per cent in the March quarter. Building permits increased by 21.3 per cent year-on-year to their highest level since June 2007.

Selected US housing market indicators



Economic growth in the United States is expected to strengthen in the remainder of 2015 and through 2016 but several risks to the outlook persist. The US dollar appreciated by 10.2 per cent on a trade-weighted basis year-on-year in the June quarter 2015, making US exports relatively more expensive. US exports are also constrained by weak demand in some trading partners, including Japan and the European Union. Risk to the US economic outlook also stems from the moderation of growth in China, which is the third-largest destination for US exports.

Low oil prices continued to have both positive and negative effects on the US economy. Consumers are benefiting from lower prices for petrol and other energy but rapid cutbacks to capital expenditures in the oil and gas industries are negatively affecting economic growth.

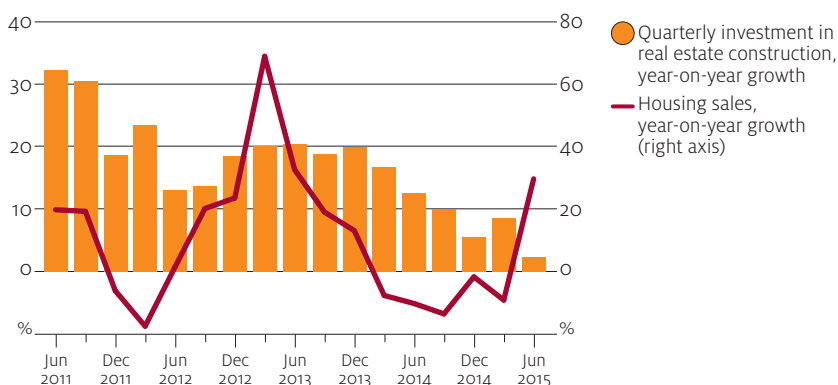
In response to strengthening domestic demand, the US Federal Reserve is expected to increase official interest rates in the remainder of 2015 and during 2016. The pace of the increases is expected to be gradual and monetary policy is likely to remain relatively accommodating in the short term. This would especially be the case if volatility in world equity markets were to continue.

In preparing this set of agricultural commodity forecasts, economic growth in the United States is assumed to increase from 2.4 per cent in 2014 to 2.5 per cent in 2015, before strengthening to 3.0 per cent in 2016.

## China

In China, the housing sector remains a drag on the economy, although some other indicators have shown improvement. Housing transactions increased year-on-year in the June quarter 2015 after declining through 2014. Residential prices in the major cities improved, with price increases more pronounced for existing dwellings than new properties. Construction of new properties remains weak. Quarterly year-on-year growth in real estate investment reached a nine-year low of 2.3 per cent in the June quarter.

### Selected Chinese housing market indicators



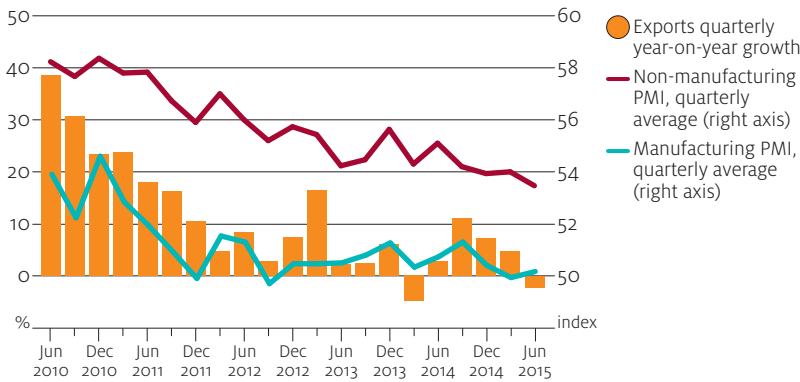
The industrial sector remains weak. The producer price index for industrial products has continued to decline, falling by 5.4 per cent year-on-year in July. This was the largest reduction since October 2009 and the 40th consecutive monthly fall. The manufacturing Purchasing Managers' Index (PMI) was 49.7 in August, which indicates that manufacturing activity contracted compared with the previous month. Year-on-year growth in fixed asset investment was 10.5 per cent in the June quarter, a decrease from 13.5 per cent in the March quarter.

Economic growth is increasingly driven by the services sector, which now contributes more to GDP than manufacturing. Growth in retail and financial service activity has been particularly robust. The value added by the services sector grew by 8.4 per cent year-on-year in the June quarter, compared with 6.1 per cent for the industrial sector. The non-manufacturing PMI averaged 53.6 in the first half of 2015, indicating that the services sector had expanded.

China has continued to record large trade surpluses. However, a surplus of US\$140 billion in the June quarter was the result of a decline in imports greater than the decline in exports. The decline in imports reflected falling industrial demand and cheaper commodity imports, while decreased exports resulted from weaker demand from the United States and Europe.

The appreciation of the Chinese yuan during the first half of 2015 also contributed to the fall in exports. The yuan is loosely pegged to the US dollar, so the appreciation of the dollar increased the value of the yuan against other currencies and reduced the competitiveness of China's exports. On 11 and 12 August the People's Bank of China devalued the yuan by 1.9 per cent and 1.7 per cent, respectively, against the US dollar, bringing the yuan to a four-year low against the US dollar.

Chinese real export growth and manufacturing Purchasing Managers' Index



Volatility in Chinese equity markets in mid 2015 has increased the uncertainty of China's economic outlook. The Shanghai stock exchange composite index rose by around 150 per cent in the year to 12 June 2015 but fell by 42 per cent between mid June and 27 August 2015, despite intervention by the Chinese Government. This significant fall in equity market valuation could weaken consumer spending and business confidence and lead to a more rapid slowdown in economic activity than otherwise forecast.

Shanghai stock market index



The People's Bank of China lowered interest rates five times between November 2014 and August 2015. The most recent reduction was made in response to the share market falls. It brought the benchmark lending rate to 4.6 per cent, down from 6 per cent in November 2014. At the same time, the bank loosened capital controls, including by cutting the reserve requirement ratio to 18 per cent for most large banks.

Inflation in China remained below 2 per cent in the year to July, subdued by low commodity prices and the high value of the currency. This low inflation environment provides space for further monetary easing to support the official economic growth target of 7 per cent.

In preparing this set of agricultural commodity forecasts, the Chinese economy is assumed to grow by 6.5 per cent in 2015 before slowing to 6.2 per cent in 2016.

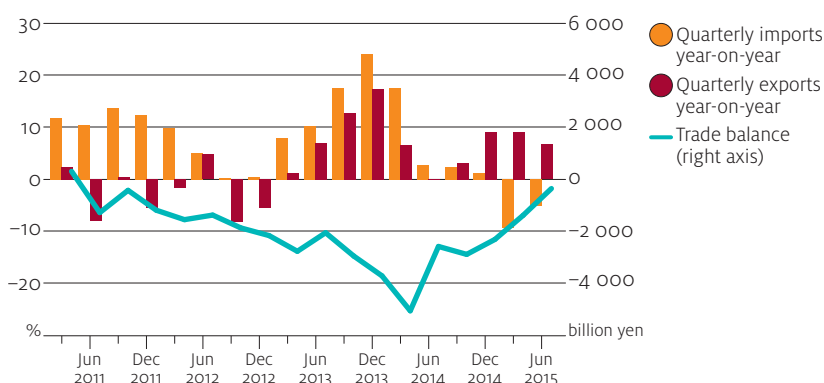
## Japan

Real gross domestic product in Japan expanded by 0.7 per cent year-on-year in the June quarter 2015 following contractions of 0.8 per cent in the March quarter and 0.1 per cent over 2014 as a whole. This year-on-year improvement mostly reflects recovery from the sharp fall in economic activity in 2014.

Weak domestic consumption limited growth in the Japanese economy in the year to June 2015. The Japanese economy has not fully recovered from the consumption tax increase in April 2014. Private consumption, which makes up around 60 per cent of Japanese economic activity, fell by 0.8 per cent quarter-on-quarter in June 2015. However, private investment increased by 0.2 per cent quarter-on-quarter in the June quarter following a small improvement in residential investment.

Japan's trade balance improved during the first half of 2015. The yen continued to depreciate against the US dollar, supporting the profitability of Japanese firms. Exports increased at a faster rate in the first half of 2015 than in 2014, while imports fell in value terms because of lower commodity prices. However, weaker growth prospects in China and other export markets in Asia may limit further growth in Japanese exports.

### Japan change in exports and imports and trade balance



Business sentiment in Japan improved during the first half of 2015 but remains low. The Bank of Japan's June 2015 Tankan survey of Japanese enterprises showed that the largest enterprises had increasing confidence in business conditions. In the financial year ending March 2015, profits of large Japanese businesses increased significantly from the previous year, driven by trade-oriented firms benefiting from the weaker yen. However, improvements are yet to be seen in the industrial sector, where production fell by 0.5 per cent year-on-year in the June quarter—the fourth consecutive quarterly fall.

The Bank of Japan has continued its quantitative easing programme, but core inflation—which covers all items except fresh food—was zero in June. Lower world prices for commodities have mitigated the inflationary pressure resulting from the depreciation of the yen. The Bank of Japan announced after its July meeting that it expected to achieve its 2 per cent inflation target by mid 2016, once the deflationary effects of low oil prices have dissipated.

Economic growth in Japan is assumed to average 0.8 per cent in 2015 and 1.0 per cent in 2016.

### Europe

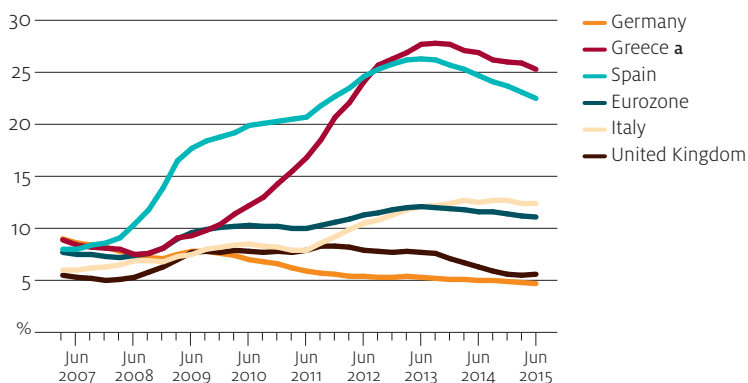
Economic growth in the eurozone was 1.2 per cent year-on-year in the June quarter 2015 following growth of 1.0 per cent year-on-year in March. In the United Kingdom, economic growth was 2.6 per cent year-on-year in the June quarter down from 2.9 per cent year-on-year in March.

Industrial production in the eurozone has not yet returned to pre-global financial crisis levels. The industrial production index in the June quarter 2015 was still about 9 per cent below the June 2008 level. However, industrial production grew by 1.2 per cent year-on-year in the June quarter, making it the seventh consecutive quarter of growth. The Markit composite Purchasing Managers' Index for the eurozone rose to a four-year high in June 2015, reflecting expanded business activity and increased job creation.

Unemployment in the eurozone averaged 11.1 per cent in the June quarter 2015, down from 11.2 per cent in March and 11.6 per cent a year earlier. High youth unemployment is still an ongoing problem in the eurozone. Greece, Spain, Croatia and Italy have the highest levels of unemployed people under 25 in the eurozone, averaging between 40 per cent and 50 per cent in the June quarter. However, in most of these countries, youth unemployment fell in the year to June 2015.



## European unemployment rates



<sup>a</sup> Greek unemployment rate estimated for June 2015.

Inflation in the eurozone remains below the European Central Bank (ECB) target of 2 per cent, mostly as a result of low oil prices. Inflation averaged 0.2 per cent year-on-year in the June quarter 2015, following deflation in the March quarter. The quantitative easing programme announced by the ECB in January increased inflationary expectations. However, price rises in June and July were unusually low, and further deflation in the coming months cannot be ruled out. However, the ECB expects inflation to increase towards the end of 2015.

The trade-weighted exchange rate of the euro fell by 11 per cent in the year to June 2015. The lower exchange rate supported eurozone exports, which increased by 12 per cent year-on-year in June. This contributed to the €26.4 billion merchandise trade surplus, up from €16.0 billion in June 2014. Export growth has also been supported by economic recoveries in the United Kingdom and the United States, the main trading partners of the eurozone.

High levels of eurozone government debt will persist over the outlook period. Average debt in the eurozone increased to 92.9 per cent of GDP in the June quarter 2015, up from 92.0 per cent in the March quarter. Greece and Portugal, two of the countries with the largest debt-to-GDP ratios, reduced their ratios in the June quarter. However, this was not enough to offset the increase of nearly 1 per cent over the whole eurozone.

Uncertainty about the sovereign debt situation in Greece throughout June and July was expected to have a negative effect on other eurozone countries, but the impacts were not felt severely outside Greece. Greece is a small economy, and most private investors are no longer exposed to Greek assets. However, any Greek default on loan repayments could negatively affect investor confidence in other eurozone economies (such as Italy, Portugal and Spain) that also carry high levels of debt relative to GDP.

Quantitative easing, the weaker euro and low oil prices are expected to continue to support economic growth in the eurozone in the short term. Economic activity is assumed to expand by 1.2 per cent in 2015 and by 1.5 per cent in 2016. Growth in the United Kingdom is assumed to increase to 2.4 per cent in 2015 and ease to 2.3 per cent in 2016 as the economy returns to trend growth.

### Non-OECD Asia

Economic activity in non-OECD Asia moderated in the first half of 2015. Real economic growth was 6.5 per cent year-on-year in the March quarter, compared with 6.8 per cent in 2014 as a whole. Higher economic growth in India was offset by lower growth in ASEAN economies, particularly Indonesia and Thailand.

The main factors affecting economies in the region are low commodity prices and slowing Chinese import demand. Lower oil prices have benefited oil importers, including India and Indonesia, by moderating inflation and increasing consumer purchasing power. However, lower oil prices have softened investment in the resource sectors of net oil exporters, especially Malaysia.

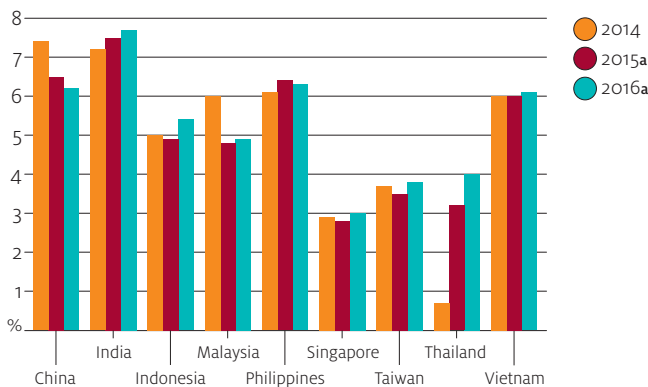
The economic slowdown in China dampened growth in export-oriented economies in the first half of 2015—especially in Taiwan, which sends more than a quarter of its exports to China. Weak Chinese import demand also contributed to a slowdown in Singapore. In the June quarter 2015 Singapore’s merchandise exports fell by 8.5 per cent year-on-year and industrial production fell by 4.9 per cent year-on-year.

The Indian economy expanded strongly in the June quarter, growing by 7.0 per cent year-on-year following growth of 7.5 per cent in March. Inflation reached an eight-month low of 3.8 per cent year-on-year in July following price falls for some staple foods. However, prospects for the rest of 2015 are subject to summer monsoon rainfall. Below average rainfall would reduce agricultural production and spur inflation. The uncertain timing of proposed economic reforms, including the implementation of a value added tax, is a further risk to the economic outlook. These reforms are expected to improve the efficiency of the Indian economy but their introduction has been delayed.

The ASEAN Economic Community agreement is likely to come into effect in late 2015. All 10 ASEAN nations will work towards liberalising trade and migration within the region. Depending on the implementation timetable, the agreement may result in expanded intraregional trade during 2016.

Economic growth across non-OECD Asia as a whole is assumed to average 6.3 per cent in 2015 and 2016.

Economic growth in non-OECD Asia



a ABARES assumption.

## Economic prospects in Australia

Australia's economic growth was below trend in 2014–15, growing at 2.4 per cent compared with 2.5 per cent in 2013–14. Real gross domestic product grew at a year-on-year rate of 2.5 per cent in the March quarter and 1.9 per cent in the June quarter 2015.

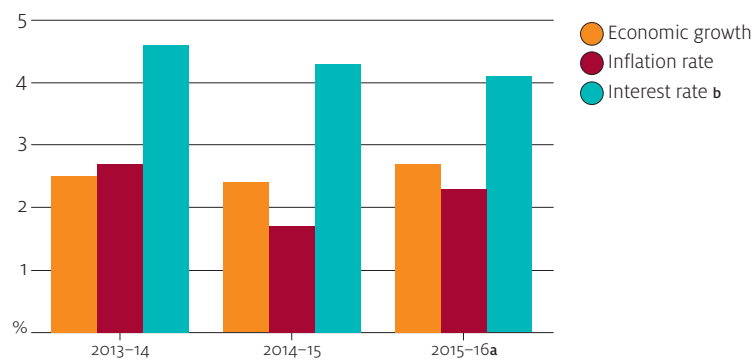
Falling demand for major commodity exports has continued to decrease mining industry profitability, which has reduced investment. The price of iron ore, Australia's largest export, fell to an average of US\$58 a tonne in the June quarter 2015, 44 per cent lower than a year earlier. Prices fell further in July to average US\$52 a tonne. Prices for coal, Australia's second-largest export item, fell by almost 20 per cent year-on-year to average US\$63 a tonne in the June quarter.

Oil prices are expected to remain relatively low over the outlook period and will have mixed effects on the Australian economy. Lower energy prices have meant reduced costs in the manufacturing and agriculture sectors and will increase real household incomes. However, lower oil and petroleum prices have also reduced revenue from energy exports such as liquefied natural gas, Australia's third-largest export commodity. In June 2015 slowing commodity exports contributed to the terms of trade falling to the lowest level since 2006.

The Reserve Bank of Australia reduced the cash rate to the historical low of 2 per cent in May 2015 and left it unchanged through the September quarter. Low interest rates are expected to continue to support consumer spending and business investment throughout 2015–16.

In preparing these agricultural commodity forecasts, the Australian economy is assumed to expand at 2.7 per cent in 2015–16.

### Australian economic indicators



a ABARES assumption. b Large business weighted-average variable rate on credit outstanding.

### Inflation

Inflation moderated to 1.7 per cent in 2014–15, below the Reserve Bank of Australia’s target of 2 per cent to 3 per cent. Inflation in 2014–15 was low because the fall in oil prices drove down costs of energy and automotive fuel.

The consumer price index rose by 1.5 per cent year-on-year in the June quarter 2015, compared with 1.3 per cent in March 2015 and 1.7 per cent in December 2014.

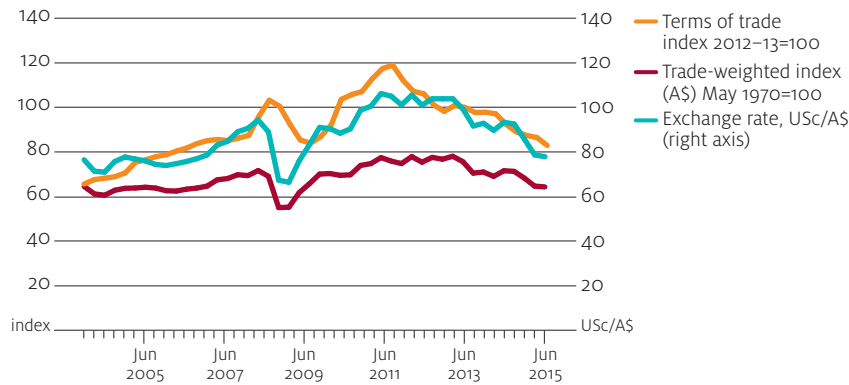
The most significant quarter-on-quarter price rises in the June quarter included medical and hospital services (up 4.5 per cent) and new dwelling purchases by owner-occupiers (up 1.5 per cent). Partly offsetting these rises were falls in domestic holiday travel and accommodation (down 5.4 per cent) and pharmaceutical products (down 1.8 per cent).

Inflation in Australia is assumed to average 2.3 per cent in 2015–16.

### Short-term direction of the Australian dollar

The Australian dollar averaged US84 cents in 2014–15, compared with US92 cents in 2013–14. In the first two months of 2015–16, the dollar averaged US74 cents.

#### Australian terms of trade and exchange rates



Australia's terms of trade, the ratio of export prices to import prices, is an indicator of the fundamental value of the Australian dollar. The terms of trade index declined by 10 per cent year-on-year in the June quarter 2015, mainly reflecting continued weakening of prices for mineral resources on world markets. In the June quarter 2015, the Reserve Bank of Australia's commodity price index fell by 28 per cent year-on-year in US dollar terms after falling by 27 per cent in the March quarter. The value of the Australian dollar declined by 17 per cent against the US dollar and by 10 per cent on a trade-weighted basis in the year to the June quarter 2015.

Differentials between interest rates in Australia and major world economies also influence demand for the Australian dollar. Despite record low official interest rates in Australia, commercial rates remain substantially higher than in Europe, Japan and the United States. This encourages international investors to seek higher returns in Australia, therefore maintaining demand for the Australian dollar. Interest rate differentials between the United States and Australia will narrow if the US Federal Reserve raises interest rates later in 2015, as expected. Since the end of 2014, Japan and the eurozone have both announced large asset purchasing programmes and interest rates in these economies are expected to stay low over the outlook period.

In addition to these fundamental factors, movements in the Australian dollar are influenced by changes in financial market sentiment towards the Australian economy and the outlook for major world economies. In August 2015 the People's Bank of China devalued the yuan against the US dollar by around 3 per cent, leading to speculation that economic growth in China could be weaker than currently expected. In response, the Australian dollar lost ground against the US dollar. Any indications of unexpected weakness in the Chinese economy, or in Australian economic activity, could lead to a weakening in sentiment towards the Australian economy and depreciation of the Australian dollar.

Taking these factors into account, the Australian dollar is assumed to average US72 cents and to have a trade-weighted index value of 62 in 2015–16, compared with US84 cents and trade-weighted index value of 67 in 2014–15.

A weaker Australian exchange rate against the US dollar will increase Australian farm sector incomes. Based on Australian estimated farm earnings in 2014–15 and assuming other factors being unchanged, a depreciation of the Australian dollar by US1 cent in 2014–15 as a whole would increase farm sector incomes by around \$350 million in that year. This is because export contracts are mostly denominated in US dollars. A depreciation of the Australian dollar against the US dollar will increase earnings from agricultural exports. This will more than offset any increase in farm costs resulting from higher prices of imported farm inputs, such as fertilisers and machinery.

## Outlook for Australian agricultural and fisheries exports

Total volume of farm production is forecast to fall by 0.1 per cent in 2015–16, following an estimated decrease of 0.5 per cent in 2014–15. An increase in crop production in 2015–16 is expected to be more than offset by a decline in livestock production from the estimated record level of 2014–15. In 2015–16 the volume index of crop production is forecast to increase by 4.6 per cent, while livestock production is forecast to decline by 4.3 per cent.

The index of unit returns for Australian farm exports is forecast to increase by 4.2 per cent in 2015–16, mainly resulting from an assumed lower value of the Australian dollar. This forecast increase follows a rise of 5.9 per cent in 2014–15. Higher export prices (in Australian dollar terms) for beef and veal, wool, lamb, wine and canola are expected to more than offset weaker prices for dairy products, wheat and sugar.

Earnings from farm exports are forecast to decline by 0.1 per cent in 2015–16 to \$43.4 billion. Export earnings in 2015–16 are expected to fall for beef and veal (down 3 per cent), dairy (down 4 per cent), lamb (down 1 per cent), sugar (down 2 per cent), live feeder/slaughter cattle (down 8 per cent), cotton (down 33 per cent) and mutton (down 13 per cent). These decreases are expected to be partly offset by increased export earnings for wheat (up 4 per cent), coarse grains (up 9 per cent), wool (up 1 per cent) and canola (up 2 per cent).

Export earnings for crops are forecast to increase to around \$22.2 billion in 2015–16, from an estimated \$21.8 billion in 2014–15. Export earnings for livestock and livestock products are forecast to decrease slightly to \$21.3 billion, following an estimated rise of 19 per cent to \$21.7 billion in 2014–15.

For fisheries products, export earnings are forecast to increase by 10.8 per cent to \$1.6 billion, following an estimated increase of 10.4 per cent in 2014–15. Export earnings in 2015–16 are forecast to rise for salmonids (up 10 per cent) and rock lobster (up 17 per cent) but to fall for tuna by 3 per cent.

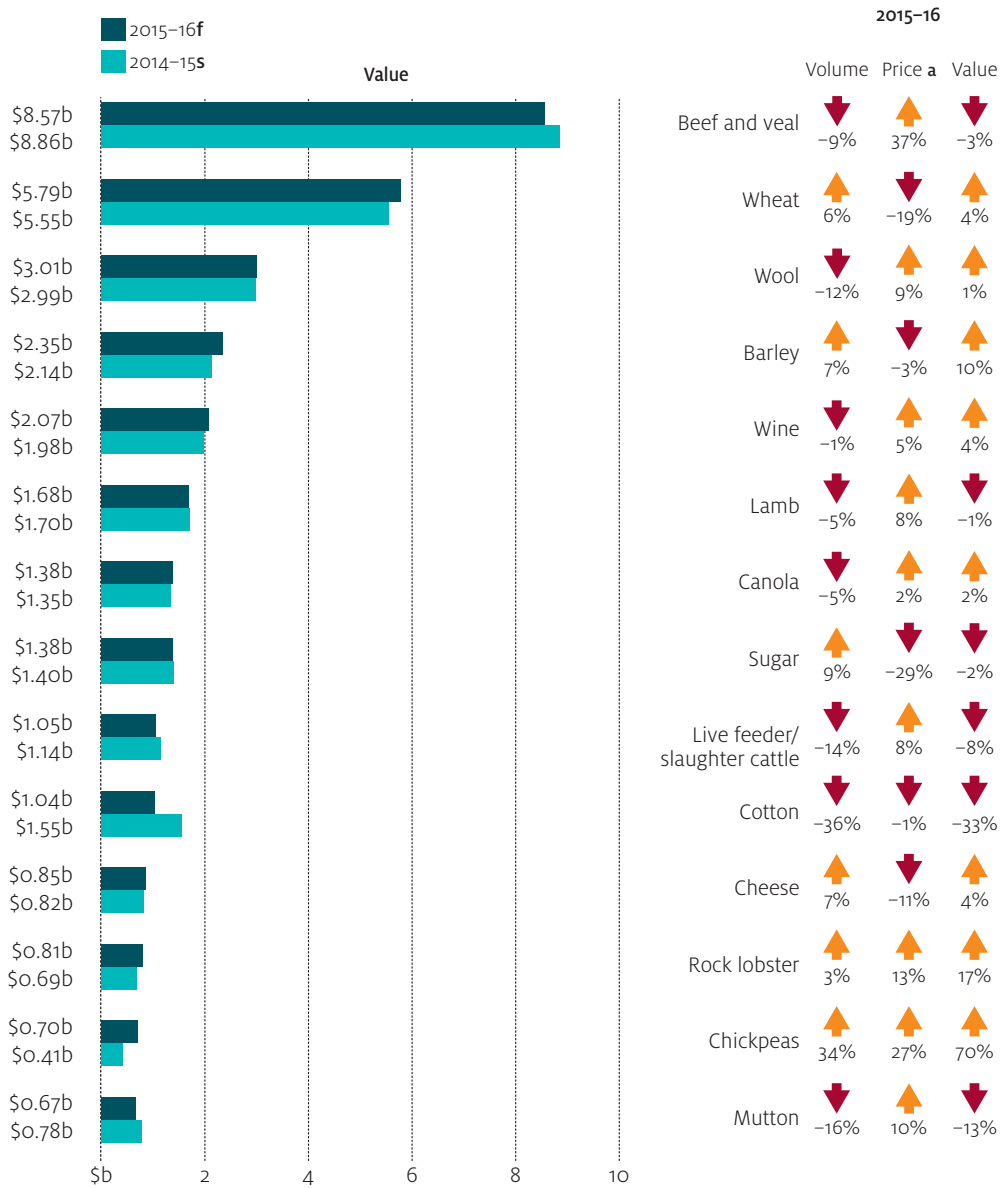
## Major indicators of Australia's agriculture and natural resources based sector

		2010	2011	2012	2013	2014	2015	% change previous year	
		-11	-12	-13	-14	-15 s	-16 f	2014-15	2015-16
<b>Exchange rate</b>	US\$/A\$	0.99	1.03	1.03	0.92	0.84	0.72	-8.7	-14.3
<b>Australian export unit returns a</b>									
<b>Farm</b>	index	100.0	100.4	98.1	105.5	111.7	116.4	5.9	4.2
<b>Value of exports</b>									
<b>Farm</b>	A\$m	31 917	36 389	38 023	41 158	43 503	43 443	5.7	-0.1
- crops	A\$m	17 420	21 654	23 067	22 821	21 757	22 163	-4.7	1.9
- livestock	A\$m	14 497	14 735	14 956	18 337	21 746	21 280	18.6	-2.1
<b>Fisheries products</b>	A\$m	1 248	1 227	1 175	1 304	1 440	1 595	10.4	10.8
<b>Gross value of production b</b>									
<b>Farm</b>	A\$m	46 375	47 432	48 505	51 034	52 801	57 133	3.5	8.2
- crops	A\$m	25 336	26 251	28 393	28 211	26 637	28 082	-5.6	5.4
- livestock	A\$m	21 038	21 180	20 112	22 822	26 164	29 051	14.6	11.0
<b>Forestry and fisheries</b>	A\$m	4 104	3 928	3 885	4 347	4 686	4 877	7.8	4.1
- forestry	A\$m	1 856	1 624	1 516	1 789	1 944	1 976	8.7	1.7
- fisheries	A\$m	2 248	2 305	2 369	2 559	2 743	2 901	7.2	5.8
<b>Volume of farm production c</b>	index	112.8	118.5	119.5	122.1	121.5	121.4	-0.5	-0.1
- crops	index	123.3	135.1	133.0	131.7	123.3	129.0	-6.4	4.6
- livestock	index	100.6	100.7	104.7	111.4	118.2	113.1	6.1	-4.3
<b>Production area and livestock numbers</b>									
Crop area (grains and oilseeds)	'000 ha	23 946	24 295	23 838	22 598	23 756	24 050	5.1	1.2
Sheep	million	73.1	74.7	75.5	72.6	71.3	71.8	-1.8	0.7
Cattle	million	28.5	28.4	29.3	29.1	27.0	26.5	-7.2	-1.9
<b>Farm costs</b>	A\$m	36 559	37 263	37 187	38 117	38 373	39 713	0.7	3.5
<b>Net cash income d</b>	A\$m	14 759	15 241	16 517	18 264	19 884	23 014	8.9	15.7
<b>Net value of farm production e</b>	A\$m	9 816	10 169	11 319	12 917	14 428	17 420	11.7	20.7
<b>Farmers' terms of trade g</b>	index	96.3	93.2	95.3	97.9	101.8	108.4	4.0	6.5
<b>Employment</b>									
Agriculture, forestry and fishing	'000	337	321	301	312	319	na	2.2	na
Australia	'000	11 115	11 249	11 386	11 469	11 700	na	2.0	na

a Base: 2010-11 = 100. b For a definition of the gross value of farm production see Table 13. c Chain weighted basis using Fisher's ideal index with a reference year of 1997-98 = 100. d Gross value of farm production less total cash costs. e Gross value of farm production less total farm costs. f ABARES forecast. g Ratio of index of prices received by farmers and index of prices paid by farmers; base: 1997-98 = 100. na Not available. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Reserve Bank of Australia

### Major Australian agricultural commodity exports



<sup>a</sup> Wheat, barley, canola, sugar, cotton and cheese are world indicator prices in US\$. Beef and veal, lamb and mutton are saleyard prices in A\$. All other commodities are export unit returns in A\$. <sup>f</sup> ABARES forecast. <sup>s</sup> ABARES estimate.



## Understanding ABARES agricultural forecasts

ABARES presents its forecasts of production, consumption, prices and exports of agricultural commodities as point forecasts. These forecasts are based on an economic assessment of data and information from various sources and supported by discussions with industry experts, use of quantitative analytical tools and professional judgement.

### Price forecasts and actual outcomes of selected agricultural commodities in 2014–15

Commodity a	Unit	2014–15 actual	September 2014 b		December 2014 b		March 2015 b	
			forecast	error c	forecast	error c	forecast	error c
				%		%		%
Wheat	US\$/t	266	285	7	285	7	270	2
Barley	US\$/t	205	205	0	205	0	208	1
Beef	Ac/kg	364	328	10	328	10	349	4
Lamb	Ac/kg	518	510	2	510	2	510	2
Wool	Ac/kg	1 105	1 120	1	1 045	5	1 045	5
Cotton	USc/lb	71	70	1	70	1	70	1
Cheese	US\$/t	3 921	4 300	10	3 900	1	3 950	1
Butter	US\$/t	3 483	3 400	2	3 400	2	3 525	1
Sugar	USc/lb	14	14	0	16	14	16	14

a Wheat, barley, cotton, cheese, butter and sugar are world indicator prices in US\$. All other commodities are domestic prices in A\$. b Release time of ABARES forecasts. c Expressed as percentage of actual outcome.

Actual outcomes often differ from the forecasts ABARES makes. A key reason for this difference is that ABARES has to make assumptions about factors that can affect outcomes, because the information required when the forecasts are made is incomplete. As more information becomes available, ABARES uses it to revise forecasts.

Differences between forecasts and actual outcomes also reflect the effects of unforeseen events. These may include policy changes, macroeconomic developments and unexpected seasonal conditions.

When ABARES forecasts production of major crops in Australia, it uses the most up-to-date information available on the outlook for seasonal conditions released by the Australian Government Bureau of Meteorology. It also considers the most recent yield forecasts provided by the Queensland Alliance for Agriculture and Food Innovation. If actual seasonal conditions or yields differ from the information available at the time forecasts are made, the ABARES forecast of Australian crop production will differ from the actual outcome.

continued ...

## Understanding ABARES agricultural forecasts continued

Exchange rate movements can significantly affect agricultural prices and export earnings. Most agricultural prices are denominated in US dollars on world markets. Consequently, a significant change in the value of the US dollar against other floating international currencies can influence movements in world agricultural prices (Penm et al. 2002). Movement in the Australian dollar against the US dollar is also important. A significant depreciation of the Australian dollar against the US dollar can markedly increase earnings for exporters and producers.

Considerable uncertainty surrounds any exchange rate outlook. Changes in financial market sentiment can significantly affect exchange rate movements and lead to high volatility. For example, in July 2014 the Australian dollar averaged US94 cents but fell to US83 cents in December 2014, US77 cents in June 2015 and US71 cents in late August 2015.

ABARES cannot predict extreme seasonal conditions, supply disruptions or sharp exchange rate fluctuations and incorporate them into agricultural forecasts. ABARES attempts to balance upside and downside risks, but some judgements will inevitably cause forecasts to be different from actual outcomes.

Information about risks to the forecasts is useful for decision-makers. For this reason, ABARES discusses risk factors in *Agricultural commodities* notes and encourages decision-makers to read these to understand ABARES forecasts.

### Reference

Penm, J, Maurer, A, Fairhead, L & Tran, QT 2002, 'US dollar—impacts of a depreciation of the US\$ on Australian commodities', *Australian commodities*, Australian Bureau of Agricultural and Resource Economics, Canberra, vol. 9, no. 3, pp. 485–94.

Agriculture

Crops



# CROPS

## Wheat



**↓19%**  
to **US\$215/t<sup>a</sup>**  
in 2015–16

The world wheat indicator price is expected to average lower, reflecting ample world wheat supplies.

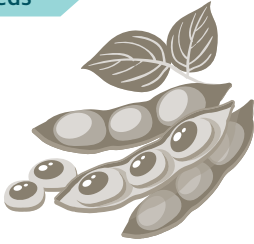
## Coarse grains

The world coarse grains indicator price is forecast to fall, reflecting high carry-over stocks and near record forecast production in 2015–16.

**↓5%**  
to **US\$165/t<sup>b</sup>**  
in 2015–16



## Oilseeds



**↓9%** to **US\$380/t<sup>c</sup>**  
in 2015–16

The world oilseed indicator price is forecast to average lower as a result of an expected build-up of world soybean stocks.

## Sugar

The world sugar indicator price is forecast to decline, reflecting record world carry-over stocks.

**↓29%**  
to **USc 10/lb<sup>d</sup>**  
in 2015–16



## Cotton



**↓1%**  
to **USc 70/lb<sup>e</sup>**  
in 2015–16

The world indicator price for cotton is forecast to fall slightly in 2015–16, reflecting record high world carry-over stocks.

<sup>a</sup> US no. 2 hard red winter, fob Gulf.

<sup>b</sup> US no. 2 yellow corn, fob Gulf.

<sup>c</sup> US no. 2 soybeans, fob Gulf.

<sup>d</sup> Intercontinental Exchange, nearby futures, no. 11 contract (Oct–Sep).

<sup>e</sup> Cotlook 'A' index.

# Wheat

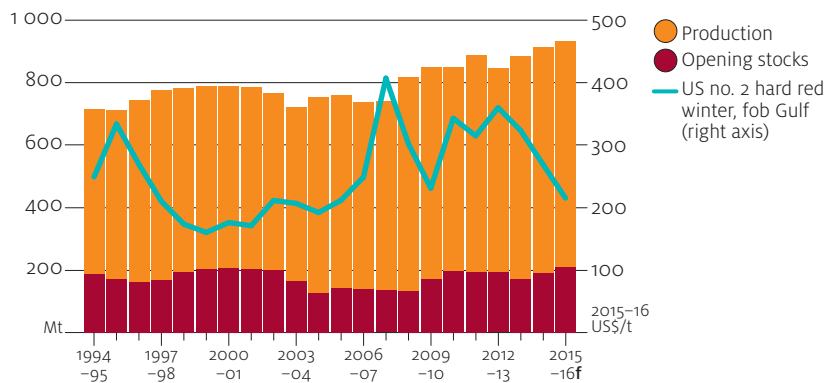
Christopher Price

- The world wheat indicator price is forecast to average US\$215 a tonne in 2015–16, compared with US\$266 a tonne in 2014–15.
- World wheat supply is forecast to rise in 2015–16, driven by an increase in opening stocks.
- The volume of world wheat trade is forecast to fall by 4 per cent in 2015–16 to 152 million tonnes, with reduced import demand.
- Australian wheat production is expected to rise by 7 per cent in 2015–16, leading to a forecast increase in export volume (to 17.5 million tonnes) and value (to \$5.8 billion).

## Wheat indicator price lower in 2015–16

The world wheat indicator price (US no. 2 hard red winter, fob Gulf) is forecast to average US\$215 a tonne in 2015–16, compared with US\$266 a tonne in 2014–15. World wheat supply is forecast to increase, driven by an increase in opening stocks. The world indicator price continues to face downward pressure as a result of limited world import demand and abundant exportable supplies in some countries.

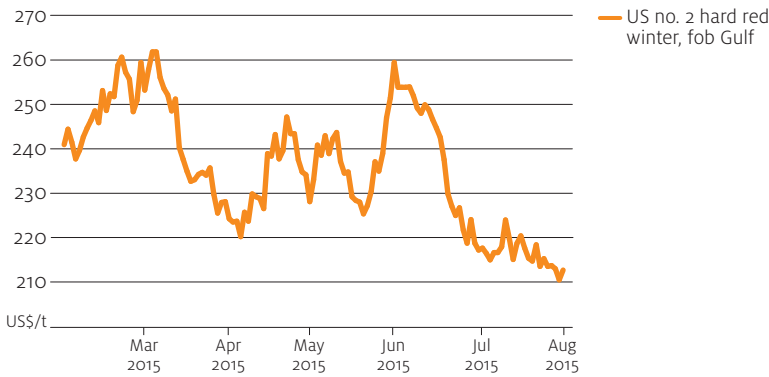
### World wheat supply and price



f ABARES forecast.

Movements in world wheat prices over the past six months have largely reflected changing conditions for the northern hemisphere wheat crop and the related uncertainty around production quantity and quality. Prices were supported by dry seasonal conditions in parts of the European Union and Canada and the anticipated impact of heavy rainfall on winter wheat yields and quality in the United States. However, the northern hemisphere harvest is now well progressed and world wheat supplies are expected to remain ample in 2015–16. Late-season and harvest developments may still affect production in the northern hemisphere, but the southern hemisphere production outlook is more likely to influence world prices. In particular, El Niño may affect production in parts of Australia and Latin America during the coming months. El Niño events are often associated with reduced spring rainfall in eastern Australia and excessive rainfall in north-eastern Argentina and southern Brazil.

World wheat indicator price, March to August 2015

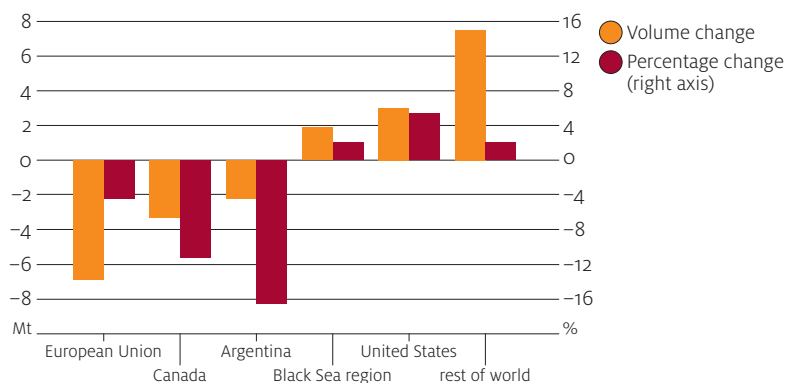


### World production to be largely unchanged

World wheat production is forecast to be largely unchanged in 2015–16 at 723 million tonnes. Among the major exporters, lower production in the European Union, Canada and Argentina is expected to more than offset increased production in the Black Sea region (the Russian Federation, Ukraine and Kazakhstan) and the United States. Outside the major exporting countries, increased production in China, the Middle East and North Africa is expected to more than offset reduced production in other countries, including India and Brazil.

Wheat production in the European Union is forecast to fall by 4 per cent in 2015–16, following above-average yields and record production of 156 million tonnes in 2014–15. Wheat crop quality overall is expected to be better than in 2014–15, when it was adversely affected by heavy rainfall during harvest.

## Forecast change in wheat production, 2015–16



In Canada, wheat production is forecast to decline by 11 per cent in 2015–16 to 26 million tonnes. This reflects the adverse impact of hot and dry conditions through most of the growing season. Late-season rainfall was sufficient to alleviate crop stress in the major producing areas but it came too late to boost yields significantly.

Wheat production in Argentina is forecast to fall by 17 per cent in 2015–16, as a result of a decline in planted area. Planted area is estimated to have declined in response to low expected returns and uncertainty about government export policy. Yields are forecast to be largely unchanged from 2014–15 but will depend on conditions over coming months.

In the Black Sea region, wheat production is forecast to rise by 2 per cent in 2015–16 to 99 million tonnes. Expectations of winter wheat production have been revised significantly upwards in recent months as a result of generally favourable late-season conditions and positive harvest reports across major producing areas. However, excessive moisture in some areas of Ukraine affected crop quality. Conditions have been favourable for the spring wheat crop.

Wheat production in the United States is forecast to increase by 5 per cent in 2015–16 to 58 million tonnes, driven by a rise in hard red winter wheat production. Seasonal conditions across most major producing areas were generally better than in 2014–15, with reduced winterkill and higher yields. Harvesting of hard red winter wheat is now largely complete. Heavy rainfall in June and July delayed harvesting but adverse effects were limited. In contrast, soft red winter wheat crop quality is expected to have been affected, and production is forecast to decline as a result of reduced yields and harvested area. Conditions for spring wheat have been generally favourable and average yield is expected to be similar to the relatively high yield of 2014–15.

## **World population growth driving modest increase in world wheat consumption**

World consumption of wheat is forecast to rise by 1 per cent in 2015–16 to 715 million tonnes, largely reflecting increased human consumption. Human consumption accounts for around 70 per cent of total wheat use and increases broadly in line with world population.

Use of wheat for feed is forecast to increase by 3 per cent in 2015–16, following a 5 per cent increase in 2014–15. Supplies of feed-quality wheat are expected to remain plentiful in the European Union and the Black Sea region. These regions have considerable carry-over stocks and large volumes of production are expected in 2015–16, especially in the United Kingdom and Ukraine. Reduced availability of feed alternatives such as barley and corn is expected to further support use of wheat for feed in the European Union. In the United States, the supply and use of wheat for feed are expected to increase because of some quality issues with the winter wheat harvest.

## **World trade to decline with reduced import demand**

The volume of world wheat trade is forecast to fall by 4 per cent in 2015–16 to 152 million tonnes. This reflects increased supplies in many importing countries, which is expected to reduce import demand.

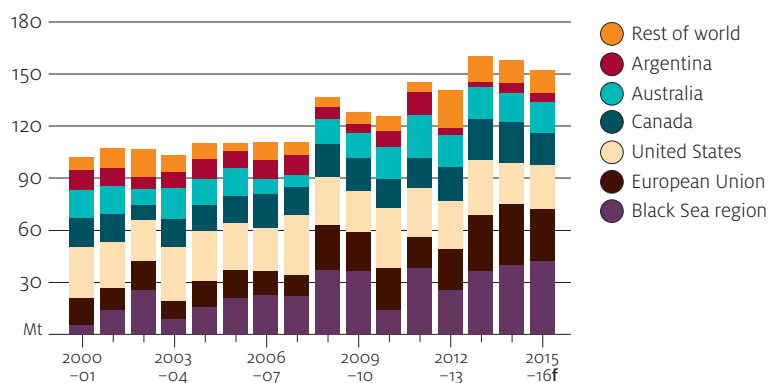
In the Middle East and North Africa, wheat imports are forecast to decline by 9 per cent to 48 million tonnes. Increased domestic supplies are expected to result in lower imports to Iran, Morocco and Turkey. Considerable declines in imports are also expected in Thailand and the Philippines as a result of high opening stocks and modest reductions in use of wheat for feed. In contrast, significantly increased imports are expected in Brazil, Indonesia and many sub-Saharan African countries. These expected increases reflect continuing growth in demand for milling wheat and reduced domestic production in Brazil.

Lower exports are expected from major exporters Canada and the European Union, reflecting reduced exportable supplies. The expected decline in exports from Canada partly reflects lower carry-over stocks from 2014–15. In contrast, relatively high opening stocks in the European Union will partially offset the impact on exports of lower production.

Black Sea region exports are expected to increase for the third consecutive year in 2015–16, rising by 5 per cent to 42 million tonnes. This forecast increase reflects high opening stocks and another large crop this year. Limited import demand in the Middle East and North Africa region is expected to result in considerable supplies of competitively priced wheat from the Black Sea region being available for export to other markets.



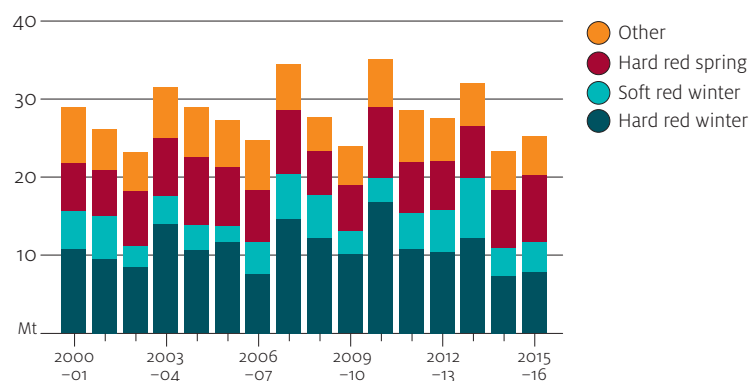
## Wheat exports by origin



f ABARES forecast.

In the United States, exports are forecast to rise by 9 per cent in 2015–16, with high carry-over stocks and increased production. The United States Department of Agriculture (USDA) forecasts that exports of hard red spring wheat are expected to increase, partly reflecting reduced wheat exports from Canada. However, US export volume is still expected to be well below the average of the past 15 years. A strong US dollar and abundant exportable supplies in some other major exporting countries will continue to affect the competitiveness of US wheat on international markets.

## US wheat exports by class, June to May marketing year

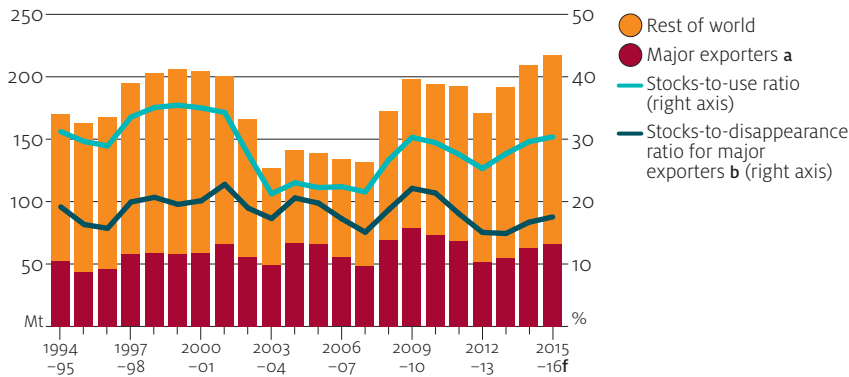


Source: United States Department of Agriculture Economic Research Service

## World stocks to rise further in 2015–16

World closing stocks of wheat for 2015–16 are forecast to be around 4 per cent higher than in 2014–15 at 217 million tonnes. The world stocks-to-use ratio is expected to increase by almost a percentage point, to around 30 per cent. Combined closing stocks in the major exporting countries are expected to be higher in 2015–16, driven by a rise in stocks in the United States.

### World wheat closing stocks



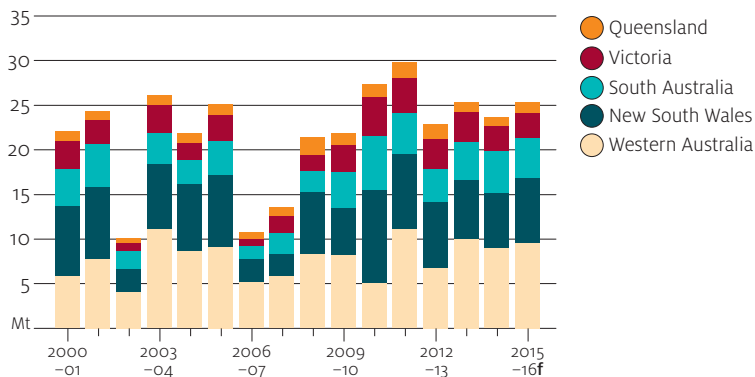
a Argentina, Australia, the Black Sea region, Canada, the European Union and the United States.  
 b Disappearance defined as domestic consumption plus exports. f ABARES forecast.

## Improved prospects for Australian wheat production in 2015–16

Prospects for 2015–16 wheat production have improved as a result of favourable seasonal conditions in most producing regions during winter and a favourable outlook for spring rainfall. These factors have led to an upwards revision of the ABARES June 2015 forecast for Australian wheat production.

Wheat production is forecast to rise by 7 per cent in 2015–16 to 25.3 million tonnes, reflecting a forecast increase in average yield. The most significant increases are expected in New South Wales and Western Australia. Timely rainfall events in late winter improved prospects in South Australia but a modest decline in wheat production compared with last season is still expected. Production in Queensland and Victoria is forecast to increase in 2015–16 but to remain below average.

## Australian wheat production

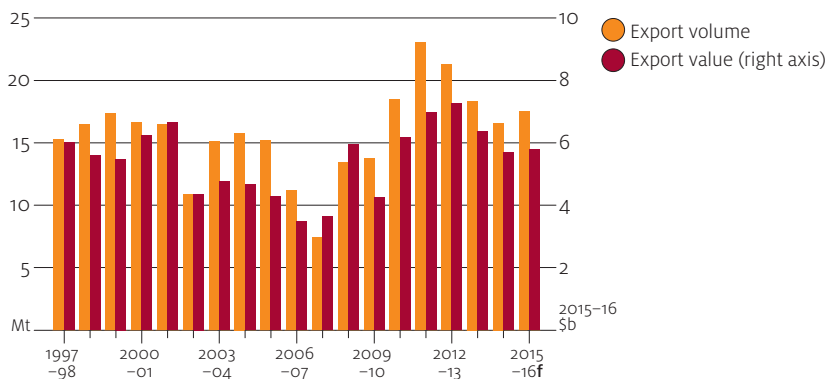


<sup>f</sup> ABARES forecast.

## Australian exports to rise in 2015-16

The volume of wheat exports is forecast to increase by 6 per cent in 2015-16 to 17.5 million tonnes, supported by an expected increase in production. The value of exports is forecast to rise by 4 per cent to around \$5.8 billion, with an assumed depreciation of the Australian dollar partially offsetting the effect of expected falls in world wheat prices.

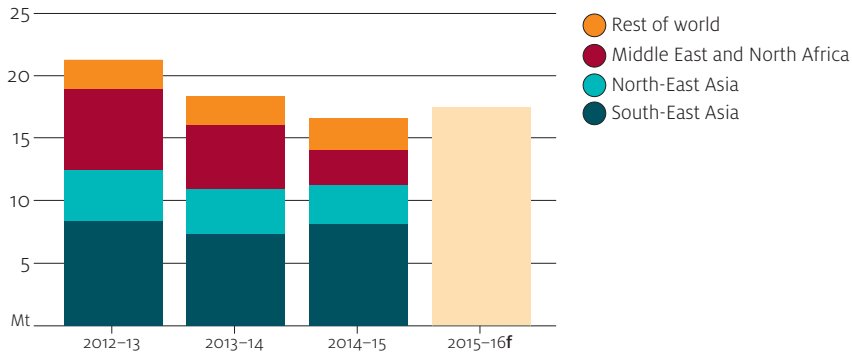
## Australian wheat exports



<sup>f</sup> ABARES forecast.

Several international factors are likely to influence Australian wheat exports in 2015–16. The volume of exports to the Middle East and North Africa is expected to remain low in 2015–16, resulting from reduced import demand in this region and continued competition from large exportable supplies in the Black Sea region and the European Union. Australian exports are also expected to face increased competition in some key markets in East Asia from an expected increase in US exports. Indonesia is expected to remain the largest export market for Australian wheat in 2015–16, accounting for around a quarter of Australian wheat exports in 2014–15.

Australian wheat exports, by destination



f ABARES forecast.

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 Outlook for wheat
 

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	unit	2013–14	2014–15 s	2015–16 f	% change
<b>World</b>					
Production	Mt	714	723	723	0.0
– Black Sea region a	Mt	88	97	99	2.1
– China	Mt	122	126	129	2.4
– European Union	Mt	144	156	149	–4.5
– India	Mt	94	96	90	–6.3
– United States	Mt	58	55	58	5.5
Consumption	Mt	694	706	715	1.3
– human	Mt	472	478	484	1.3
– feed	Mt	129	135	139	3.0
Closing stocks	Mt	192	209	217	3.8
Stocks-to-use ratio	%	28	30	30	
Trade	Mt	160	158	152	–3.8
<b>Exports b</b>					
– Argentina	Mt	2	6	6	0.0
– Australia c	Mt	18	17	18	5.9
– Black Sea region a	Mt	36	40	42	5.0
– Kazakhstan	Mt	8	6	6	0.0
– Russian Federation	Mt	19	22	23	4.5
– Ukraine	Mt	10	11	13	18.2
– Canada	Mt	23	24	18	–25.0
– European Union	Mt	32	35	30	–14.3
– United States	Mt	32	23	25	8.7
Price d	US\$/t	317	266	215	–19.2
<b>Australia</b>					
Area	'000 ha	12 613	13 810	13 793	–0.1
Production	kt	25 303	23 666	25 284	6.8
Exports c	kt	18 336	16 571	17 529	5.8
– value	A\$m	6 103	5 547	5 789	4.4
APW 10 net pool return	A\$/t	336	319	312	–2.2

a Russian Federation, Ukraine and Kazakhstan. b Local marketing years. c July–June years.

d US no. 2 hard red winter, fob Gulf, July–June. f ABARES forecast. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; International Grains Council; United States Department of Agriculture

# Coarse grains

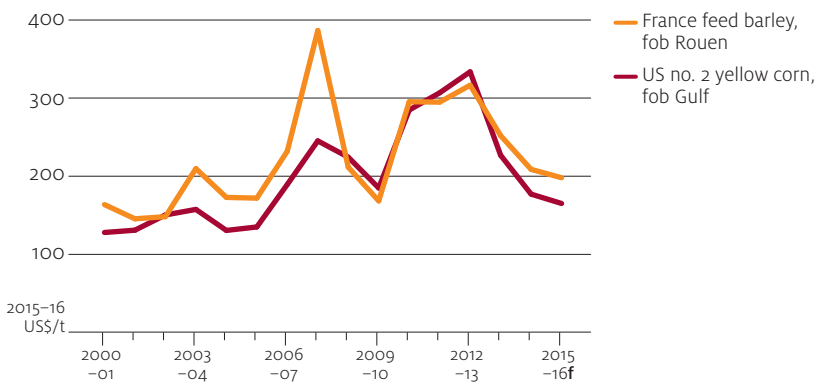
Clay Mifsud and Kyann Zhang

- Coarse grain prices are forecast to fall in 2015–16, reflecting plentiful world supply mainly as a result of high carry-over stocks and near-record production.
- World closing stocks of coarse grains are forecast to fall slightly in 2015–16 but to remain considerably higher than the 10-year average.
- Australian barley exports are forecast to increase by 7 per cent in 2015–16 to 6.6 million tonnes.

## World coarse grains prices to fall in 2015–16

The world coarse grain indicator price (US no. 2 yellow corn, fob Gulf) is forecast to average 5 per cent lower in 2015–16 at US\$165 a tonne. The world indicator price for barley (France feed barley, fob Rouen) is forecast to average 3 per cent lower in 2015–16 at US\$198 a tonne. These forecast lower prices largely reflect relatively high world supply of coarse grains, with large carry-over stocks from the previous season. Growth in consumption of coarse grains is expected to be relatively low in 2015–16 at around 1 per cent.

### World coarse grains prices



f ABARES forecast.

Lower forecast coarse grain prices in 2015–16 follow declines in 2014–15. The world coarse grain indicator price fell by 21 per cent in 2014–15 to average US\$174 a tonne and the world indicator price for barley fell by 15 per cent to average US\$205 a tonne.

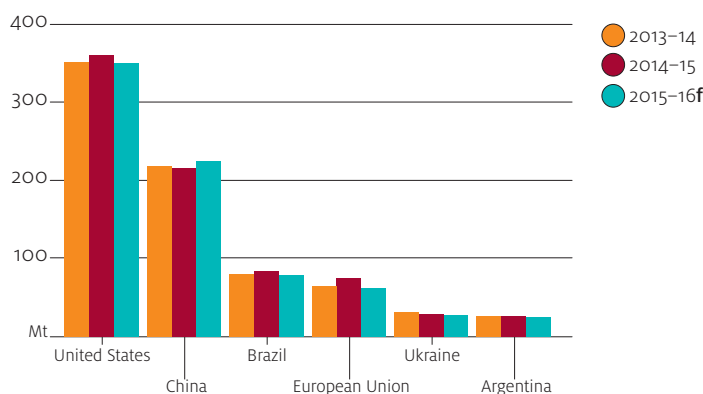
## Coarse grains production to fall from record high

World production of coarse grains is forecast to fall by 1 per cent in 2015–16 to 1 277 million tonnes, reflecting lower corn and barley production in many of the major exporting countries. If realised, world coarse grain production would still be the third-highest on record.

### Corn

World corn production is forecast to fall by 2 per cent in 2015–16 to 985 million tonnes, from the record high in 2014–15 of 1 005 million tonnes. If realised, this would be the third-highest corn production on record. Compared with 2014–15, harvests in the United States, Latin America, European Union and Ukraine are forecast to be lower.

Corn production, major producers



f ABARES forecast.

In the United States, corn production is forecast to fall by 3 per cent in 2015–16 to 351 million tonnes, reflecting lower planted area. Area planted to corn was 32.8 million hectares in 2015–16, compared with 33.6 million hectares in 2014–15. Average yields are forecast to remain similar to 2014–15 at 10.7 tonnes a hectare, considerably higher than the 10-year average to 2014–15 of 9.5 tonnes a hectare. At week ending 6 September 2015, 68 per cent of the US corn crop was rated good or excellent compared with 74 per cent for the same time in 2014–15.

Corn production in Brazil is forecast to fall by 6 per cent in 2015–16 to 79 million tonnes, largely reflecting an expected 5 per cent decline in average yields to 5.2 tonnes a hectare. A significant devaluation of Brazil's currency (the real) is expected to put upward pressure on farm input prices, which could adversely affect production potential. Lower production in 2015–16 follows record production in 2014–15. A significant increase in harvest of its safrinha (second-season) crop was aided by favourable seasonal conditions.

In the European Union, corn production is forecast to fall by 15 per cent in 2015–16 to 63 million tonnes. Adverse seasonal conditions in major growing regions are expected to result in the average yield falling by 16 per cent to 6.6 tonnes a hectare. Area of corn to be harvested is forecast to be 9.5 million hectares, largely unchanged from 2014–15.

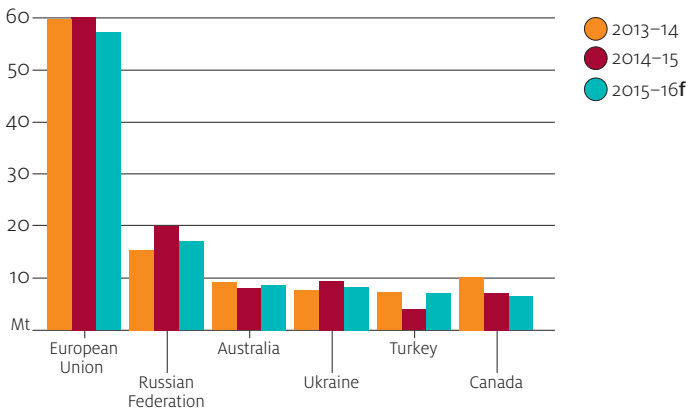
Corn production in the Black Sea region is forecast to fall, with lower production in Ukraine more than offsetting a small increase in the Russian Federation. Corn production is forecast to fall by 12 per cent in Ukraine to 25 million tonnes, reflecting a decline in area and a return to average yields. Following a significant decline in the value of Ukraine’s currency (the hryvnia), the cost of imported inputs such as fertiliser increased substantially. Conversely, corn production in the Russian Federation is forecast to increase to 13.5 million tonnes reflecting higher area and yields.

Corn production in China is forecast to increase by 6 per cent in 2015–16 to 228 million tonnes, reflecting higher area and yields. The area planted to corn is forecast to rise by 3 per cent to 37.9 million hectares, as more farmers switch from cotton and soybeans to corn. This season the Chinese Government implemented a floor price of RMB 2 250 (or US\$352) a tonne for corn but not for cotton and soybeans. Yields are forecast to average 6 tonnes a hectare in 2015–16. This is 3 per cent higher than in 2014–15 when dry seasonal conditions adversely affected production in several key growing provinces, including Henan, Inner Mongolia, Jilin and Liaoning.

**Barley**

World barley production is forecast to fall by 2 per cent in 2015–16 to 138 million tonnes as a result of lower yields across the European Union, the Black Sea region and Canada. Australian production is forecast to increase in 2015–16, but this is not expected to offset forecast reductions in other countries.

Barley production, major producers



f ABARES forecast.



Barley production in the European Union is forecast to fall by 5 per cent in 2015–16 to 57 million tonnes. The area planted was largely unchanged at around 12.5 million hectares but yields are forecast to be 5 per cent lower than in 2014–15 following a prolonged period of dry seasonal conditions.

In Canada, barley production is forecast to fall by 10 per cent to 6.8 million tonnes, despite an 11 per cent increase in area planted to 2.4 million hectares. In Alberta and Saskatchewan, which account for around 85 per cent of area planted to barley, yields have been adversely affected by low soil moisture brought about by well below average rainfall.

In Ukraine, barley production is forecast to fall by 12 per cent in 2015–16 to 8.3 million tonnes, reflecting a decline in area planted.

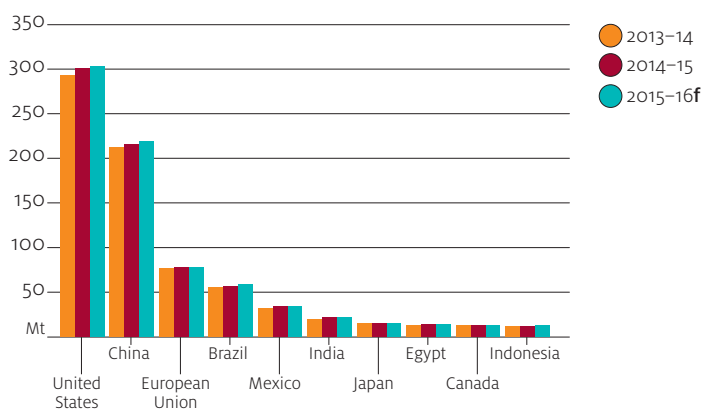
## Slowing growth in world coarse grains consumption

World coarse grain consumption is forecast to increase by 1 per cent in 2015–16 to 1 279 million tonnes.

### Corn

World corn consumption is forecast to increase by 1 per cent in 2015–16 to 986 million tonnes. Consumption of corn as animal feed and for industrial uses is forecast to increase marginally, to 605 million tonnes and 380 million tonnes respectively. Most of the growth in consumption is forecast to come from the United States, China and Brazil. Corn consumption in 2015–16 in many of the other large consuming countries is forecast to be either lower or largely unchanged from 2014–15.

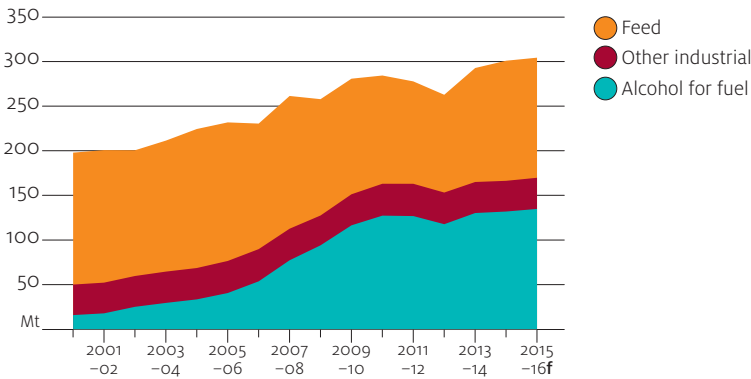
Corn consumption, world's 10 largest consumers



f ABARES forecast.

Corn consumption in the United States is forecast to increase by 1 per cent in 2015–16 to 304 million tonnes because of a small forecast increase in demand for ethanol. In the United States, nearly all unleaded petrol is mixed with ethanol from corn. The proportion of ethanol in a litre of fuel ranges from 10 per cent to 85 per cent. A forecast 1 per cent increase in petrol consumption in 2015–16 to 36.6 million barrels a day is expected to result in 134 million tonnes of corn being used for ethanol production, compared with 132 million tonnes in 2014–15.

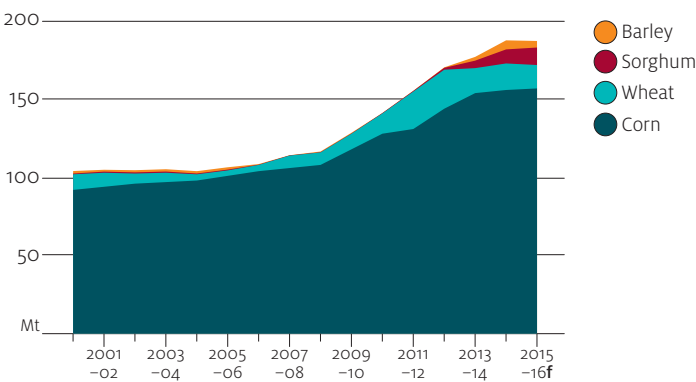
Corn consumption, United States



f ABARES forecast.

Corn consumption in China is forecast to increase by 2 per cent in 2015–16 to 220 million tonnes, reflecting higher industrial demand. Some provincial governments in north-east China are discounting the price of corn held in government stocks as an incentive to increase use in industrial applications such as manufacturing ethanol and corn starch. Consumption of corn as feed in China is forecast to be largely unchanged in 2015–16 at around 150 million tonnes.

Consumption of grains as feed, China



f ABARES forecast.

Corn consumption in Brazil is forecast to rise by 2 per cent to 58 million tonnes because of increased demand for feed from the intensive livestock sector. Corn accounts for around 60 per cent of total stock feed used in Brazil and is predominately used in the pig and poultry industries. Industrial demand for corn in Brazil has stagnated over the past three years and is expected to remain largely unchanged in the short term. Corn ethanol represents less than 1 per cent of Brazilian ethanol production. This is despite the decline in corn prices since mid 2012 and increased public investment in ethanol production plants that can process both corn and sugar cane for ethanol.

### **Barley**

World barley consumption is forecast to fall by 1 per cent in 2015–16 to 139 million tonnes, reflecting lower feed demand. World feed barley consumption is forecast to decline by 3 per cent to 96 million tonnes because of reduced supplementary feeding in parts of the Middle East and North Africa. Seasonal conditions and pasture growth in these regions have been more favourable in 2015–16 compared with 2014–15. In Saudi Arabia, barley imports are forecast to fall by 600 000 tonnes as corn instead of barley is increasingly used as livestock feed.

### **Corn trade to rise and barley trade to fall**

World trade in coarse grains is forecast to fall by 2 per cent in 2015–16 to 168 million tonnes. This forecast fall largely reflects a decline in world trade of barley. Partially offsetting this is an expected small increase in world corn trade.

### **Corn**

World trade in corn is forecast to increase by 2 per cent in 2015–16 to 123 million tonnes. This is largely because of an expected 50 per cent increase in imports into the European Union following a forecast 15 per cent fall in EU corn production. Corn imports in 2014–15 were relatively low because of weaker feed demand for corn as a result of increased availability of feed wheat. Corn imports into Saudi Arabia are also forecast to rise in 2015–16. This reflects expansion of the domestic poultry sector and government subsidies that favour corn over barley. In many of the other large corn importing countries, including China, Japan and the Republic of Korea, corn imports in 2015–16 are expected to be largely unchanged from 2014–15.

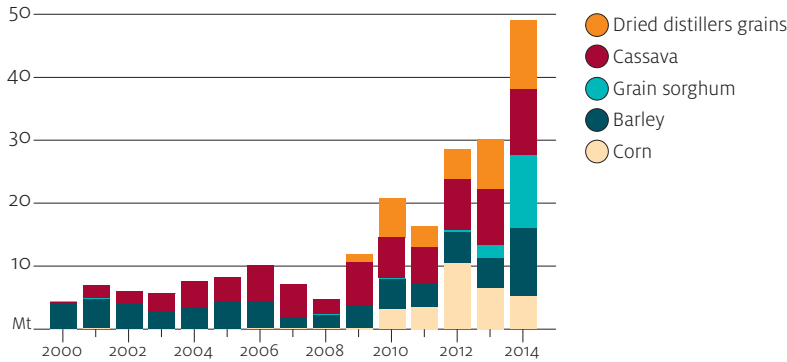
### **Barley**

World trade in barley is forecast to decline by 17 per cent in 2015–16 to 26 million tonnes as a result of lower supplies in the major exporting regions of the European Union, the Black Sea region and Canada. Barley shipments into the world's two largest importers, Saudi Arabia and China, are forecast to fall in 2015–16 by a combined total of around 2.5 million tonnes.

The Saudi Arabian Government continues to offer interest free loans and subsidies for producers to purchase substitutes, including corn and soybean meal, to reduce feed consumption of barley in the livestock sector. The Saudi Ministry of Agriculture aims to reduce consumption of feed barley. It claims that around 30 per cent of feed barley consumption in livestock production provides no nutritional benefit because it is discharged without being digested.

In China, recent growth in imports of barley is forecast to slow as a result of increased competition from imports of dried distillers grains. From 1 September 2015, the Chinese Government will require importers to register for import permits for corn substitutes (including barley, cassava, dried distillers grains and grain sorghum). Imports of these commodities have increased considerably in recent years because prices are lower than prices of corn in the Chinese domestic market.

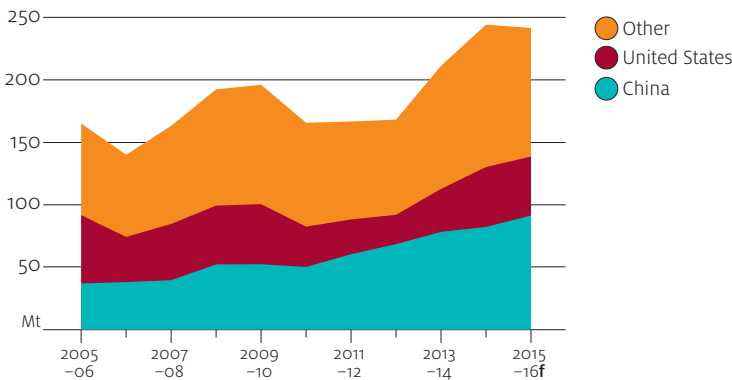
Imports of corn and substitutes, China



Closing stocks to remain high in 2015-16

World coarse grain closing stocks are forecast to decline in 2015-16 by 1 per cent, from 244 million tonnes to 242 million tonnes.

World coarse grains closing stocks



f ABARES forecast.

World corn stocks are forecast to decline by around 1 per cent in 2015–16 to 195 million tonnes, reflecting a run-down in stocks in many of the large exporting countries, including the United States, Ukraine and Brazil. However, corn stocks in China are expected to grow by a further 13 per cent year-on-year to 91 million tonnes (nearly half of total world stocks) following higher forecast production but relatively low consumption growth in 2015–16.

World barley stocks are forecast to fall by 6 per cent in 2015–16 to 23 million tonnes. Stocks in major barley producing countries and regions, including Canada and the European Union, are expected to fall significantly following poor seasonal conditions.

### Increased Australian production in 2015–16

Australian coarse grain production is forecast to increase by 7 per cent in 2015–16 to 12.6 million tonnes. This reflects an increase in area planted and higher average yields.

Australian barley production is forecast to increase by 8 per cent in 2015–16 to 8.6 million tonnes, reflecting a 4 per cent increase in planted area to 4 million hectares and a forecast 3 per cent rise in average yield to 2.16 tonnes a hectare.

#### Barley production, Australia



f ABARES forecast.

Australian grain sorghum production is forecast to fall by 4 per cent in 2015–16 to 2 million tonnes, reflecting an assumed decline in average yield. Area planted to grain sorghum in 2015–16 is forecast to be largely unchanged from 2014–15 at around 651 000 hectares.

## Australian exports to rise in 2015–16

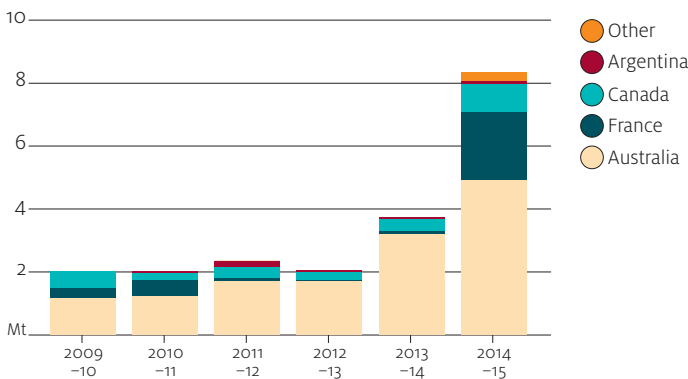
The volume of coarse grain exports is forecast to increase by 6 per cent in 2015–16 to 8.2 million tonnes. The value of coarse grain exports is forecast to increase by 9 per cent to \$2.9 billion, with an assumed depreciation of the Australian dollar more than offsetting forecast lower world prices.

### Barley

The volume of Australian barley exports is forecast to increase by 7 per cent in 2015–16 to 6.6 million tonnes. The assumed lower value of the Australian dollar in 2015–16 is expected to assist the price competitiveness of Australian barley against coarse grain exports from the European Union and the United States. The supply of barley available for export from Australia is forecast to increase, reflecting an expected rise in domestic production.

In 2014–15 Australian barley exports fell by 13 per cent to 6.2 million tonnes, largely reflecting lower domestic supply. However, export demand from China was particularly strong. Imports of Australian barley into China increased by 54 per cent in 2014–15 to 4.9 million tonnes, at an average import price of US\$285 a tonne. Japan was the second-largest export market for Australian barley in 2014–15, accounting for around 535 000 tonnes (or around 9 per cent of barley exports).

#### Barley imports, China



### Grain sorghum

The volume of Australian grain sorghum exports is forecast to fall by 7 per cent in 2015–16 to 1.1 million tonnes. Export demand is expected to remain strong, but domestic supply is expected to be lower because of a forecast fall in production.

In 2014–15 Australian grain sorghum exports increased by 72 per cent to 1.2 million tonnes. Higher domestic production coincided with increased demand from China, which has been Australia’s largest export market for grain sorghum since 2013–14. China accounted for 98 per cent of Australian grain sorghum exports in 2014–15. Japan was Australia’s largest market for grain sorghum until 2012–13. It sourced 98 per cent of its imported grain sorghum from Argentina and the United States in 2014–15.

## Outlook for coarse grains

	unit	2013–14	2014–15 s	2015–16 f	% change
<b>World</b>					
Production	Mt	1 281	1 295	1 277	-1.4
– barley	Mt	144	141	138	-2.1
– corn	Mt	989	1 005	985	-2.0
Consumption	Mt	1 230	1 261	1 279	1.4
Trade	Mt	164	172	168	-2.3
Closing stocks	Mt	210	244	242	-0.8
Stocks-to-use ratio	%	17	19	19	
Corn price a (fob Gulf)	US\$/t	219	174	165	-5.2
Barley price b (fob Rouen)	US\$/t	242	205	198	-3.4
<b>Australia</b>					
Area	'000 ha	5 193	5 363	5 627	4.9
– barley	'000 ha	3 814	3 836	3 996	4.2
– grain sorghum	'000 ha	532	651	651	0.0
Production	kt	12 227	11 819	12 648	7.0
– barley	kt	9 174	8 014	8 623	7.6
– grain sorghum	kt	1 282	2 104	2 029	-3.6
Exports	kt	8 146	7 772	8 209	5.6
– value	A\$m	2 569	2 697	2 926	8.5
Feed barley price c	A\$/t	233	252	268	6.3
Malting barley price d	A\$/t	250	282	302	7.1

a US no. 2 yellow corn, fob Gulf, July–June. b France feed barley, fob Rouen, July–June. c Feed 1, delivered Geelong. d Gairdner malt 1, delivered Geelong. f ABARES forecast. s ABARES estimate. Sources: ABARES; Australian Bureau of Statistics; United Nations Commodity Trade Statistics Database (UN Comtrade); United States Department of Agriculture

# Oilseeds

David Mobsby

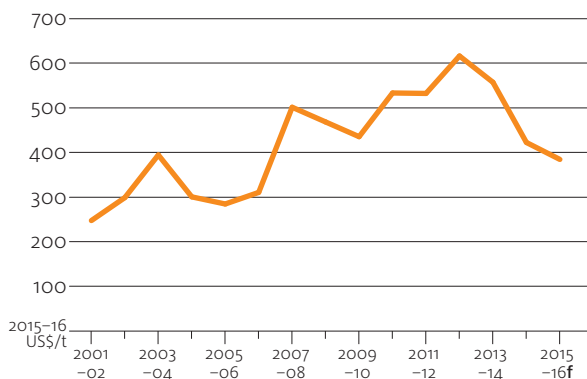
- The world oilseed indicator price is forecast to average lower in 2015–16 as a result of an expected build-up of world soybean stocks.
- World oilseed production is forecast to fall in 2015–16 but is expected to exceed world consumption.
- World oilseed trade is expected to rise in 2015–16 because of increased soybean exports.

## Short-term price outlook

The world oilseed indicator price (US no. 2 soybeans, fob Gulf) is forecast to fall by 9 per cent in 2015–16 to average US\$380 a tonne. Total world oilseeds production is forecast to fall in 2015–16, but it is still expected to exceed world consumption by around 5 million tonnes. Additionally, high carry-over stocks from 2014–15 are expected to result in ample world supply of oilseeds in 2015–16.

The world canola indicator price (Europe rapeseed, fob Hamburg) is forecast to average US\$430 a tonne in 2015–16, up 1 per cent from 2014–15. Lower supply is expected to result in world canola prices averaging higher than soybean prices in 2015–16.

World oilseed indicator price, US no. 2 soybeans, fob Gulf



f ABARES forecast.



## Production to decline in 2015–16

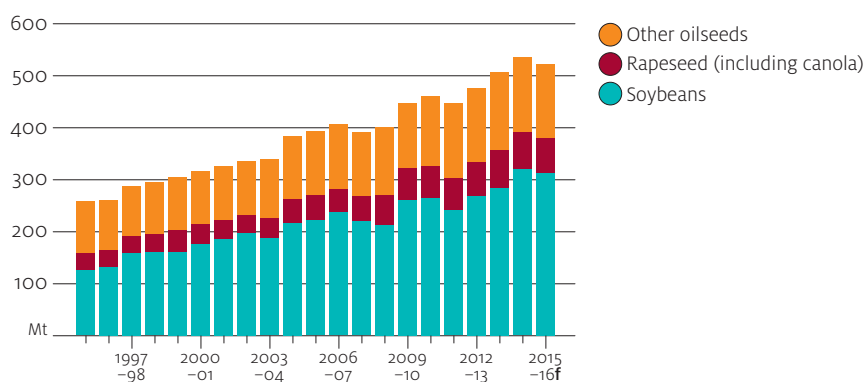
Total oilseed production is forecast to fall by 3 per cent in 2015–16 to 523 million tonnes, with declines expected for all major oilseeds.

World soybean production is forecast to fall by 2 per cent in 2015–16 to 313 million tonnes, with lower forecast production in the United States and Argentina more than offsetting expected higher production in Brazil. Production of rapeseed (including canola) is forecast to fall largely because of lower production in the European Union and Canada.

World sunflower seed production is forecast to decline because of expected lower crop production in most major producing countries more than offsetting increased production in the Russian Federation.

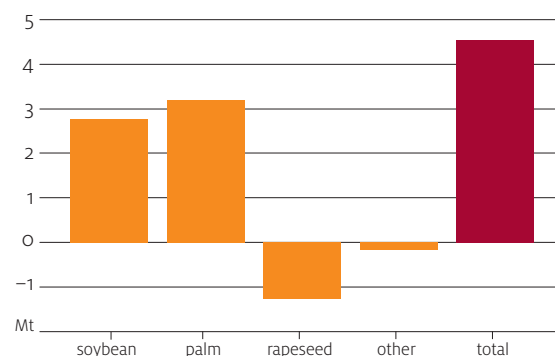
Cottonseed production is forecast to decline, with lower world cotton prices causing a contraction in world cotton plantings.

### World oilseed production



f ABARES forecast.

### World oilseed supply change, 2015–16f



f ABARES forecast.

Note: Change in supply equals the year-on-year change in opening stocks plus production.

## Soybeans

US soybean production is forecast to fall by 1 per cent in 2015–16 to 107 million tonnes, with an increase in harvested area expected to be more than offset by a fall in expected yields from the record achieved in 2014–15. Excessively wet conditions in major growing regions during June resulted in a deterioration of the crop condition. More favourable conditions in late July and early August stabilised the crop condition, which was rated as 63 per cent ‘good to excellent’ in mid August compared with the five-year average of 58 per cent for the same period.

Area planted to soybeans in Brazil is forecast to increase by 2 per cent in 2015–16. Assuming average yields, Brazilian soybean production is forecast to rise by 2 per cent to 97 million tonnes. Soybean production in Argentina is expected to fall by 6 per cent to 57 million tonnes, mainly reflecting a return to average yields from the high of 2014–15.

## Rapeseed (including canola)

World production of rapeseed (including canola) is forecast to fall by 8 per cent in 2015–16 to 66 million tonnes. Production declines are expected for all major producing countries except India.

EU rapeseed production is estimated to have fallen by 12 per cent in 2015–16 to 21.3 million tonnes. Warm and dry conditions during the European spring of 2015 are expected to have reduced the average yield by 9 per cent. Average yields are forecast to fall but are still expected to be above the five-year average to 2014–15.

Assuming average planting conditions, rapeseed production in India is forecast to rise by 6 per cent in 2015–16 to 7.5 million tonnes.

Rapeseed (including canola) production in each of the three major exporting countries (Canada, Australia and Ukraine) is forecast to decline in 2015–16. In addition to a lower forecast harvested area, very dry growing conditions in major Canadian growing regions are expected to reduce the average yield. This is expected to lead to a decline in production of 14 per cent to 13.3 million tonnes. Rapeseed production in Ukraine is expected to reach 1.9 million tonnes, 13 per cent below the previous year, as a result of reduced plantings more than offsetting higher yields. Australian production is forecast to decline by 13 per cent to 2.9 million tonnes (see Australian section).

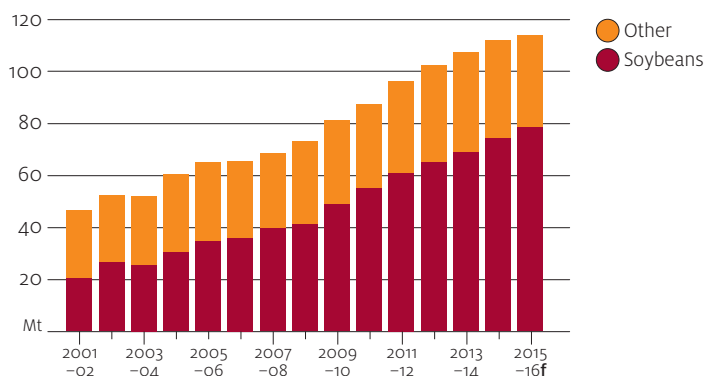
## Soybeans to lead higher consumption in 2015–16

World oilseed consumption (largely for oilseed crush) is forecast to grow by 1 per cent in 2015–16 to 518 million tonnes. World soybean crush is expected to rise to record volumes in 2015–16, with reduced supply of other major oilseeds resulting in increased demand for soybean meal and soybean oil.

World soybean crush is forecast to rise by 4 per cent in 2015–16 to a record of 266 million tonnes, while crush of cottonseed, rapeseed (including canola) and sunflower seed is forecast to decline. Increased domestic demand for soybean meal and soybean oil is expected to result in crush being higher in the United States and Brazil. Higher export demand is expected to drive crush in Argentina.

Soybean crush in China is expected to rise by 6 per cent to 78.5 million tonnes, with crush volumes supported by a reduction in availability of other oilseeds. Total Chinese oilseed crush is forecast to increase by 2 per cent as growth in protein meal demand is expected to moderate in the short term.

## Chinese oilseed crush



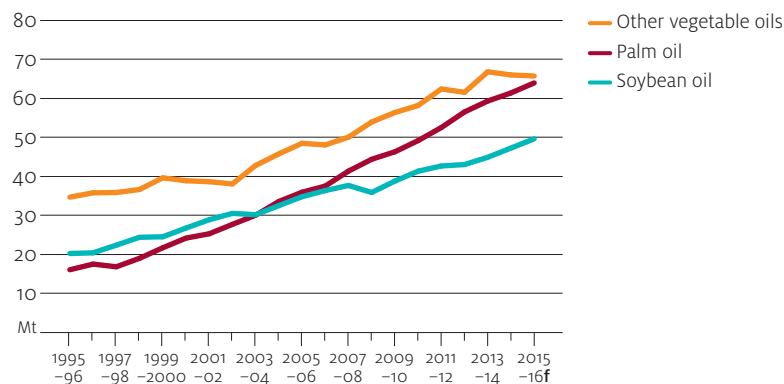
f ABARES forecast.

World rapeseed crush is forecast to fall by 3 per cent in 2015–16 to 66 million tonnes because of lower world supply. Crush is expected to fall in all major consuming economies except India. Rapeseed crush in the European Union is forecast to fall in 2015–16 to around 24 million tonnes, with an expected increase in rapeseed (including canola) imports not sufficient to offset lower domestic production. Canola crush in Canada is forecast to fall by 6 per cent because of lower supply. In contrast, rapeseed crush in India is forecast to rise from its below average volume in 2014–15 because of higher expected supply.

## World vegetable oil stocks to tighten in 2015–16

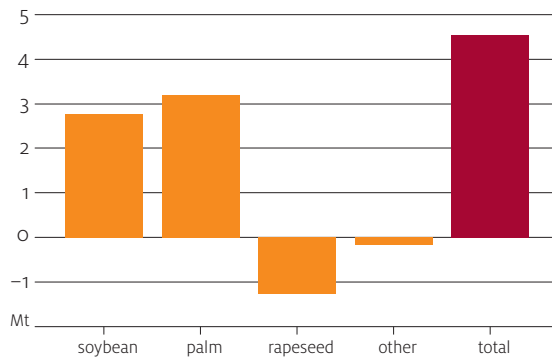
World vegetable oil production is forecast to increase by 3 per cent in 2015–16 to 179.5 million tonnes. Forecast higher palm oil and soybean oil production is expected to more than offset expected production declines of other vegetable oils. World vegetable oil consumption in 2015–16 is forecast to rise by 4 per cent to 180 million tonnes, exceeding consumption by around 770 000 tonnes. Closing stocks of vegetable oil are forecast to decline by 4 per cent to 18 million tonnes.

## World vegetable oil production



f ABARES forecast.

## World vegetable oil supply change 2015–16f



f ABARES forecast.

Note: Change in supply equals the year-on-year change in opening stocks plus production.

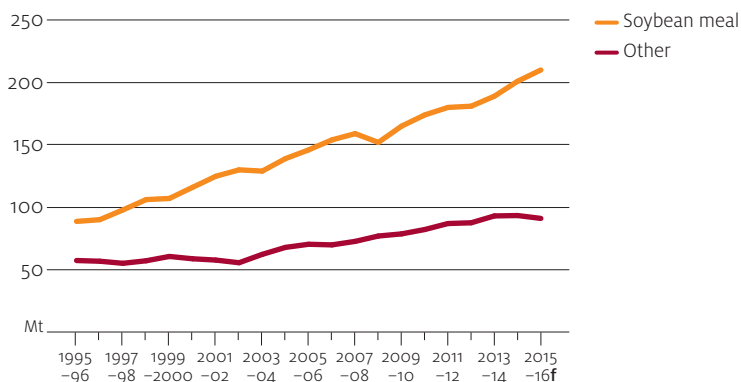
Food consumption of vegetable oil is forecast to grow by around 4 per cent in 2015–16 to 136 million tonnes. Consumption is expected to be driven by economies in non-OECD Asia, where growing incomes have promoted a considerable increase in vegetable oil consumption. Vegetable oil consumption in India is expected to rise by 6 per cent in 2015–16 to 21.5 million tonnes. Indian vegetable oil imports are forecast to rise by 5 per cent to 14.5 million tonnes to meet this forecast consumption.

World consumption of vegetable oils for industrial purposes (including biodiesel) is expected to increase by around 2 million tonnes in 2015–16 to 44 million tonnes. This largely reflects expected higher biodiesel production in the United States, Indonesia and Malaysia in 2015–16.

## Protein meals to remain well supplied in 2015–16

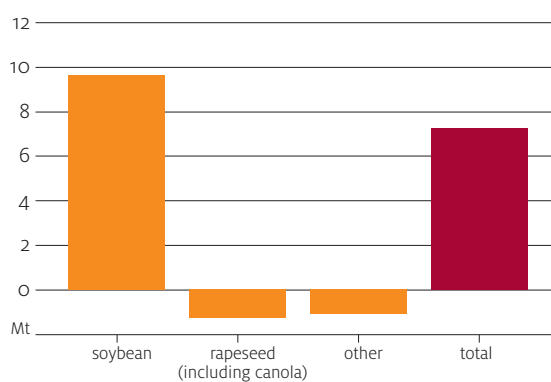
World supply of protein meal in 2015–16 is expected to increase because of a forecast record volume of soybean crush. Soybeans are a relatively high-protein meal-bearing oilseed. The forecast increase in soybean crush in 2015–16 is expected to more than offset expected lower crush volumes of relatively low-protein meal-bearing oilseeds, such as canola and cottonseed. World protein meal production in 2015–16 is forecast to rise by 2 per cent to 301 million tonnes, while consumption is forecast to rise by 3 per cent to 299 million tonnes. Despite assumed weaker economic growth, China is forecast to continue to be the key driver of total protein meal consumption in 2015–16.

## World protein meal production



f ABARES forecast.

## World protein meal supply change 2015–16f



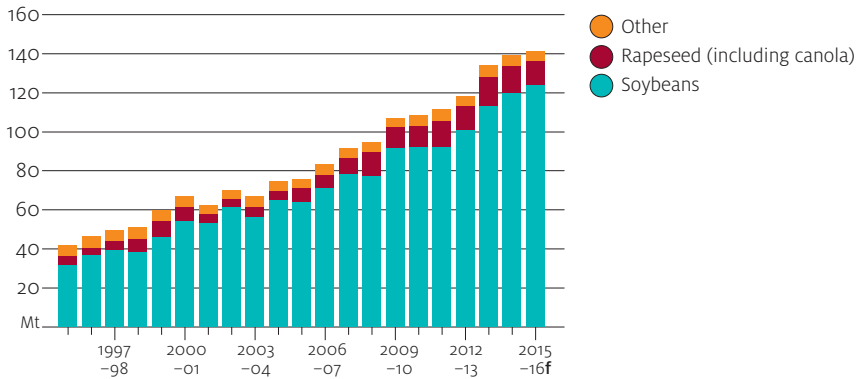
f ABARES forecast.

Note: Change in supply equals the year-on-year change in opening stocks plus production.

## Exports to rise in 2015–16

World oilseed exports are forecast to increase by 1 per cent in 2015–16 to 141 million tonnes because of an expected rise in world soybean exports. This expected rise in world soybean trade reflects a forecast increase in soybean supplies in key exporting countries and an expected increase in demand from key importers. Exports of other major oilseeds (including rapeseed) are expected to decline in 2015–16.

## World oilseed exports



f ABARES forecast.

World soybean exports are expected to reach a record volume of 124 million tonnes, with a forecast increase in exports from Brazil expected to more than offset a forecast reduction in US exports. Exports from the United States are expected to fall because of an assumed strong US dollar and increased domestic demand for soybean meal and soybean oil. Conversely, Brazilian soybean exports are expected to rise by 4 per cent to 52 million tonnes, with higher forecast production sufficient to cover forecast increases in domestic crush and exports. Soybean exports from Argentina are forecast to rise by 16 per cent to 9.5 million tonnes.

On the demand side, import demand for soybeans is expected to rise in China and the European Union. Oilseed production in both of these countries is expected to fall in 2015–16, resulting in a need for increased imports to meet domestic consumption. Chinese imports are forecast to increase by 3 per cent to 78 million tonnes. Reduced rapeseed and sunflower seed crops in the European Union are expected to lead to higher imports of soybeans (and soybean meal).

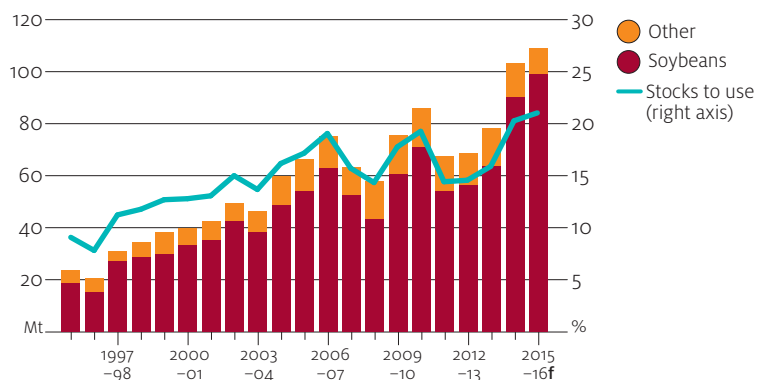
World rapeseed (including canola) trade is forecast to decline by 14 per cent to 12 million tonnes. This would be the lowest volume of world trade since 2010–11. This forecast fall is largely the result of expected falls in exportable supplies in the three major exporting countries (Canada, Australia and Ukraine) and lower priced soybeans.

### Oilseed stocks to rise, despite lower production in 2015–16

World closing stocks of oilseeds are forecast to rise by 5 per cent in 2015–16 to 109 million tonnes, with an expected large rise in world soybean closing stocks to more than offset forecast declines in closing stocks of other oilseeds. Total world oilseed production is forecast to fall, but it is still expected to exceed world consumption by around 5 million tonnes.

World closing stocks of soybeans are forecast to rise by 10 per cent in 2015–16 to 99 million tonnes. Stocks are expected to increase in each of the three major exporting countries (United States, Brazil and Argentina) and account for around 70 per cent of total soybean stocks.

## Oilseed closing stocks



f ABARES forecast.

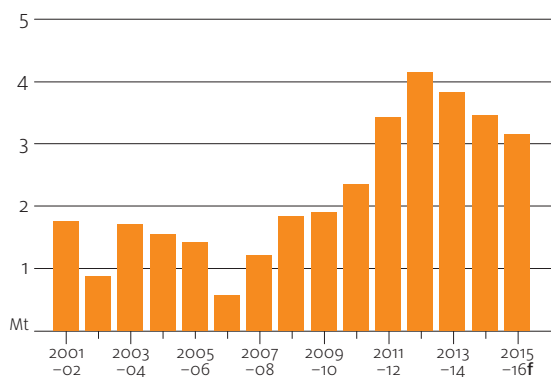
World closing stocks of rapeseed (including canola) in 2015–16 are forecast to fall to their lowest volume since 2007–08. In particular, closing stocks in the European Union and Canada are expected to fall sharply as a result of large expected production declines.

### Outlook for Australian canola, 2015–16

Prospects for 2015–16 canola production have improved as a result of favourable seasonal conditions in most canola producing regions in Australia during winter. This together with the favourable outlook for spring rainfall has led to an upwards revision of the ABARES June 2015 forecast for Australian canola production.

However, Australian canola production in 2015–16 is still forecast to be 9 per cent lower than in 2014–15 at around 3.1 million tonnes. This reflects an estimated 13 per cent fall in area planted to canola more than offsetting a forecast increase in average yield. Area planted to canola declined because of more favourable returns expected from alternative crops such as barley and pulses and unfavourable soil moisture conditions in some regions at time of planting.

### Australian canola production



f ABARES forecast.

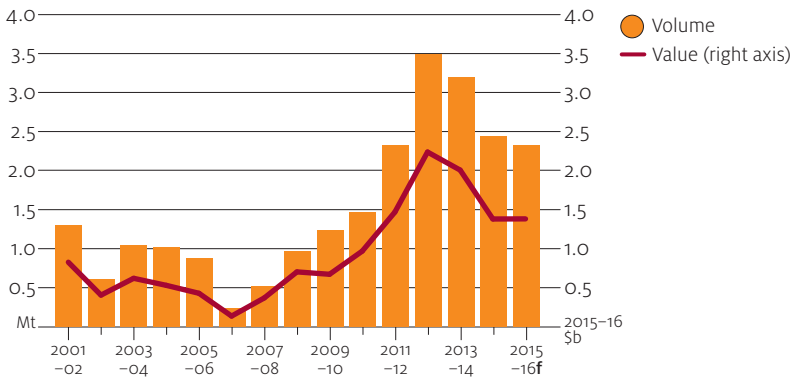
## Australian canola exports

Australian canola exports were 2.4 million tonnes in 2014–15, 23 per cent below the volume shipped in 2013–14. However, this was still the third-largest volume of canola exported. The European Union was the single largest export market, accounting for 43 per cent of exports. China was the second-largest destination, accounting for 22 per cent of exports.

The value of Australian canola exports declined by 30 per cent in 2014–15 to \$1.4 billion, reflecting lower shipments and a fall in world canola prices. The most valuable markets were the European Union (\$550 million) and China (\$311 million), which accounted for nearly two-thirds of total export value.

Australian canola exports are forecast to fall by 5 per cent in 2015–16 to 2.3 million tonnes, reflecting an expected decline in canola production. In contrast, the value of canola exports is forecast to rise by 3 per cent to \$1.3 billion because of the effect on export revenues of an assumed depreciation of the Australian dollar. This is expected to more than offset lower canola shipments. The European Union is expected to remain the largest export market for Australian canola in 2015–16.

Australian canola exports



f ABARES forecast.



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 Outlook for oilseeds
 

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	unit	2013–14	2014–15 s	2015–16 f	% change
<b>World</b>					
Production	Mt	506	537	523	-2.6
Consumption	Mt	492	510	518	1.6
– oilseed meal	Mt	277	289	299	3.5
– vegetable oil	Mt	166	173	180	4.0
Exports	Mt	134	139	141	1.4
Closing stocks	Mt	78	103	109	5.8
Stocks-to-use ratio	%	16	20	21	
Soybeans indicator price a	US\$/t	547	418	380	-9.1
Canola indicator price b	US\$/t	521	424	430	1.4
<b>Australia</b>					
Total production	kt	5 207	4 216	3 936	-6.6
– winter	kt	3 845	3 476	3 161	-9.1
– summer	kt	1 362	739	775	4.9
<b>Canola</b>					
Production	kt	3 832	3 464	3 149	-9.1
Exports c	kt	3 194	2 445	2 323	-5.0
– value	A\$m	1 929	1 349	1 382	2.4
Price c (delivered Melbourne)	A\$/t	529	482	535	11.0

a Soybeans, US, fob Gulf, July–June. b Rapeseed, Europe, fob Hamburg, July–June.

c July–June years. f ABARES forecast. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; ISTA Mielke GmbH, *Oil World*, Hamburg;

# Sugar

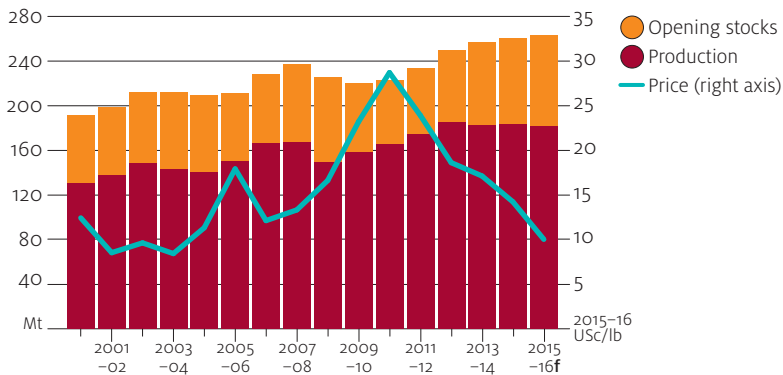
Benjamin K Agbenyegah

- The world sugar indicator price is forecast to fall by 29 per cent in 2015–16 to average US10 cents a pound, reflecting plentiful world supplies.
- World sugar consumption is forecast to increase by 2 per cent in 2015–16 in response to lower world sugar prices and to exceed production for the first time since 2009–10. However, world production and stocks are forecast to remain high.
- World sugar exports are forecast to increase in 2015–16, largely reflecting forecast increases in exports from Thailand, India and Australia.
- Australian sugar production is forecast to increase to 5 million tonnes in 2015–16, the highest since 2006–07.

## World sugar prices to be lower in 2015–16

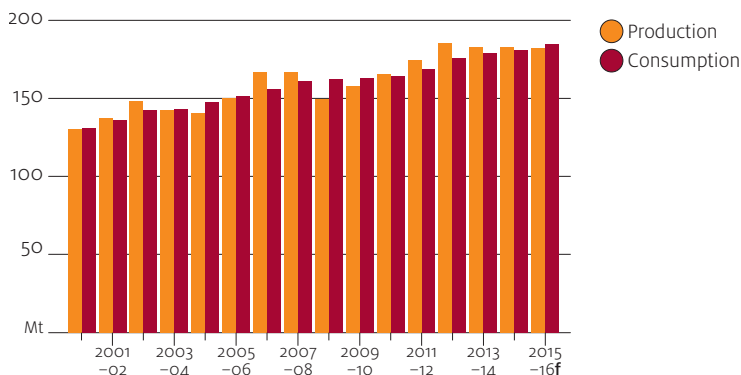
The world indicator price for raw sugar (Intercontinental Exchange, nearby futures, no. 11 contract) is forecast to average US10 cents a pound in 2015–16 (October to September), around 29 per cent lower than in 2014–15. World supplies are forecast to be plentiful, with world carry-over stocks in 2014–15 expected to have reached record levels and world production forecast to be the fourth-highest on record.

World sugar supply and indicator price



f ABARES forecast.

## World sugar production and consumption



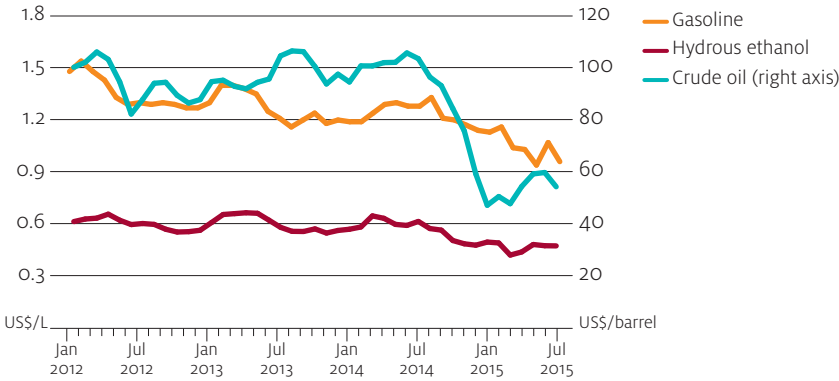
f ABARES forecast.

### World sugar production forecast to remain high

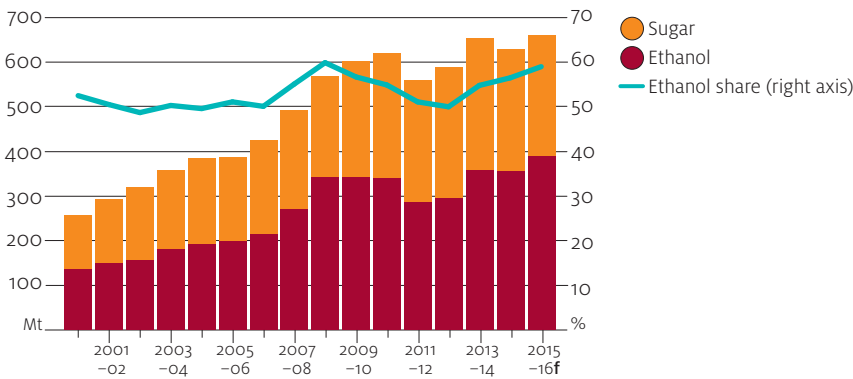
World sugar production is forecast to be largely unchanged in 2015–16 at 182 million tonnes, which if realised would be the fourth-highest on record. Production is expected to remain largely unchanged in Brazil and India. Forecast falls in production in China and Europe are expected to be partially offset by forecast increases in Thailand, Australia and the United States.

Sugar production in Brazil is forecast to remain at 37.4 million tonnes in 2015–16 (October to September), despite a forecast 5 per cent increase in cane production to 660 million tonnes. The forecast increase in cane crush is expected to be offset by an assumed 2 per cent decline in average sugar yield and an expected increase in the share of cane produced allocated to ethanol production. This increase is expected as a result of the Brazilian Government increasing the mandatory blending ratio of anhydrous ethanol with gasoline from 25 per cent to 27 per cent in February 2015. The government increased the blending ratio to mitigate the adverse effects of falling oil prices on ethanol consumption. Domestic consumption of ethanol increased year-on-year by 41 per cent in the first half of 2015 to 3.2 billion litres, and mills raised the allocation of cane to ethanol production from around 57 per cent in 2014–15 to 61 per cent in the first four months of 2015–16 (April to March). The share of cane used for ethanol production is expected to average 59 per cent in 2015–16.

World crude oil, Brazilian ethanol and gasoline prices



Brazilian sugarcane allocation



f ABARES forecast.

Sugar production in India is forecast to remain largely unchanged at 30 million tonnes in 2015–16, reflecting an expected 2 per cent rise in cane production being offset by an assumed reduction in average sugar yield. Cane production is forecast to be 356 million tonnes in 2015–16, up from 350 million tonnes in 2014–15. This reflects an estimated 2 per cent rise in area planted to cane to 5.1 million hectares. The estimated increase in cane area was in response to a 5 per cent increase in the Indian Government support price, which made returns to growing sugar cane more favourable than to alternative crops, such as grain sorghum, rice and vegetables.

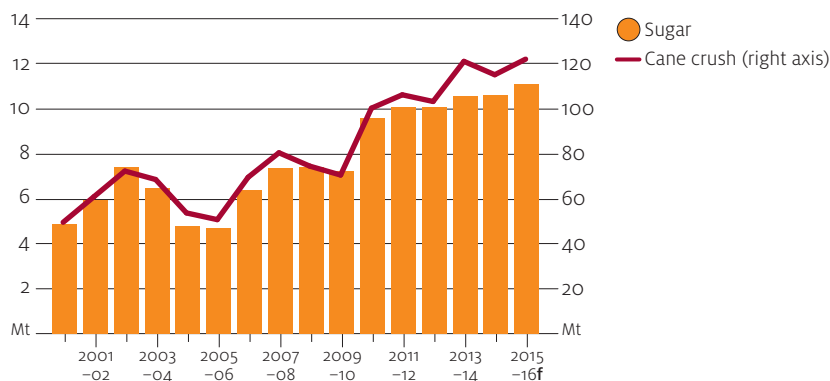
Sugar production in China is forecast to fall by 3 per cent in 2015–16 to 11.2 million tonnes, mainly reflecting an estimated 3 per cent reduction in area planted to cane and beet. Chinese farmers have decreased planted area in response to favourable returns to production alternatives, including cassava, fruits, rice and vegetables.

EU sugar production is forecast to be 18 million tonnes in 2015–16, down from around 19.1 million tonnes in 2014–15. This forecast fall reflects an estimated 5 per cent decline in area planted to sugar beet in response to a fall in the price of sugar. Additionally, average beet and sugar yields in many EU countries are assumed to fall from the record yields in 2014–15.

Sugar production in eastern Europe is forecast to decline by 9 per cent in 2015–16 to 7.7 million tonnes, driven by a forecast 36 per cent fall in Ukraine to 1.4 million tonnes. Area planted to sugar beet in Ukraine is estimated to have fallen by 32 per cent in response to lower sugar prices, and average beet and sugar yields are assumed to fall from the near record yields in 2014–15. Sugar production in the Russian Federation is forecast to be 4.9 million tonnes in 2015–16, up from 4.8 million tonnes in 2014–15. This forecast increase reflects an estimated 2 per cent increase in area planted to sugar beet as a result of Russian Government policies aimed at achieving more than 90 per cent self-sufficiency in sugar. Average beet and sugar yields are assumed to be largely unchanged from 2014–15.

Sugar production in Thailand is forecast to increase by 6 per cent in 2015–16 to a record 12.3 million tonnes, which reflects a forecast 5 per cent increase in cane production and an assumed increase in average sugar yield. Cane production in Thailand is expected to increase to a record 111 million tonnes as a result of an estimated 2 per cent rise in area planted to cane and an assumed increase in average cane yield. A Thai Government five-year agricultural restructuring programme sets minimum domestic prices for sugar, which provides an incentive for growers to increase area planted to cane.

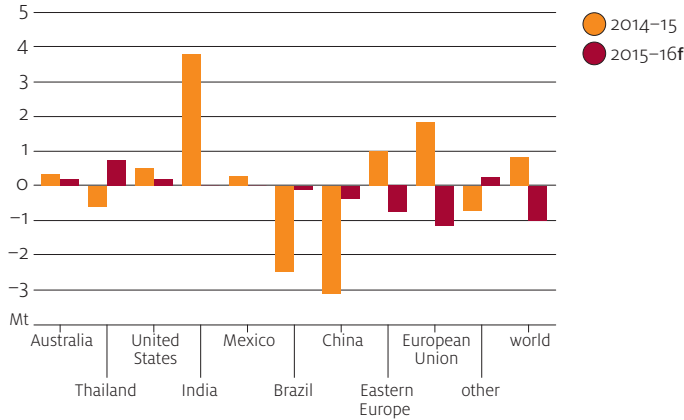
### Thailand cane and sugar production



f ABARES forecast.

Sugar production in the United States is forecast to rise by 2 per cent in 2015–16 to 8 million tonnes. Area planted to cane and beet is estimated to have increased by 1 per cent to 825 000 hectares and average sugar yield is assumed to rise by 1 per cent to 9.7 tonnes a hectare as a result of favourable seasonal conditions.

Changes in world sugar production, by country

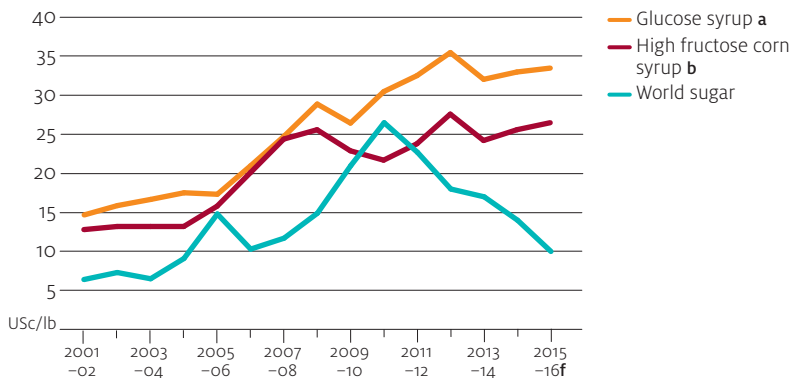


f ABARES forecast.

World sugar consumption to rise in response to lower prices

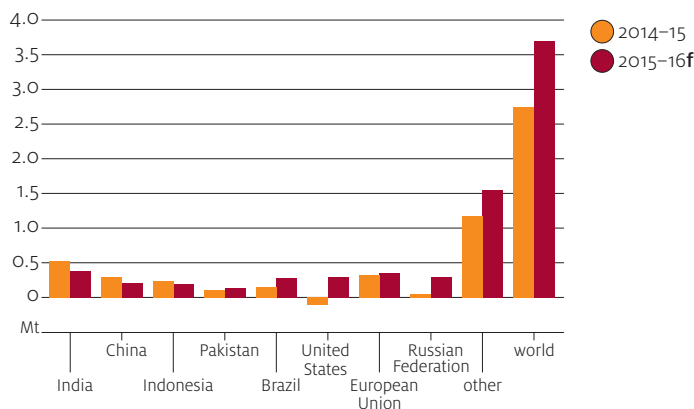
World sugar consumption is forecast to increase by 2 per cent in 2015–16 to 184.7 million tonnes, largely reflecting forecast falls in world sugar prices. Forecast lower sugar prices are expected to make sugar more attractive to consumers than alternative sweeteners. Additionally, an expected increase in food processing in developing Asian countries, particularly China, India, and Indonesia, is expected to increase sugar demand. World sugar consumption is expected to exceed world production for the first time since 2009–10.

Sugar and sweetener prices



a Glucose syrup, Mid West markets. b Spot price, high fructose corn syrup-42, dry weight, Mid West markets. f ABARES forecast.

## Changes in world sugar consumption, by country



## World sugar trade to grow in 2015-16

World sugar exports are forecast to rise by 3 per cent in 2015-16 to 61 million tonnes, largely reflecting expected increases in supplies available for export in Thailand, Australia and India. Lower sugar exports from Brazil and Mexico are forecast.

Sugar exports from Thailand are forecast to increase by 12 per cent in 2015-16 to a record 9.5 million tonnes. Sugar production is forecast to decline in neighbouring countries, including China, Indonesia and Malaysia, so exports from Thailand are expected to be directed to these markets.

India's sugar exports are forecast to be 3.2 million tonnes in 2015-16, 28 per cent higher than in 2014-15. This forecast increase assumes the Indian Government will continue to subsidise sugar exports, which will provide an incentive for mills to dispose of a significant volume of sugar stocks on export markets.

Sugar exports from Brazil are forecast to be 25 million tonnes in 2015-16, 0.5 million tonnes lower than in 2014-15. This forecast fall reflects an expected decline in supply of sugar available for export because of a forecast 2 per cent increase in domestic consumption and largely unchanged domestic production.

Exports of sugar from the European Union are forecast to remain largely unchanged at around 1.4 million tonnes in 2015-16, the maximum under its World Trade Organization agreement. Sugar imports into the European Union are forecast to increase by 12 per cent to 3.3 million tonnes, reflecting an expected fall in EU production.

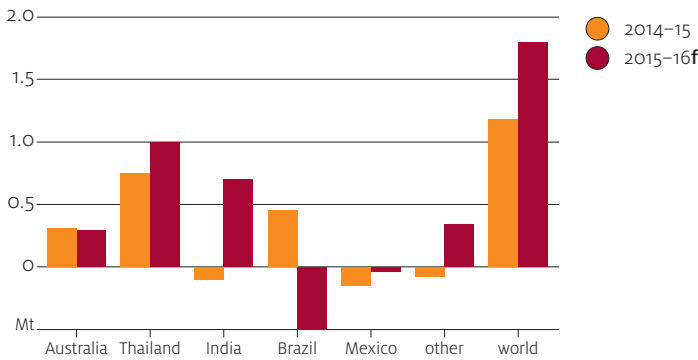
Sugar imports into the United States are forecast to fall by 3 per cent in 2015-16 to 3.2 million tonnes. Carry-over stocks were large and domestic production is expected to increase. However, the United States is expected to import the minimum tariff-free sugar import quota of 1.1 million tonnes specified under its World Trade Organization obligations and a further 2.1 million tonnes as a result of free trade agreements, particularly the North American Free Trade Agreement.

Sugar exports from Mexico are forecast to decline by 3 per cent in 2015–16 to 1.3 million tonnes, largely reflecting lower exports to the United States. This is mainly because of restrictions imposed by the United States on imports from Mexico under the countervailing duty suspension agreement, which was negotiated after a sugar trade dispute between Mexico and the United States in 2013–14.

Sugar imports into China are forecast to be 5.3 million tonnes in 2015–16, 13 per cent higher than in 2014–15. This forecast increase is driven by a forecast fall in domestic production and an expected rise in domestic consumption as a result of continued growth in food manufacturing.

Sugar imports into the Russian Federation are forecast to be 1.4 million tonnes in 2015–16, compared with around 1.3 million tonnes in 2014–15. This expected increase reflects a forecast 5 per cent increase in domestic sugar consumption to 6.2 million tonnes and a forecast 2 per cent increase in production to 4.9 million tonnes.

Changes in world sugar exports, by country



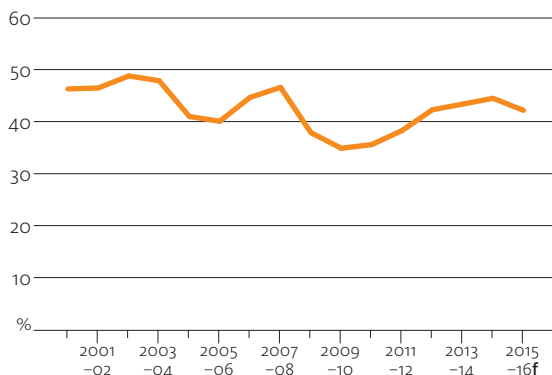
f ABARES forecast.

### World sugar stocks to remain high

World closing stocks of sugar are forecast to be 78.1 million tonnes in 2015–16, around 3 per cent lower than in 2014–15. This is a result of world consumption being forecast to exceed world production for the first time since 2009–10. However, world sugar stocks are expected to be 18 per cent above the 10-year average to 2013–14 of 66.2 million tonnes. The world stocks-to-use ratio is forecast to decline by 2.3 percentage points by the end of 2015–16 to 42.3 per cent.



### World sugar stocks-to-use ratio

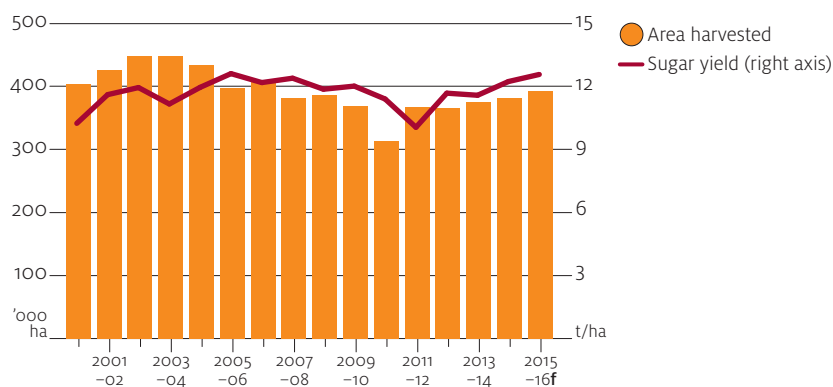


f ABARES forecast.

### Australian sugar production forecast to rise in 2015-16

Australian sugar production is forecast to increase by 6 per cent in 2015-16 to 5 million tonnes, driven by forecast increases in sugar cane production and average sugar yield. Australian sugar cane crush is forecast to increase by 3 per cent in 2015-16 to 33 million tonnes, largely reflecting an estimated 3 per cent rise in harvested area to 393 000 hectares. Average sugar yield is assumed to increase by 3 per cent to 12.7 tonnes a hectare because of favourable seasonal conditions in major growing regions.

### Australian area harvested of sugar cane and average sugar yield



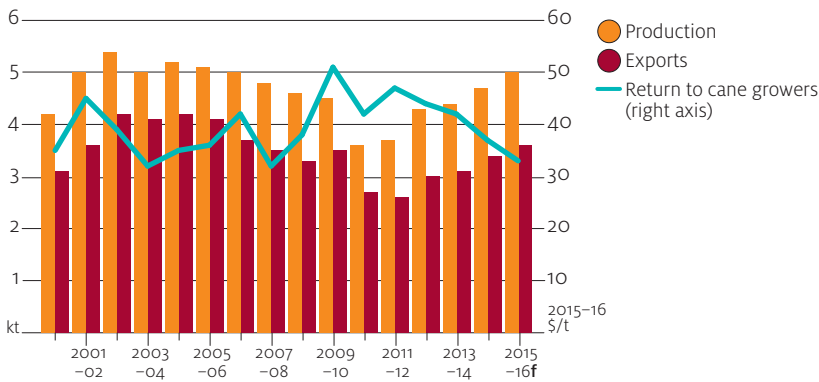
f ABARES forecast.

Queensland Sugar Limited—the main marketer of Australia’s raw sugar exports—forecasts its gross harvest pool return in 2015–16 to be \$357 a tonne International Polarity Scale (IPS), 11 per cent lower than in 2014–15. However, Queensland Sugar Limited has noted that the final harvest pool return depends on future movements in world sugar prices and the Australian exchange rate. The forecast return, if realised, would be the lowest since 2008–09, when Australian growers received \$283 a tonne IPS (in 2015–16 dollars).

Average mill-gate return to Australian cane growers is forecast to decline by 10 per cent in 2015–16 to \$33 a tonne, largely reflecting lower world sugar prices. However, an assumed depreciation of the Australian dollar is expected to partially offset the forecast fall in world prices.

Australian sugar exports are forecast to be 3.6 million tonnes in 2015–16, 9 per cent higher than in 2014–15. The value of Australian sugar exports is forecast to fall by 1.7 per cent to close to \$1.4 billion.

Australian sugar production, exports and returns to cane growers



f ABARES forecast.

Outlook for sugar <sup>a</sup>

	unit	2013–14	2014–15 <sup>s</sup>	2015–16 <sup>f</sup>	% change
<b>World <sup>b</sup></b>					
Production	Mt	182.6	183.0	182.0	-0.5
– Brazil	Mt	40.1	37.5	37.4	-0.3
Consumption	Mt	178.9	181.0	184.7	2.0
Exports	Mt	57.9	59.1	61.0	3.2
Closing stocks	Mt	77.8	80.8	78.1	-3.3
Stocks-to-use ratio	%	43.5	44.6	42.3	
Price	USc/lb	16.8	14.0	10.0	-28.6
<b>Australia <sup>c</sup></b>					
Area	'000 ha	375.0	381.0	393.0	3.2
Production	kt	4 380.0	4 699.8	5 001.5	6.4
Exports	kt	3 051.8	3 348.2	3 644.1	8.8
– value	A\$m	1 384.5	1 401.0	1 376.9	-1.7

<sup>a</sup> Volumes are raw value equivalent. <sup>b</sup> October–September years. <sup>c</sup> July–June years. <sup>f</sup> ABARES forecast. <sup>s</sup> ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; International Sugar Organization

# Cotton

Benjamin K Agbenyegah

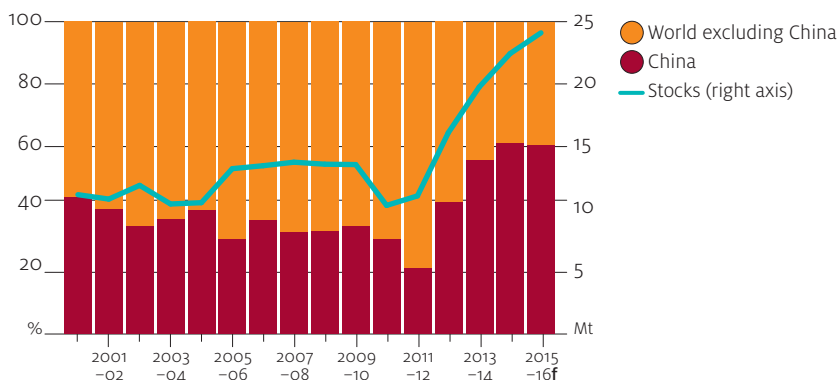
- The world indicator price for cotton is forecast to decline slightly to average US70 cents a pound in 2015–16. This forecast assumes that the large cotton stockpile held by China will not be released onto the international market during 2015–16.
- World consumption of raw cotton is forecast to rise by 3 per cent in 2015–16 to 25 million tonnes, reflecting expected growth in textiles and garment demand—especially in developing Asian countries.
- The return to Australian cotton growers at the gin-gate (including the value of cottonseed and net of ginning costs) is forecast to rise by 5 per cent in 2015–16 to average \$515 a bale of lint (227 kilograms), largely as a result of the effect of an assumed depreciation of the Australian dollar.

## World cotton prices to remain largely unchanged in 2015–16

The world indicator price for cotton (Cotlook 'A' index) is forecast to decline slightly in 2015–16 (August to July), to average US70 cents a pound. This forecast reflects the effect of an accumulation of world stocks to a record high at the beginning of the 2015–16 season. The record high level of world stocks is expected to more than offset the upward pressure on prices of a forecast increase in world cotton consumption.

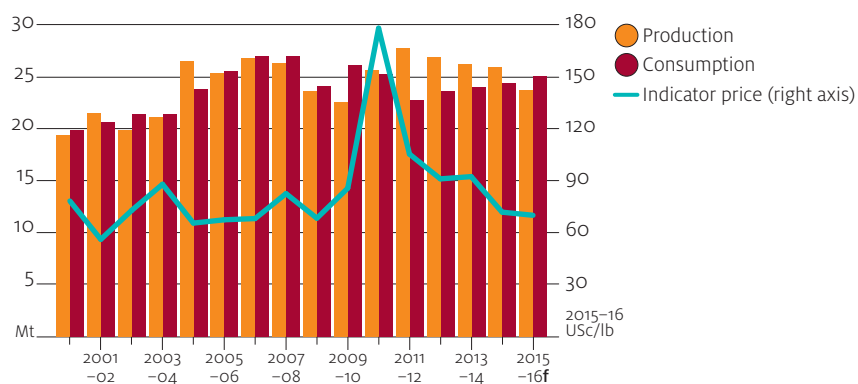
World opening stocks of cotton increased by 7 per cent in 2015–16 to 24.1 million tonnes, around 92 per cent of world consumption—with China's share reaching more than 60 per cent. If the Chinese Government were to sell significant quantities of the cotton stocks onto world markets during 2015–16, this would lead to significant downward pressure on world cotton prices and result in the world indicator price averaging lower than currently forecast.

## Share of world opening cotton stocks



f ABARES forecast.

## World cotton indicators (annual)



f ABARES forecast.

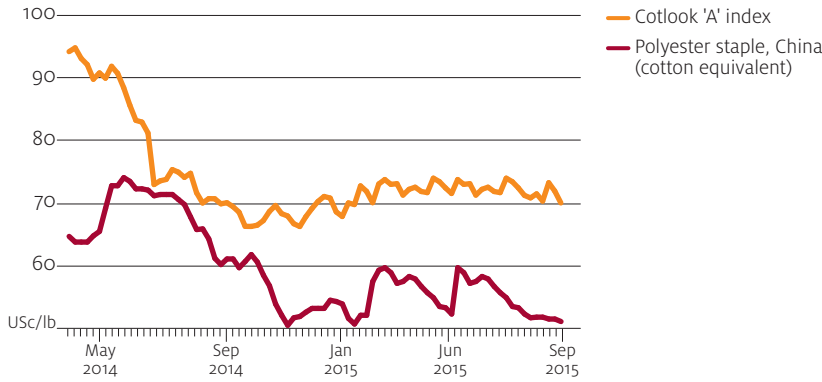
## World cotton consumption to grow in 2015-16

World consumption of raw cotton is forecast to be around 25 million tonnes in 2015-16, 3 per cent higher than in 2014-15. This forecast increase reflects expected higher consumer demand, leading to an increase in textiles and garment manufacturing in Asia.

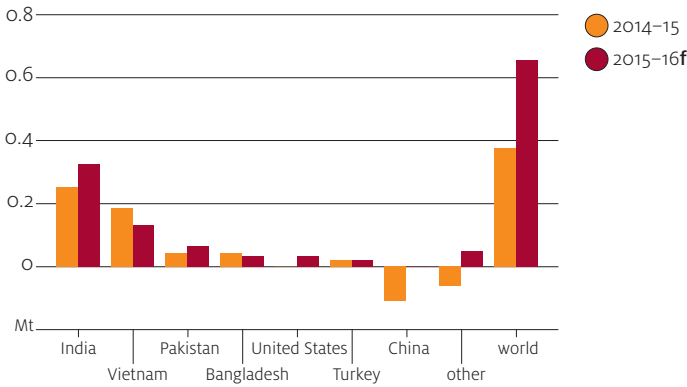
Higher consumption of raw cotton in India, Pakistan and Vietnam is expected to account for around 79 per cent of forecast growth in world raw cotton consumption in 2015-16. These countries are attractive to textile manufacturing because of their relatively low labour costs. Consumption in India, the world's second-largest cotton consumer, is forecast to increase by 6 per cent in 2015-16 to 5.7 million tonnes. India, Pakistan and Vietnam are also major exporters of cotton yarn; China imports a significant volume of this. Spinning locally grown raw cotton in China has become less attractive than importing cotton yarn because of the relatively high costs of labour and raw cotton.

Consumption of raw cotton in China is forecast to remain largely unchanged at 7.4 million tonnes in 2015–16. Relatively low polyester prices and record imports of cotton yarn (minimum 85 per cent cotton, by weight) are constraining raw cotton consumption growth in China. In 2014–15 a record 2.2 million tonnes of cotton yarn was imported into China, up from 2.1 million tonnes in 2013–14.

World weekly apparel fibre prices



Changes in world raw cotton consumption, by country



f ABARES forecast.

## World cotton production to decline in 2015–16

World cotton production is forecast to be 23.8 million tonnes in 2015–16, down from around 26 million tonnes in 2014–15. Production is expected to fall because of a forecast 7 per cent decline in area planted to cotton in response to expected lower returns in some countries from growing cotton compared with production alternatives. Lint yield is assumed to decline by 1 per cent to average 0.77 tonnes a hectare for the world as a whole, assuming average seasonal conditions in major cotton growing regions. Cotton production in 2015–16 is forecast to increase in Australia and to remain largely unchanged in India and Brazil, compared with 2014–15. In all other major producing countries, including China and the United States, cotton production is forecast to decline.

Cotton production in India is forecast to remain largely unchanged at 6.4 million tonnes in 2015–16. This reflects an estimated 6 per cent decline in area planted to cotton to around 12 million hectares, largely offsetting an assumed 6 per cent rise in average lint yield to 0.54 tonnes a hectare. The forecast improvement in average yield reflects the timely arrival of monsoon rains. India is expected to become the world's largest cotton producer in 2015–16.

Cotton production in Brazil is forecast to remain largely unchanged in 2015–16, at 1.5 million tonnes. Area planted to cotton and average lint yield are both expected to be similar to those of 2014–15.

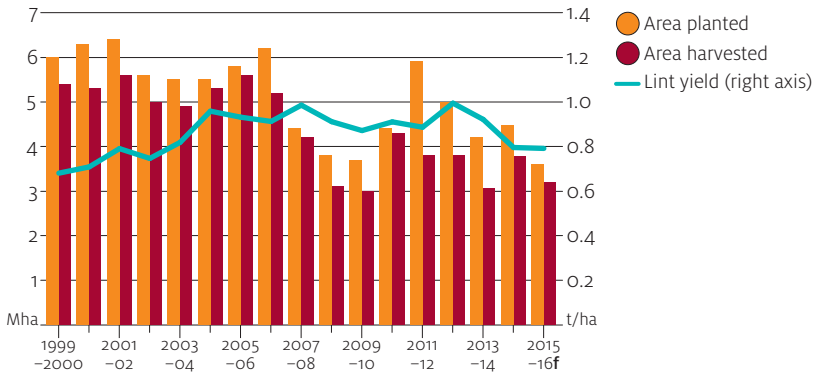
Cotton production in China is forecast to be 5.7 million tonnes in 2015–16. This would be 13 per cent lower than in 2014–15 and driven by an estimated 20 per cent fall in area planted to cotton, to 5.5 million hectares. The estimated fall in planted area is expected to be partially offset by an assumed 7 per cent rise in average lint yield to 1.6 tonnes a hectare as a result of more favourable seasonal conditions.

Area planted to cotton in China has fallen in 2015–16 in response to a change in the Chinese Government support policy for cotton production. In the major producing region of Xinjiang, the government support price on cotton has been reduced for 2015–16. This has contributed to an estimated reduction of 10 per cent in area planted to cotton in the region. In other producing regions, the government support price scheme has been replaced by income support for growers. This has led to a significant decrease in profitability of planting cotton. As a result, the area planted to cotton in 2015–16 is estimated to have declined by a total of 34 per cent outside Xinjiang.

Cotton production in the United States is forecast to fall by 20 per cent in 2015–16 to 2.8 million tonnes, driven by an estimated 19 per cent fall in area planted to cotton. Planted area is estimated to have fallen from 4.5 million hectares to 3.6 million hectares in response to lower expected returns at the time of planting than for the main production alternatives of maize and wheat. Average yield is forecast to be largely unchanged at 0.79 tonnes a hectare, assuming average seasonal conditions.

The US abandonment rate is forecast to decline from 15 per cent in 2014–15 to 11 per cent in 2015–16, assuming favourable seasonal conditions in the south-west and Delta cotton growing regions.

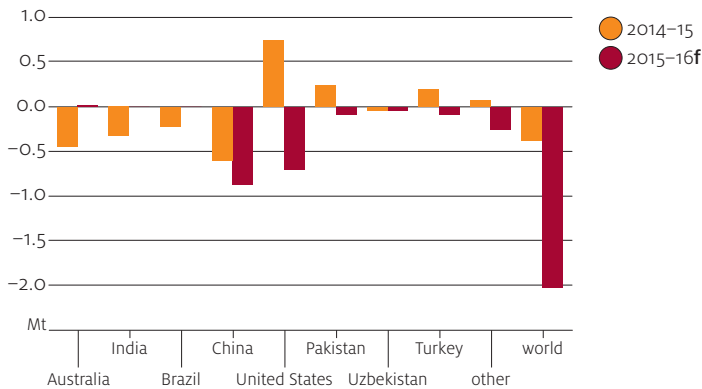
US cotton area and lint yield



f ABARES forecast.  
 Note: Lint yield is based on area planted.

Cotton production in Pakistan is forecast to be 2.1 million tonnes in 2015–16, down from 2.3 million tonnes in 2014–15. Area planted to cotton is estimated to have increased by 2 per cent to 3 million hectares in response to favourable domestic cotton prices at the time of planting. Average yield is assumed to fall by 5 per cent from the near record in 2014–15.

Changes in raw cotton production, by country



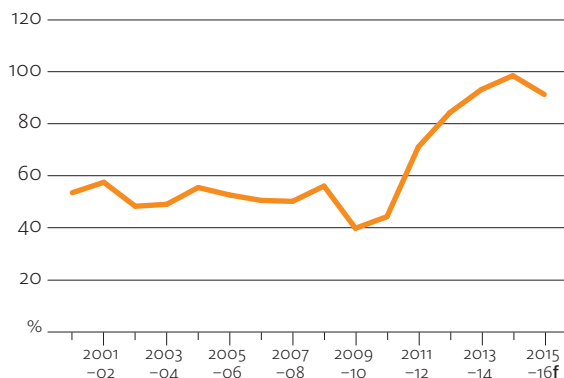
f ABARES forecast.

**World cotton stocks to remain high in 2015–16**

Despite record opening stocks, world closing stocks of raw cotton are forecast to decline by 5 per cent in 2015–16 to 22.9 million tonnes. This expected decline is the result of forecast world cotton consumption exceeding world production for the first time since 2009–10. The world stocks-to-use ratio is expected to be 92 per cent, down from a record 99 per cent in 2014–15.



### World cotton stocks-to-use ratio



f ABARES forecast.

## World cotton trade to decline in 2015-16

World cotton exports are forecast to decline by around 3 per cent in 2015-16 to 7.5 million tonnes, mainly reflecting lower world cotton production.

Higher domestic consumption of raw cotton in major producing countries is expected to reduce supplies available for export. Lower export volumes are forecast from all major exporting countries except India and Brazil.

India's raw cotton exports are forecast to be 1 million tonnes in 2015-16, 17 per cent higher than in 2014-15. This forecast reflects record carry-over cotton stocks in India and strong import demand from other Asian countries, including Pakistan, Vietnam, Bangladesh and Indonesia.

Cotton exports from Brazil are forecast to be 566 000 tonnes in 2015-16, 4 per cent higher than in 2014-15. This forecast reflects increased availability of cotton for export as a result of large carry-over stocks from the 2014-15 season and a forecast 4 per cent decline in domestic consumption.

US cotton exports are forecast to fall by 10 per cent in 2015-16 to 2.2 million tonnes. The supply available for export is forecast to fall as a result of an expected fall in domestic production of raw cotton and a forecast increase in domestic consumption.

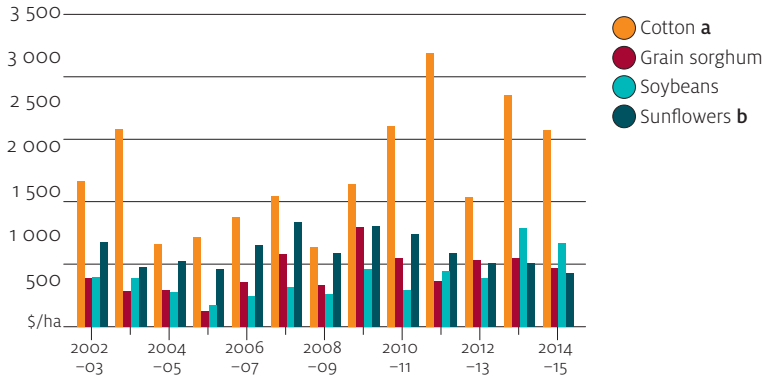
Imports of raw cotton into China are forecast to fall by 30 per cent in 2015-16 to 1.3 million tonnes, largely reflecting an ongoing shift from importing raw cotton to importing cotton yarn. At this forecast level, raw cotton imports would be the lowest since 2002-03, when China imported 681 000 tonnes.

Raw cotton imports into Vietnam are forecast to increase by 33 per cent in 2015-16 to a record 1.1 million tonnes, reflecting strong demand for raw cotton from the expanding apparel, textiles and yarn spinning industries.

## Australian cotton production to recover in 2015–16

Australian cotton production is forecast to increase by 4 per cent in 2015–16 to 470 000 tonnes, largely driven by an expected 6 per cent rise in planted area to 214 000 hectares. The forecast increase in planted area is in response to expected favourable returns from growing irrigated cotton, compared with alternative crops (grain sorghum, soybeans and sunflowers).

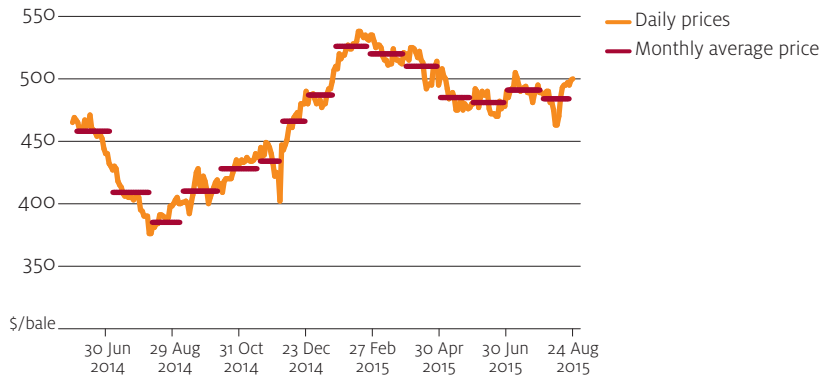
### Gross margin for selected irrigated crops in northern New South Wales



a With genetically modified trait of herbicide tolerance and insect resistance. b Mono-unsaturated.  
Sources: Cotton Seed Distributors Limited; NSW Department of Primary Industries

In August 2015 Australian domestic cotton prices averaged \$484 a bale, compared with \$385 a bale in the same month in 2014.

### Australian domestic prices



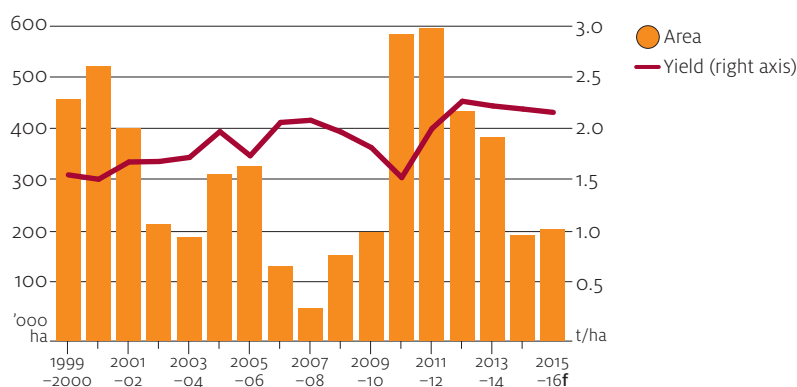
Partially offsetting the forecast rise in planted area is an assumed 2 per cent decline in average yield from the record in 2014–15.

The late August 2015 level of irrigation water supply in Australian cotton growing regions was similar to that of August 2014. Average storage levels of public irrigation dams serving these regions was around 37 per cent of capacity on 31 August 2015, compared with 36 per cent on the same day in 2014. The 10-year average to 2011 was 40 per cent.

In 2014–15 unfavourable seasonal conditions restricted the area planted to cotton to 202 000 hectares, down from 392 000 hectares in 2013–14. Australian cotton production was estimated at 450 000 tonnes in 2014–15, compared with 885 000 tonnes in 2013–14. Average lint yield is estimated to have declined by 2 per cent to 2.23 tonnes a hectare.

Australian cotton growers typically achieve yields almost three times the world average. Almost all cotton produced in Australia is irrigated. Production in many major producing countries (including China, India, the United States and Pakistan) comprises a significant share of lower-yielding dryland cotton.

Australian cotton planted area and average lint yield



f ABARES forecast.

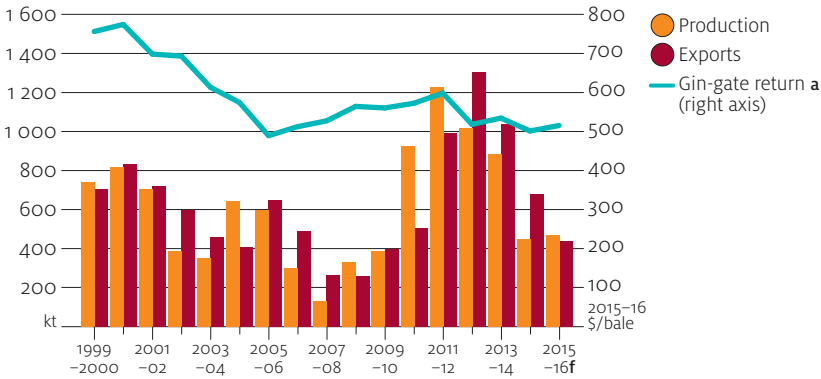
## Returns to Australian cotton growers to recover in 2015–16

The return to Australian cotton growers at the gin-gate is forecast to rise by 5 per cent in 2015–16 to average \$515 a bale (227 kilograms) of lint (including the value of cottonseed and net of ginning costs). This forecast increase mainly reflects the effect on prices of an assumed depreciation of the Australian dollar.

## Australian cotton exports lower in 2015–16

In 2015–16 Australian raw cotton exports are forecast to be 437 000 tonnes, down from 681 000 tonnes in 2014–15. This forecast reduction reflects significantly lower cotton production in 2015–16 and 2014–15, compared with 2013–14. Almost all cotton produced in Australia is exported, and the March to June harvest period means that Australian cotton produced in one fiscal year is exported across two fiscal years. At this forecast level, cotton exports would be the lowest since 2009–10.

## Australian cotton production, exports and gin-gate returns



a Value of lint and cottonseed, less ginning costs. f ABARES forecast.

## Outlook for cotton

	unit	2013-14	2014-15 s	2015-16 f	% change
<b>World a</b>					
Production	Mt	26.2	25.9	23.8	-8.1
Consumption	Mt	23.7	24.3	25.0	2.9
Exports	Mt	8.9	7.7	7.5	-2.6
Closing stocks	Mt	22.4	24.1	22.9	-5.0
Stocks-to-use ratio	%	94.5	99.0	91.6	
Cotlook 'A' index	USc/lb	90.6	70.8	70.0	-1.1
<b>Australia b</b>					
Area harvested	'000 ha	392	202	214	5.9
Lint production	kt	885	450	470	4.4
Exports	kt	1 036	681	437	-35.8
- value	A\$m	2 355	1 546	1 040	-32.7

a August-July years. b July-June years. f ABARES forecast. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; United States Department of Agriculture

# Vegetables

Brian Moir

- The gross value of Australian vegetable production is forecast to rise by 4 per cent to \$3.9 billion in 2015–16.
- Exports of vegetable products are forecast to increase by 3 per cent to \$303 million in 2015–16, following a rise of 9 per cent in 2014–15.
- Australia's balance of trade for fresh vegetables remains positive.

The gross value of production of vegetables declined to \$3.5 billion in 2013–14 but is estimated to have recovered to \$3.8 billion in 2014–15. The value of exports of vegetables increased from \$270 million in 2013–14 to \$293 million in 2014–15 and is forecast to increase further to \$303 million in 2015–16.

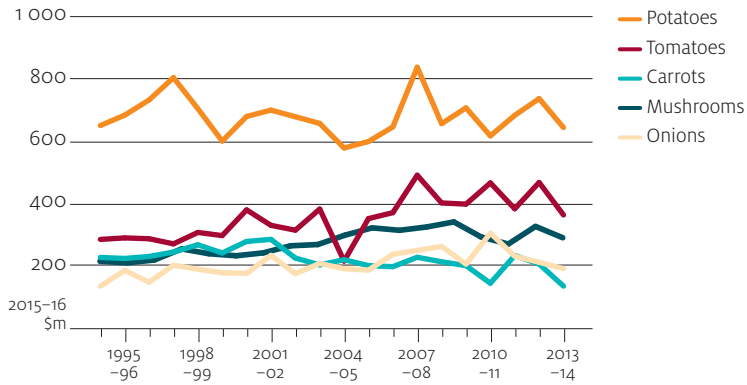
## Vegetable production

In 2013–14 Australia's major production of vegetables by value were potatoes, tomatoes, mushrooms, onions and capsicum. Potatoes accounted for 18 per cent of total gross value of vegetable production, tomatoes accounted for 10 per cent and mushrooms 9 per cent.

Vegetable production declined by 7 per cent, in value, in 2013–14 because of adverse seasonal conditions in many growing regions. Conditions improved in many areas in 2014–15, leading to a recovery in the value of vegetable production to \$3.8 billion, a year-on-year rise of 7 per cent.

The value of production of most vegetables shows considerable year-on-year variation. Declining trends are evident for some vegetables, including potatoes, carrots and beans.

## Gross value of production, selected vegetables



Assuming normal seasonal conditions and adequate availability of irrigation water, the gross value of vegetable production is forecast to rise by a further 4 per cent to \$3.9 billion in 2015–16.

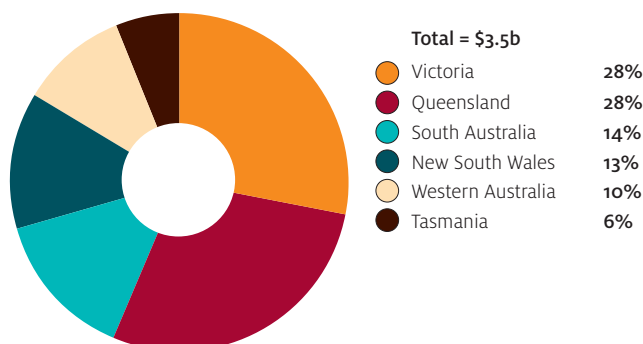
Victoria and Queensland are the largest vegetable-producing states, together accounting for more than half the value of Australian vegetable production. Tomatoes are the highest-valued vegetable produced in Queensland, followed by beans, sweet potatoes and mushrooms. Potatoes, mushrooms, tomatoes and lettuce are Victoria's major vegetable production.

## Vegetable production, volume and value, 2013–14

Vegetable	Gross value \$m	Volume kt
Total	3 509.6	na
Potatoes	619.7	1 171.3
Tomatoes	350.6	326.2
Mushrooms	317.7	60.0
Onions	185.3	256.0
Capsicums	143.9	52.0
Broccoli and broccolini	141.9	58.0
Lettuce a	141.4	122.6
Carrots	131.5	242.7
Beans (including runner and French)	113.6	29.5
Sweet corn	83.5	74.5
Pumpkins	81.2	118.5
Sweet potatoes	80.5	75.3

a Volume of lettuce production includes only outdoor production; value of lettuce production includes both outdoor and undercover production. na Not applicable.

## Distribution of vegetable production, by state, 2013–14



## Exports and imports of vegetables

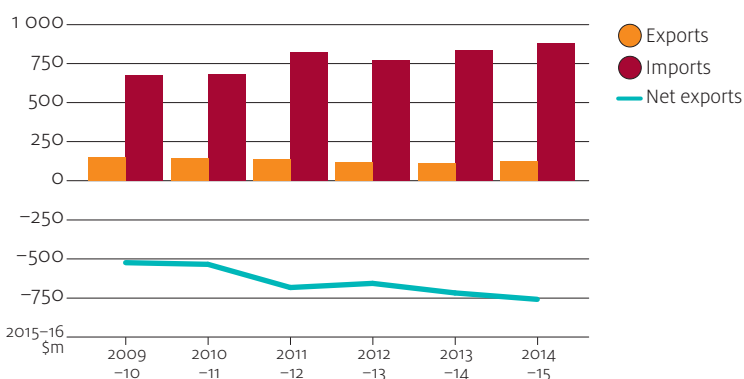
Total vegetable exports (processed and fresh) in 2014–15 amounted to \$293 million, considerably less than the value of imports. Carrots, onions, potatoes and tomatoes are Australia's major vegetable exports. New Zealand, Japan, Singapore and the United Arab Emirates are the major export destinations for Australian vegetables.

Vegetable imports were valued at \$942 million in 2014–15. They were dominated by processed products, particularly frozen and canned potatoes, tomatoes, peas and beans. New Zealand, Italy, China and the United States are the largest suppliers of vegetables to Australia.

This trade imbalance has grown in recent years as Australian processors have struggled to compete with imported produce. This has been partly the result of pressure from the high value of the Australian dollar in the past few years.

The value of Australian exports of processed vegetables in 2014–15 was \$121 million, around 14 per cent of the value of processed vegetable imports. Potato and tomato products are Australia's major processed vegetable exports.

## Processed vegetables, exports and imports

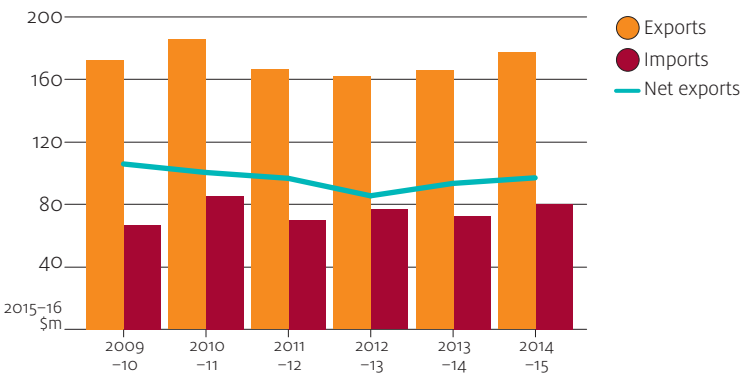


## Vegetables

For fresh vegetables Australia's balance of trade remains positive. The value of exports of fresh vegetables grew in the three years to 2014–15, to around \$173 million. This was more than twice the value of imported fresh vegetables. Carrots, onions, potatoes, cauliflowers and broccoli, and asparagus are the major fresh vegetable exports. Singapore, the United Arab Emirates, Japan and Malaysia are the main destinations for Australia's fresh vegetable exports. Garlic, asparagus, mushrooms, onions and shallots, and capsicums are the main fresh imports.

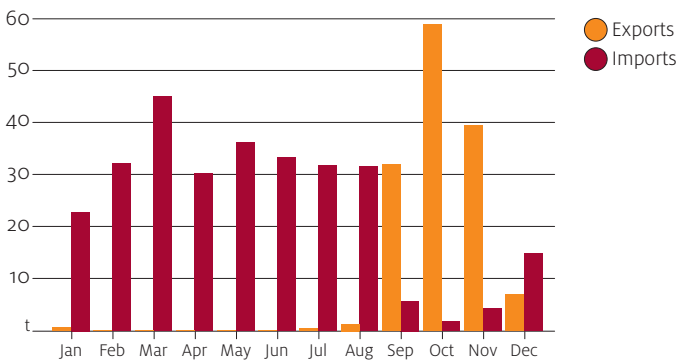
In 2014–15, 78 000 tonnes of fresh carrots were exported, accounting for 35 per cent of the value of fresh vegetable exports. Exports of onions, asparagus and potatoes accounted for around 13 per cent, 11 per cent and 10 per cent, respectively, of the value of fresh vegetable exports in that year.

### Fresh vegetables, exports and imports



Some fresh vegetables are exported in season and imported to meet consumer demand at times of the year when local produce is not available. For example, Australian asparagus is produced and exported primarily in September, October and November. Imports, mainly from Mexico and Peru, are concentrated in the other nine months.

### Asparagus exports and imports, monthly



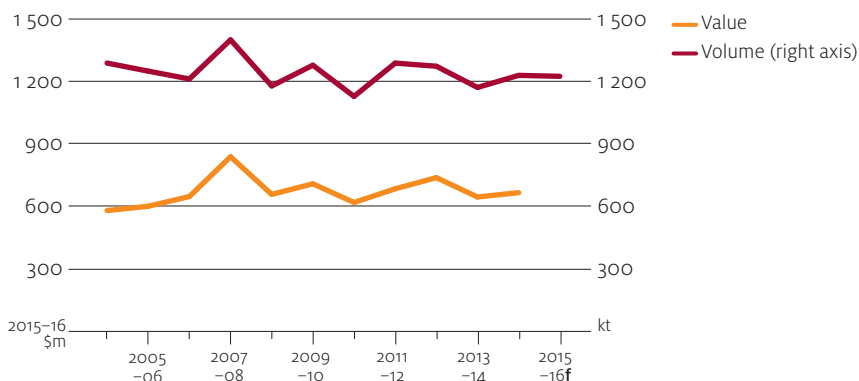
Note: Average of 2009 to 2015.



## Potatoes

Australia produced an estimated 1.2 million tonnes of potatoes in 2014–15, 5 per cent more than in 2013–14. The gross value of potato production of \$650 million accounted for around 17 per cent of the total value of vegetable production. Potato production has been trending down slowly since the late 1990s, because higher production for the fresh market has not been sufficient to offset declines in supply to the lower-priced processing sector.

Australian potato production, value and volume



<sup>f</sup> ABARES forecast.

South Australia accounts for more than 30 per cent of Australia's potato production, and Victoria and Tasmania each produce between 20 per cent and 25 per cent.

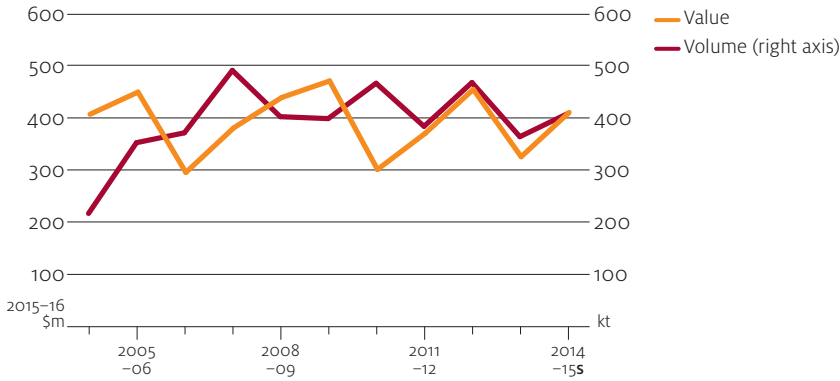
In 2014–15 the value of Australian exports of potatoes and potato products was around \$35 million, with more than 50 per cent in fresh form. The value of potato imports was \$160 million, almost all of which was processed. New Zealand, the Netherlands and the United States are the main sources of imports.

## Tomatoes

Total tomato production in 2014–15 was an estimated 400 000 tonnes, valued at \$410 million. This production represented an increase of 23 per cent on the reduced harvest of 2013–14.

Tomatoes are also produced for the fresh market and processing. These are distinct segments of the industry, with different production methods and prices. In 2013–14 production for the fresh market and production for processing were roughly equivalent, at around 160 000 tonnes each. However, the value of production for the fresh market was \$330 million and value for processing was around \$20 million. The volume of production for processing has declined over the past decade. Production for the fresh market and for processing was around 46 000 tonnes and 368 000 tonnes, respectively, in 1999–2000.

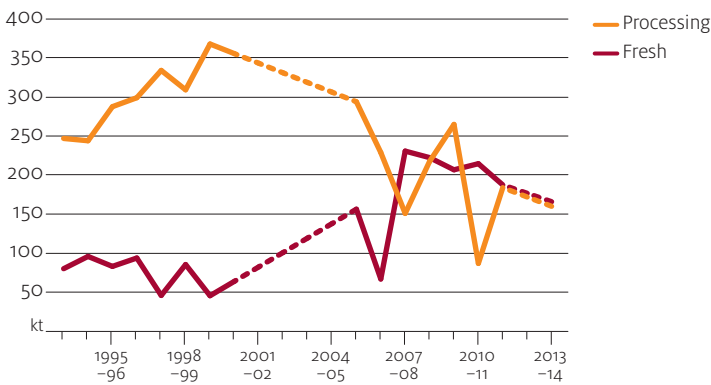
Australian tomato production, value and volume



s ABARES estimate.

In 2013–14 Victoria produced 57 per cent of Australia’s tomatoes (by volume), and Queensland produced 20 per cent. However, a high proportion of Victoria’s tomatoes are grown for processing and Queensland produces more for the higher-valued fresh market. Consequently, Victoria accounted for only 24 per cent of the gross value of Australian tomato production and Queensland for 38 per cent.

Tomato production, for processing and fresh sales



An increasing proportion of Australia's fresh tomatoes is produced under cover. Undercover production allows producers to increase the quality and volume of production while reducing variability. In 2013–14, 28 per cent of fresh market tomatoes were grown under cover, up from 11 per cent in 2008–09.

Imports of tomatoes and tomato products amounted to almost \$150 million in 2014–15, mainly in processed form and primarily from Italy. Exports were valued at around \$22 million, also mainly in processed form.

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### Outlook for vegetables

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	<b>unit</b>	<b>2013–14</b>	<b>2014–15 s</b>	<b>2015–16 f</b>	<b>% change</b>
Gross value of production	A\$m	3 510	3 755	3 905	4.0
Exports	A\$m	270	293	303	3.2

f ABARES forecast. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics

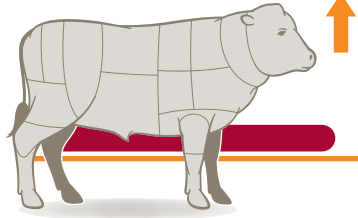
Agriculture

Livestock



# LIVESTOCK

## Beef and veal

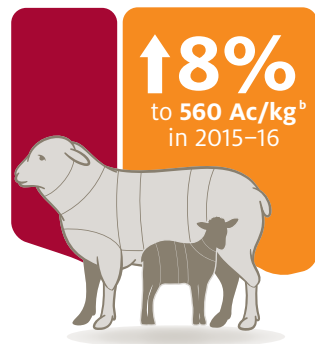


**↑37%**  
to 500 Ac/kg<sup>a</sup>  
in 2015-16

Relatively strong export demand for Australian beef and live cattle is expected to support domestic cattle prices in 2015-16.

## Sheep meat

Lamb prices are forecast to increase, reflecting lower supply and strong export demand.



**↑8%**  
to 560 Ac/kg<sup>b</sup>  
in 2015-16

## Wool



**↑19%** to 1 200 Ac/kg<sup>c</sup>  
in 2015-16

The Australian Eastern Market Indicator is forecast to average higher, reflecting a fall in wool production and an assumed depreciation of the Australian dollar.

## Dairy

The Australian farmgate price is forecast to decline, reflecting forecast lower world dairy prices.

**↓6%**  
to 42 Ac/L<sup>d</sup>  
in 2015-16



- <sup>a</sup> Australian weighted average saleyard price of beef cattle.
- <sup>b</sup> Australian weighted average saleyard price of lamb.
- <sup>c</sup> Eastern Market Indicator price, clean equivalent.
- <sup>d</sup> Farmgate milk price.

# Beef and veal

Beth Deards

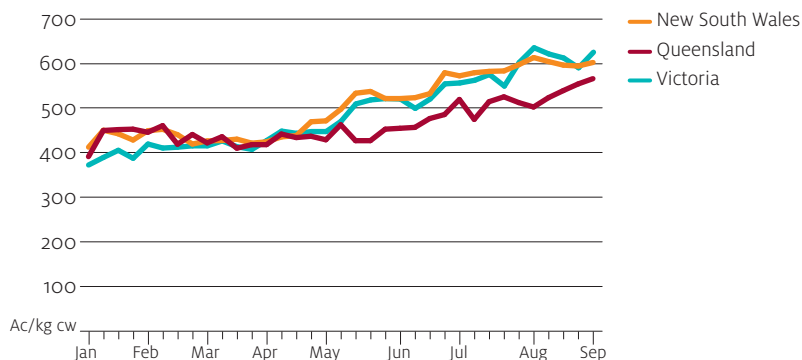
- The Australian weighted average saleyard price of beef cattle is forecast to increase by 37 per cent in 2015–16 to average 500 cents a kilogram (carcass weight), the highest in real terms since the early 1980s.
- Australian cattle slaughter is expected to decline but remain relatively high in the first half of 2015–16. In the second half of the year, cattle slaughter is expected to fall more significantly assuming improved seasonal conditions.
- International demand for Australian beef and veal is forecast to be relatively strong in 2015–16 but US demand for Australian beef and veal is expected to decline in the second half of the year.

## **Cattle prices expected to remain high for the rest of 2015–16**

International demand for Australian beef and live cattle has remained strong and Australian cattle prices have increased significantly over the past few months. Higher prices in the southern states were also driven by more favourable seasonal conditions, which resulted in lower cattle slaughter and increased demand for restocker cattle. In contrast, continued dry conditions in Queensland meant cattle slaughter remained high and demand for restocker cattle low. This resulted in diverging cattle prices between the southern states and Queensland. Between June and August 2015, prices of Australian trade steers were on average 14 per cent higher in New South Wales and 13 per cent higher in Victoria than in Queensland.

The Australian weighted average saleyard price of beef cattle is forecast to increase by 37 per cent in 2015–16 to average 500 cents a kilogram (carcass weight), the highest in real terms since the early 1980s. Australian cattle slaughter is forecast to remain relatively high at least to mid 2015–16, and strong international demand for Australian beef and live cattle is expected to continue supporting cattle prices. In the second half of 2015–16, demand for Australian beef and veal from the United States is expected to decline as US beef production increases. This is expected to put some downward pressure on prices, particularly for older cattle.

## Prices of Australian trade steers 2015



## Cattle slaughter to fall in 2015–16

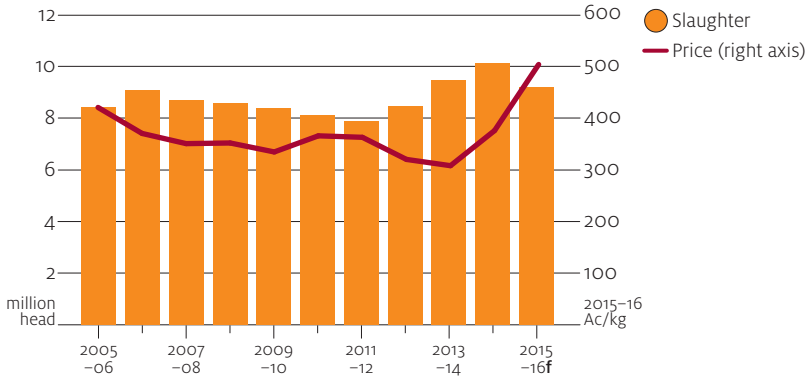
In 2015–16 Australian cattle slaughter is forecast to fall by 9 per cent to 9.2 million head, from a 36-year high of 10.1 million head in 2014–15. However, the forecast volume for 2015–16 is still 7 per cent above the 10-year average to 2013–14.

In July and August 2015, total Australian cattle slaughter is estimated to have fallen year-on-year for the first time since late 2012. This is a result of improved seasonal conditions in New South Wales and Victoria encouraging producers to begin herd rebuilding. In contrast, cattle slaughter remained high in Queensland (the largest beef producing state) over the same period because of continued dry seasonal conditions.

Assuming little relief from dry seasonal conditions in Queensland before mid 2015–16, total Australian cattle slaughter is expected to decline but remain relatively high for the next few months. Assuming seasonal conditions are more favourable in the second half of 2015–16, particularly in Queensland, significant herd rebuilding is expected to commence as the carrying capacity of pastures improves. As a result, Australian cattle slaughter is expected to fall more significantly in the second half of 2015–16.

Australian beef and veal production is forecast to fall by 8 per cent to 2.4 million tonnes in 2015–16. The expected pattern of cattle slaughter over the year implies that beef production will remain relatively high in the first half of 2015–16 before declining in the second half of the year. Average slaughter weights are forecast to be around 1 per cent higher than in 2014–15. This largely reflects an expected decline in the share of cow slaughter in total slaughter in the second half of 2015–16, when significant herd rebuilding is assumed to begin.

Australian cattle and calf slaughter and weighted average saleyard price



f ABARES forecast.

### Cattle numbers to decline further

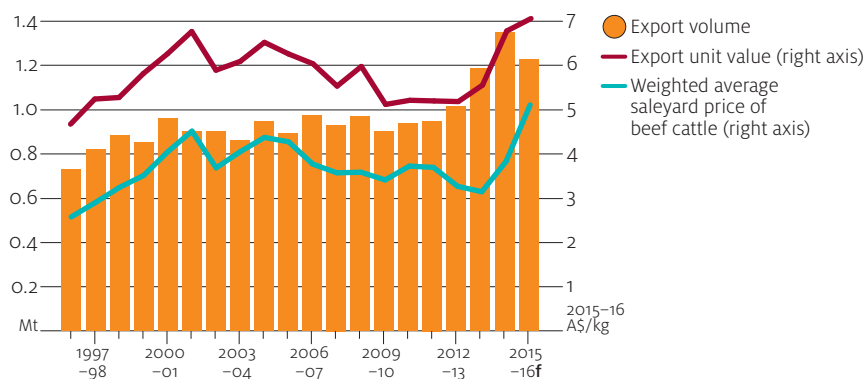
At 30 June 2015 the Australian cattle herd is estimated to have been around 27 million head. Over the 12 months to 30 June 2016, the Australian cattle herd is forecast to decline by 2 per cent to 26.5 million head, reflecting forecast relatively high slaughter and live exports in 2015–16.

### Australian beef export volume to fall in 2015–16 from record high

In 2015–16 Australian beef and veal exports are forecast to fall by 9 per cent to 1.2 million tonnes (shipped weight), largely as a result of reduced supply in the second half of 2015–16. The value of Australian beef and veal exports is forecast to fall by 3 per cent in 2015–16 to \$8.6 billion, largely reflecting the forecast fall in volume. Relatively high export unit values are expected to partially offset lower volumes, supported by strong demand for Australian beef and veal and an assumed depreciation of the Australian dollar. However, an expected reduction in demand from the United States in the second half of the year is expected to put downward pressure on export unit values. Increasing demand from the United States was the primary driver of higher Australian beef unit export returns in 2014–15.



## Australian beef and veal exports and weighted average saleyard price



f ABARES forecast.

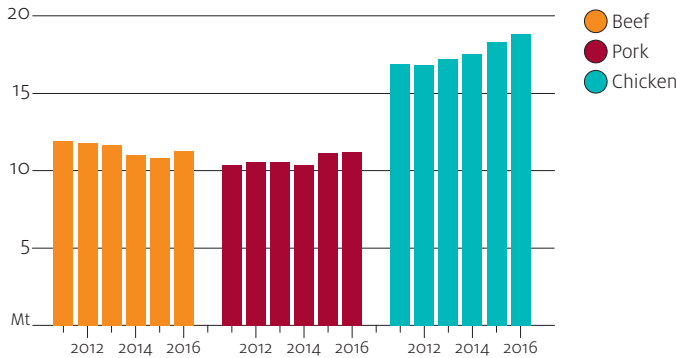
### Lower US demand in the second half of 2015-16

Continued strong US demand for Australian beef and veal resulted in 85 per cent of the 418 214-tonne US tariff-free import quota for 2015 being filled by the end of August. Australian exporters fill the first 85 per cent of the US beef quota on a first-come-first-served basis. If this is filled before the beginning of October, the Australian Government Department of Agriculture allocates the remaining 15 per cent among eligible exporters. Allocation is proportional and based on a two-year average of exporters' recorded shipments to the United States. Once the total quota is exceeded, shipments of Australian beef to the United States attract a 21 per cent tariff. Australian beef shipments generally take around six weeks to reach the United States by sea. This means that exports are likely to begin counting towards the 2016 calendar year import quota from November 2015.

In 2015-16 Australian beef and veal exports to the United States are forecast to decline by 11 per cent to 420 000 tonnes (shipped weight), largely reflecting expected lower US demand in the second half of the year. Assuming Australian beef exports to the United States begin filling the 2016 calendar year quota from November 2015, volumes shipped to the United States are expected to remain relatively high in mid 2015-16. Towards the end of 2015-16, Australian exports to the United States are expected to decline as US beef production rises and a seasonal increase in New Zealand beef supply increases competition in the US market.

The United States Department of Agriculture (USDA) forecasts US beef production to begin increasing in the last quarter of 2015, supported by herd rebuilding over the past year. For the 2016 calendar year, the USDA forecasts the first year-on-year increase in US beef production since 2010. Demand for beef in the United States is also likely to be moderated by some substitution away from beef to pork and poultry products. The USDA forecasts that US production of pork and chicken meat will reach record highs in 2015 and 2016.

US meat production



Source: United States Department of Agriculture Economic Research Service

### Market share of Australian beef to increase in Japan and the Republic of Korea

In 2015–16 Australian beef and veal exports to Japan are forecast to increase by 4 per cent to 315 000 tonnes (shipped weight) and to the Republic of Korea by 5 per cent to 165 000 tonnes. Import demand for beef is expected to increase in both countries as a result of falling domestic production and steady consumption. Beef imports into Japan and the Republic of Korea from the United States—Australia’s largest competitor in both markets—are expected to remain largely unchanged in 2015–16, largely reflecting an assumed strengthening of the US dollar. As a result the market share of Australian beef is expected to increase in both countries, supported by an assumed depreciation of the Australian dollar and continued tariff reductions under the Japan–Australia Economic Partnership Agreement and the Korea–Australia Free Trade Agreement.

### Strong competition in China expected in 2015–16

Australian beef and veal exports to China are forecast to fall by 4 per cent in 2015–16 to 120 000 tonnes (shipped weight), reflecting relatively high prices of Australian beef and increased competition from lower-cost suppliers to the Chinese market.

Growth in Chinese demand for beef is expected to slow in 2015–16, reflecting an assumed slowing in Chinese economic growth and the expectation that domestic beef prices will remain high in comparison with other meat products. In August 2015 the average wholesale price of beef in China was close to four times that of chicken on a per kilogram basis and more than double the price of pork. Total Chinese beef imports are expected to rise in 2015–16, but the majority of the increase is likely to be sourced from generally lower-cost beef producing countries in South America, including Brazil. According to Brazilian export data the first shipment of Brazilian beef to China since 2012 occurred in June 2015, after the Chinese Government lifted import restrictions in May 2015. China is also expected to increase beef imports from New Zealand, supported by the elimination of tariffs on New Zealand beef from January 2016 under the New Zealand–China Free Trade Agreement.

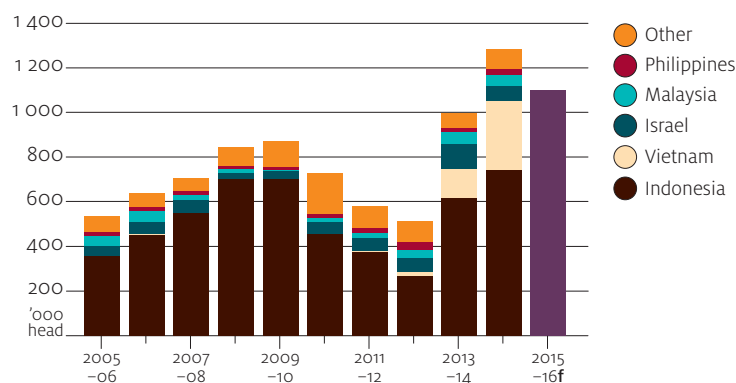
## Live cattle exports to remain relatively high in 2015–16

In 2015–16 Australian feeder and slaughter cattle exports are forecast to fall by 14 per cent to 1.1 million head, from a record 1.3 million head in 2014–15. This reflects an expected reduction in supply of cattle suitable for live export and a lower number of import permits issued by the Indonesian Government for the September quarter 2015 (see box).

Indonesia has been the primary destination for Australian feeder and slaughter cattle since the early 2000s, and demand from the market is expected to remain relatively strong in the remaining three quarters of 2015–16. The Australian cattle export industry has become less reliant on the Indonesian market in recent years. In 2013–14 Vietnam emerged as a major market, growing to account for almost a quarter of feeder and slaughter cattle exports in 2014–15. Ongoing cattle supply shortages in Vietnam are expected to result in continued strong demand for Australian cattle in the short term. Israel, Malaysia and the Philippines are also significant markets for Australian feeder and slaughter cattle.

Additional demand for Australian feeder and slaughter cattle could come from China in 2015–16 if supply chains are developed and approved under the Exporter Supply Chain Assurance System. However, if trade begins the volume of exports is expected to be relatively small, largely reflecting conditions of the recently signed import health protocol. The import health protocol requires that cattle be free from hormone growth promotants and contains testing and quarantine requirements that are significant for producers and exporters of cattle imported from bluetongue virus transmission zones in Australia. Australian feeder and slaughter cattle imported into China are currently subject to a 10 per cent tariff, but this will be eliminated over four years when the China–Australia Free Trade Agreement is ratified.

### Australian feeder and slaughter cattle exports



f ABARES forecast.

## Indonesian beef supply and prices

Australia is the dominant supplier of beef and the only supplier of feeder and slaughter cattle to Indonesia. Indonesia also imports beef from New Zealand and the United States but volumes are relatively small.

Since 2010 the Indonesian Government has controlled the number of cattle imported through trade measures with the aim of achieving beef self-sufficiency. In September 2013 the Indonesian Government began applying a reference price mechanism to cattle imports. When the domestic retail price of secondary cuts exceeds the reference price of 76 000 rupiah a kilogram, the government issues import permits. If the price falls below that level, the government is not likely to issue import permits.

Domestic beef prices have not fallen below the reference price since its inception, but the volume of permits issued by the Indonesian Government each quarter has been highly variable. Since January 2015 Indonesian Government policy has been to issue permits for Australian feeder cattle only. These cattle weigh a maximum of 350 kilograms when exported and are fattened at Indonesian feedlots for at least 120 days before slaughter (increased from 90 days in January 2015). However, on multiple occasions the Indonesian Government has issued additional permits to state-owned enterprises (SOEs) for slaughter-ready cattle to address rapidly rising domestic beef prices.

In July 2015 the Indonesian Government announced that for the September quarter 2015 it would issue permits for only 50 000 head of Australian feeder cattle—around 130 000 head below the number exported to Indonesia in the same quarter a year earlier. Following this announcement, Indonesian retail beef prices rose and wet market beef retailers protested. Retail beef prices reportedly reached 140 000 rupiah a kilogram in Jakarta. In early August 2015 the Indonesian Government responded by issuing additional permits to an SOE for 50 000 head of Australian slaughter-ready cattle.

In mid August 2015 Indonesia's newly-appointed trade minister announced the Indonesian Government's intention to increase the number of import permits for Australian feeder cattle in the December quarter 2015. However, the Indonesian Government has not yet confirmed the number with Australia. In the December quarter 2014, import permits for 227 050 head of Australian cattle were issued.

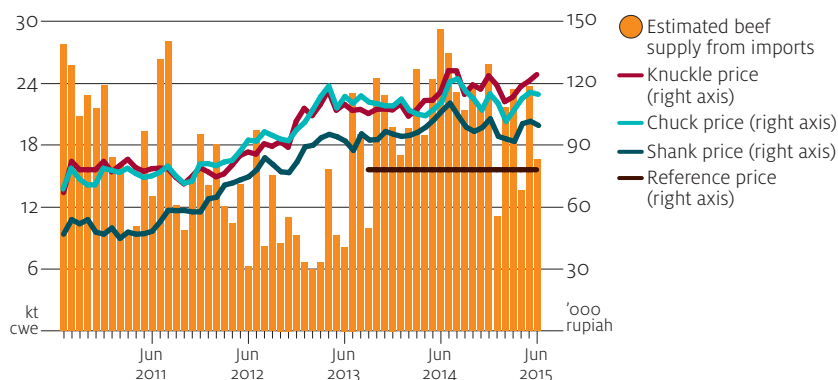
Indonesian demand for Australian feeder and slaughter cattle is expected to remain strong in the second half of 2015–16. Despite Indonesia's self-sufficiency policy, domestic beef production is currently insufficient to meet domestic demand. This has been reflected in increasing domestic beef prices even when beef supply from imports has risen. As a result, Indonesia is expected to remain largely reliant on Australian beef and cattle to meet rising domestic beef consumption in the short term.

The Indonesian Government aims to achieve self-sufficiency in beef production by increasing the domestic cattle herd size and domestic beef production. In line with this aim, the government recently announced its intention to import 2 million breeder cattle from Australia by 2018.

continued ...

## Indonesian beef supply and prices continued

### Indonesian estimated beef supply from imports and fresh beef prices



Note: Beef supply from imports includes beef exported to Indonesia from Australia, New Zealand and the United States converted into carcass weight equivalent, as well as an estimate of beef produced from Australian cattle exports into Indonesia. The estimate of beef produced from Australian cattle assumes a dressing weight of 260 kilograms and that beef produced from Australian feeder cattle imports adds to domestic supply three months after the cattle are imported.

## Outlook for beef and veal

	unit	2013–14	2014–15 s	2015–16 f	% change
<b>Cattle numbers a</b>	million	29.1	27.0	26.5	-1.9
– beef	million	26.3	24.2	23.7	-2.1
<b>Slaughterings</b>	'000	9 473	10 103	9 200	-8.9
<b>Production b</b>	kt	2 464	2 662	2 443	-8.2
<b>Exports (shipped weight)</b>					
– to Japan	kt	280	304	315	3.6
– to United States	kt	266	471	420	-10.8
– to China	kt	160	125	120	-4.0
– to Korea, Rep. of	kt	156	157	165	5.1
– total	kt	1 184	1 349	1 225	-9.2
– value	A\$m	6 265	8 858	8 571	-3.2
<b>Live feeder/slaughter cattle exports c</b>	'000	996	1 283	1 100	-14.3
– value	A\$m	780	1 143	1 055	-7.8
<b>Price</b>					
– saleyard	A\$/kg cw	293	364	500	37.4
– US import d	US\$/kg	439	552	511	-7.4
– Japan import e	US\$/kg	593	667	628	-5.8

a At 30 June. b Carcass weight. c Includes buffalo. d Cow 90CL US cif price. e Chilled grassfed fullset Japan cif price. f ABARES forecast. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra; Meat & Livestock Australia

# Sheep meat and wool

Jack Mullumby

- The weighted average saleyard prices of sheep and lambs are forecast to increase in 2015–16 in response to lower supply and strong export demand.
- The sheep flock is forecast to rise marginally to 71.8 million head in 2015–16 under an assumed improvement in seasonal conditions, especially in the second half of the year.
- Lamb slaughter is forecast to fall by 4 per cent in 2015–16 after reaching a record 22.9 million head in 2014–15.
- Wool exports are forecast to be 12 per cent lower in 2015–16, at around 404 000 tonnes, with supply restricted by lower production and an assumed reduction in opening stocks.

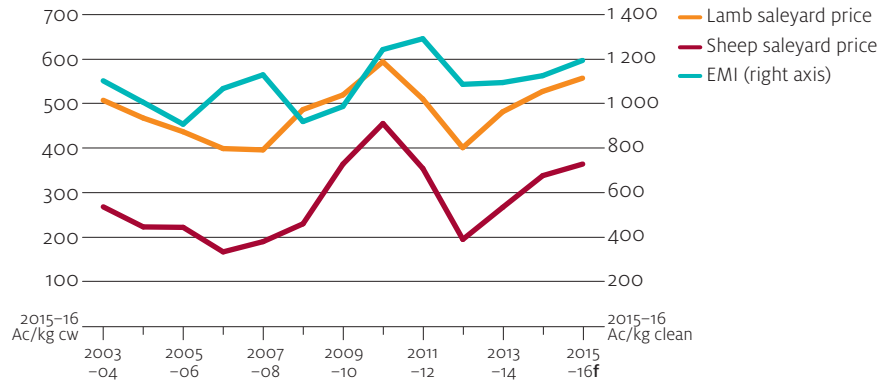
The weighted average saleyard price of lamb is forecast to increase by 8 per cent in 2015–16 to average 560 cents a kilogram (carcass weight). This increase is driven largely by a forecast fall in lamb supply and continued strong export demand.

The weighted average saleyard price of sheep is forecast to rise by 10 per cent in 2015–16 to 365 cents a kilogram (carcass weight). This follows a 27 per cent increase in 2014–15, driven by strong demand from the Middle East and a reduction in turn-off in the second half of the year.

In 2015–16 a forecast fall in wool production combined with an assumed lower Australian dollar is expected to support wool prices. The Eastern Market Indicator (EMI) price for wool is forecast to increase by 9 per cent to average 1 200 cents a kilogram clean.

One factor that has recently influenced market sentiment is the devaluation of the Chinese yuan. Over the week to 14 August 2015, the yuan was devalued against the US dollar by around 3 per cent. China exports about half the woollen textiles it produces, and the devaluation of the Chinese currency will lower the textile export price. However, this relatively small devaluation is unlikely to have a significant impact on China's demand for raw wool from Australia. From 1 July 2013 to August 2015, Chinese wool importers benefited from a 20 per cent depreciation of the Australian dollar against the yuan and the effect has been reflected in the upward movement of the EMI in Australian dollar terms.

Australian lamb, sheep and wool prices



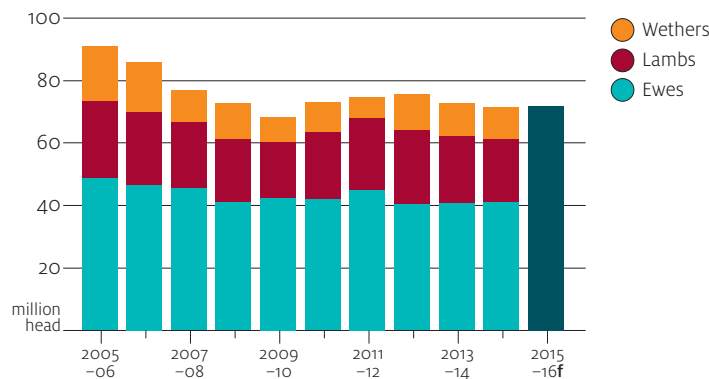
f ABARES forecast.

Australian sheep flock to expand

In 2014–15 the Australian sheep flock is estimated to have contracted by 2 per cent to 71.3 million head. High saleyard prices and unfavourable seasonal conditions in some regions provided strong incentives for producers to maintain a high turn-off rate, particularly for lambs. Sheep turn-off remained high in the first half of 2014–15 as a result of poor pasture conditions, particularly in western Victoria and South Australia. In the second half of the year, turn-off declined as seasonal conditions improved and flock rebuilding commenced in some states.

By the end of 2015–16 the Australian sheep flock is forecast to increase by 1 per cent to 71.8 million head. An assumed improvement in seasonal conditions in the second half of the year is expected to support the continuation of flock rebuilding in the major sheep producing regions of New South Wales, northern Victoria and Western Australia.

Australian sheep flock



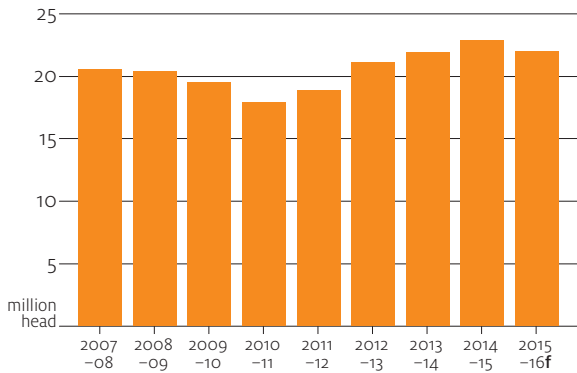
f ABARES forecast.

## Lamb slaughter to fall

Lamb slaughter increased by 4 per cent in 2014–15 to reach a record 22.9 million head. Unfavourable seasonal conditions in Victoria and South Australia, combined with relatively high prices, provided strong incentives for producers to increase turn-off. As a result, lamb production increased by 7 per cent to a record 507 000 tonnes.

In 2015–16 lamb slaughter is forecast to decline by 4 per cent to 22 million head. Turn-off is expected to fall in most regions under the assumption of more favourable seasonal conditions in the second half of the year. However, relatively high prices and strong export demand are expected to maintain lamb slaughter at relatively high levels. For 2015–16 as a whole, an expected marginal increase in average carcass weights will lend support to lamb production, which is forecast to fall by 2 per cent to 498 000 tonnes.

### Australian lamb slaughter



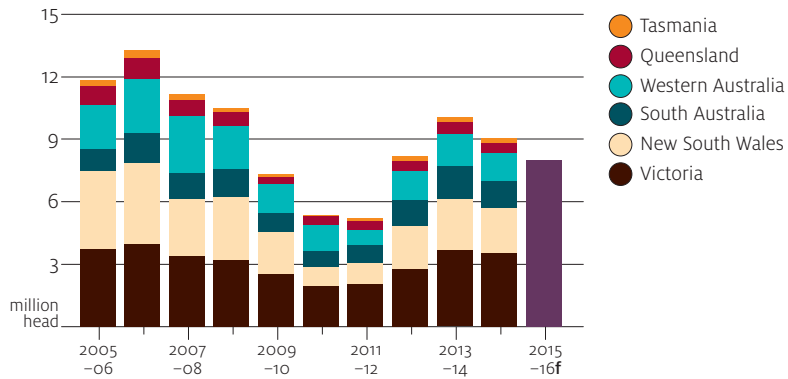
f ABARES forecast.

## Lower mutton production

Sheep slaughter is forecast to decline by 11 per cent in 2015–16 to 8 million head. This follows a decline of 10 per cent in 2014–15, reflecting the start of a flock rebuilding process in the second half of the year. In 2015–16 an assumed improvement in seasonal conditions is expected to support flock rebuilding and reduce the rate of turn-off. As a result, mutton production is forecast to fall by around 11 per cent to 191 000 tonnes.



### Australian sheep slaughter by state



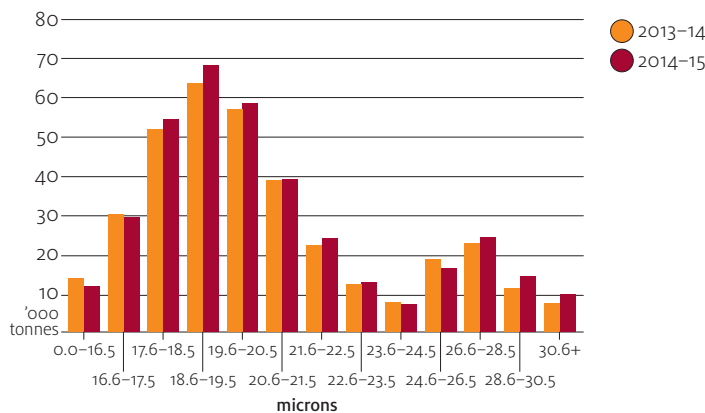
<sup>f</sup> ABARES forecast.

### Average wool cut and production to decline

Australian Wool Testing Authority key test data for 2014–15 show that the total volume of fine wool (less than 21.6 microns) increased by 2 per cent from the previous year, to 259 000 tonnes greasy. In comparison, medium and coarse wool (21.6 microns and higher) was approximately 6 per cent (6 000 tonnes) higher. The lower proportion of fine wool in the total clip is a reflection of the high rate of meat sheep turn-off, from which relatively coarser wool is produced.

In 2014–15 total wool production remained relatively unchanged compared with the previous year, at around 428 000 tonnes. An increase in average fleece weights, resulting from improved conditions in the second half of the year, offset the effect of the lower national flock. The opening sheep flock in 2015–16, at 71.3 million head, is estimated to be the smallest in five years and is expected to result in a decline in total wool production. This, combined with slightly lower average fleece weights, is forecast to result in total wool production falling by around 5 per cent to 408 000 tonnes in 2015–16.

### Australian wool micron profile



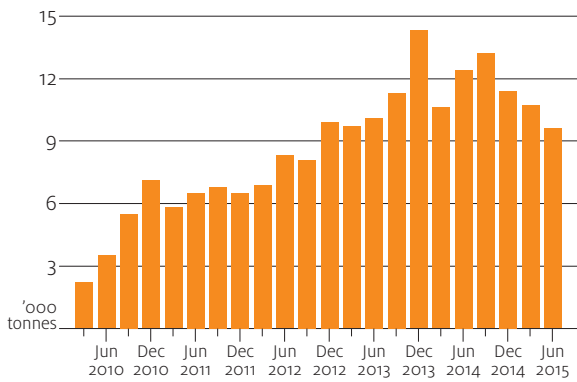
## Lamb exports to fall as supply tightens

Australian lamb exports are forecast to decline by 5 per cent in 2015–16 to around 230 000 tonnes (shipped weight), from a record of 242 000 tonnes in 2014–15.

The value of Australian lamb exports is forecast to fall by 1 per cent in 2015–16 to around \$1.68 billion, because the decline in export volume is expected to more than offset any increase in the unit export price.

The forecast decline in export volumes reflects forecast lower lamb slaughter in 2015–16. Export demand for Australian lamb is expected to remain relatively strong, particularly in the Middle East and the United States. In contrast, lamb exports to China are forecast to fall as growing domestic production in China continues to put downward pressure on demand for imported product. Lamb exports to China fell for the third consecutive quarter in June 2015, resulting in an overall decline of 13 per cent in 2014–15.

Australian lamb exports to China, quarterly



## Mutton exports to fall

Australian exports of mutton are forecast to decline by around 16 per cent in 2015–16 to 142 000 tonnes (shipped weight), reflecting lower mutton production.

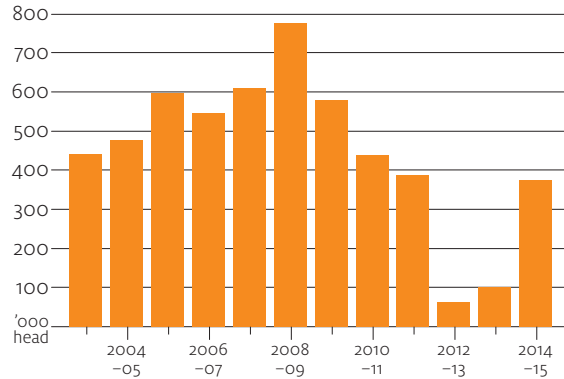
Despite generally favourable export prices, the value of mutton exports is forecast to fall by over 13 per cent in 2015–16 to around \$673 million.

## Live exports to decline

Producers are expected to rebuild flocks under the assumption of an improvement in seasonal conditions in the remainder of 2015–16. In Western Australia, in particular, flock rebuilding is forecast to result in a 3 per cent fall in live sheep exports to 2.1 million head for the year as a whole. In 2014–15 live sheep exports increased by 8 per cent to 2.2 million head, with Bahrain accounting for most of this growth. After 19 months of suspended trade, exports to Bahrain resumed in April 2014.

In 2014–15 Bahrain imported 375 000 head, which was roughly equivalent to the volume imported immediately before the suspension. The value of total live sheep exports is forecast to increase by almost 7 per cent to \$261 million in 2015–16.

## Australian live sheep exports to Bahrain



### Lower wool supply available for export

Total Australian wool exports increased by 7 per cent in 2014–15 to 459 000 tonnes greasy, largely reflecting a run-down in stocks. High prices provided a strong incentive for producers to reduce stocks, particularly in the last quarter of the year. Over the June quarter the EMI increased by approximately 13 per cent and was mirrored by an increase in Brokers and Dealers Receipts of Taxable Wool, which was 10 per cent above the June quarter average of the past decade.

In 2015–16 total Australian wool exports are forecast to be around 12 per cent lower at 404 000 tonnes greasy, reflecting the forecast decline in shorn wool production and assumed lower stocks. The value of Australian wool exports is forecast to increase by 1 per cent to around \$3 billion, with lower export volumes expected to more than offset forecast higher export prices.

China is expected to remain the largest buyer of Australian wool in 2015–16, with exports forecast to total 311 000 tonnes. Approximately half of China's apparel production is consumed domestically. In 2014–15 the value of retail sales of garments in China grew by 10 per cent, underpinned by growth in average household incomes. Domestic Chinese apparel consumption is assumed to continue to grow in 2015–16. However, the assumed slowdown in China's economic growth could put some downward pressure on the rate of consumption growth.

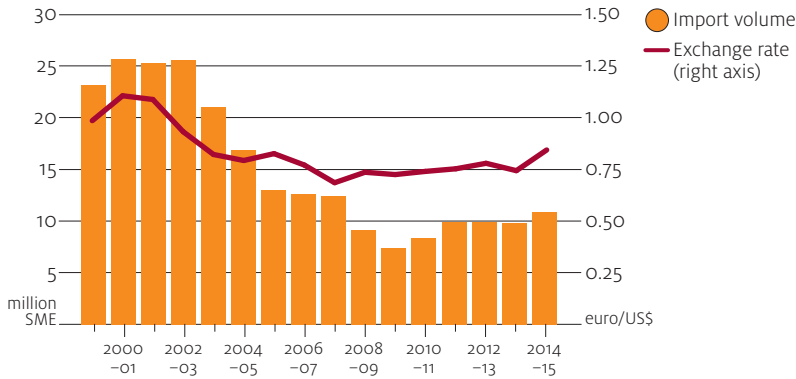
China is the world's largest textile exporter and its demand for raw materials depends to a significant extent on export demand for its final products. The United States is one of the largest textile and apparel consuming countries in the world. In 2014–15 total US apparel imports increased by 5 per cent year-on-year to a total of 26.3 billion square metre equivalents (SME). This was partly driven by the appreciation of the US dollar, which made imported products less expensive.

The growth in total US apparel imports was principally in cotton and synthetic apparel rather than woollen apparel. This in part reflects the effect on demand of lower prices for cotton and crude oil. Total US imports of woollen apparel grew by only 0.7 per cent in 2014–15 to 223 million SME. Woollen apparel imports originating from China have accounted for just under half of total woollen apparel imports since 2005–06.

In 2014–15 US imports of woollen apparel declined from most countries but increased from Italy by 10.4 per cent year-on-year. This increase was supported by a 14 per cent appreciation of the US dollar against the euro. Italian woollen apparel is sold at a premium in the US market; the average annual unit import value is three times higher than the average for US woollen apparel imports from all sources.

In 2015–16 the US dollar is assumed to remain relatively high against the euro. As a result, US demand for Italian woollen apparel is forecast to remain strong. This in turn is expected to support Italian processor demand for Australian raw wool, especially fine and superfine wool.

US imports of woollen apparel from Italy



Note: SME = square metre equivalents.

## Outlook for sheep meat and wool

	unit	2013–14	2014–15 s	2015–16 f	% change
Sheep numbers a	million	72.6	71.3	71.8	0.7
Sheep shorn	million	78.0	77.0	77.5	0.6
<b>Slaughterings</b>					
Lambs	'000	21 899	22 867	22 000	-3.8
Sheep	'000	10 066	9 022	8 000	-11.3
<b>Production</b>					
Lamb b	kt	474	507	498	-1.8
Mutton b	kt	228	214	191	-10.7
<b>Wool production (greasy)</b>					
– shorn	kt	350	347	332	-4.3
– other c	kt	79	81	76	-6.2
– total	kt	428	428	408	-4.7
<b>Exports</b>					
Lamb	kt swt	226	242	230	-5.0
– value	\$m	1 468	1 696	1 679	-1.0
Mutton	kt swt	183	169	142	-16.0
– value	\$m	758	778	673	-13.5
Live sheep	'000	2 020	2 180	2 110	-3.2
– value	\$m	185	245	261	6.5
<b>Wool</b>					
– volume (gr. equiv.)	kt	428	459	404	-12.0
– to China	kt	324	352	311	-11.6
– value d	\$m	2 877	2 988	3 011	0.8
<b>Prices</b>					
Lambs e	Ac/kg cw	476	518	560	8.1
Sheep e	Ac/kg cw	262	332	365	9.9
Eastern Market Indicator g	Ac/kg	1 071	1 105	1 200	8.6

a At 30 June. b Carcass weight. c Includes wool on sheepskins, fellmongered and slipe wool.

d Balance of payments basis. e Saleyards prices. f ABARES forecast. g Clean equivalent. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Australian Wool Exchange; Department of Agriculture, Canberra

# Pig meat

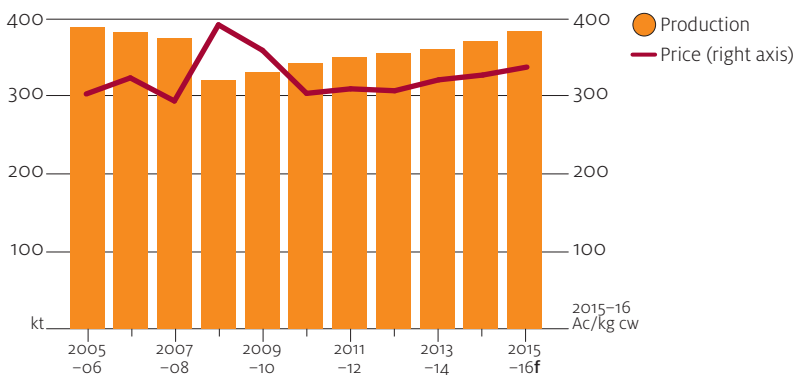
Owen McCarthy

- Australian pig prices are forecast to rise in 2015–16, reflecting expected higher domestic demand for fresh pork.
- Australian pig meat production is forecast to increase to 384 000 tonnes in 2015–16 in response to higher producer returns and expected lower feed costs.
- Pig meat imports are forecast to rise in 2015–16 in response to increased domestic demand for processed pig meat products. These products are largely manufactured from pig meat imports.

The weighted average over-the-hooks price of pigs is forecast to increase by 6 per cent in 2015–16 to 335 cents a kilogram (carcass weight), largely reflecting increased demand for fresh pork. Strong demand for fresh pork and relatively favourable feed prices are expected to encourage domestic pig meat production. Imports are also forecast to rise as a result of increased demand for manufactured pig meat products, a large part of which is processed from imported pig meat.

In 2014–15 the Australian pig price increased by 4 per cent to 317 cents a kilogram, mainly reflecting increased domestic demand for fresh pig meat.

## Australian pig meat production and weighted average price



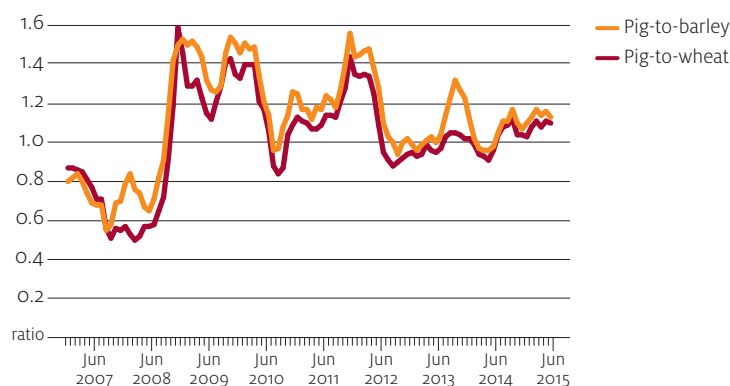
f ABARES forecast.

## Production continuing to rise

Australian pig meat production increased for a sixth consecutive year in 2014–15, rising by 3 per cent to 371 000 tonnes. In 2015–16 pig meat production is forecast to increase by a further 4 per cent to 384 000 tonnes. Demand for pork is expected to increase as beef and lamb retail prices rise in response to forecast declines in production. Pig feed prices, which account for more than 50 per cent of production costs, are expected to decline. Returns from pig production are forecast to increase as a result and encourage farmers to expand production.

Pig-to-feed price ratios are indicators of returns from pig production. In 2014–15 the pig-to-wheat ratio increased by 9 per cent and the pig-to-barley ratio by 1 per cent. Both ratios are expected to average higher again in 2015–16.

Australian pig-to-feed price ratio, monthly



## Imports to increase

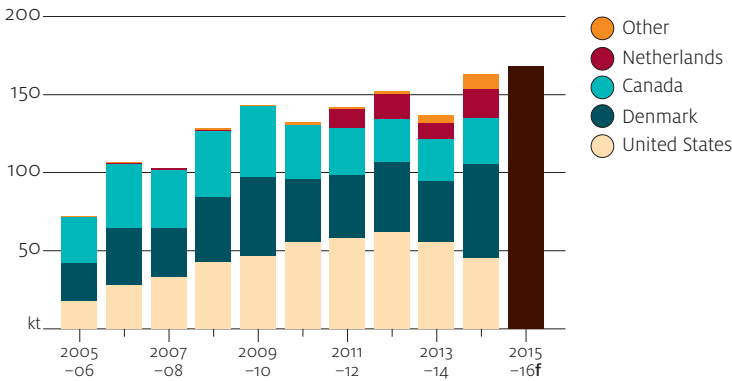
Australia's biosecurity protocols permit deboned fresh or chilled pig meat to be imported from approved countries, subject to specific import conditions. Imported pig meat must be processed before it is sold, so it can only be sold as manufactured product. All fresh pig meat sold in Australia is domestically produced.

Australian imports of pig meat more than doubled over the 10 years to 2014–15. This resulted in greater competition for Australian pig meat used in the manufacture of bacon, ham and smallgoods.

Australian pig meat imports rose by 20 per cent in 2014–15 to reach almost 163 000 tonnes. Denmark overtook the United States as the largest supplier, with imports rising by 54 per cent to 56 750 tonnes. Imports from the United States fell by 19 per cent in 2014–15, largely reflecting an outbreak of porcine epidemic diarrhoea virus (PEDV) in the United States in the first half of 2014. This caused US pig meat supply to fall and pig prices to rise.

In 2015–16 Australian pig meat imports are forecast to rise by 3 per cent to 168 000 tonnes. An assumed depreciation of the Australian dollar will make imports generally more expensive. However, pig meat imports are expected to remain competitive in the Australian market largely because EU and North American pig producers can access relatively cheaper feed grains (such as corn and soybeans). Imports from the United States are forecast to rise because of a recovery in pig meat production after the PEDV outbreak. Forecast higher shipments from Denmark and the Netherlands are expected to be supported by an increase in supply of pig meat available for export, reflecting a ban on EU pig meat imports by the Russian Federation (normally its largest market).

### Australian pig meat imports



f ABARES forecast.

### Exports to increase

Australian pig meat exports rose by 3 per cent in 2014–15 to 27 500 tonnes, reflecting an increase in shipments of pig carcasses and meat cuts more than offsetting a decline in shipments of offal.

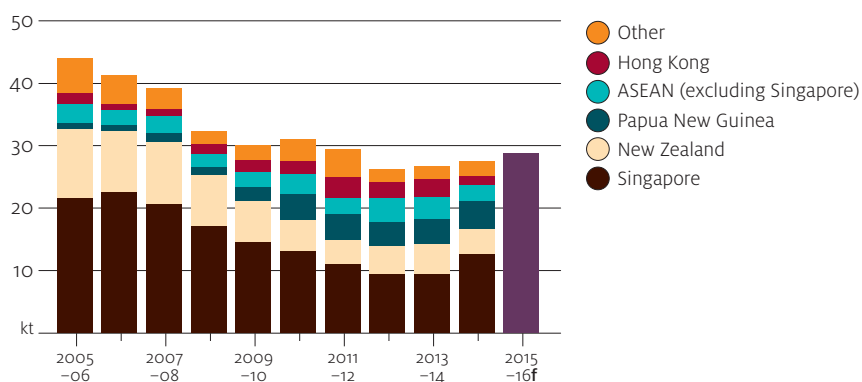
Shipments to Singapore (Australia’s largest export market for pig meat) rose by 34 per cent in 2014–15 to 12 600 tonnes, largely reflecting a depreciation of the Australian dollar against the Singapore dollar. This made Australia’s exports more competitive. Shipments to Hong Kong and New Zealand (of mainly offal) fell by 46 per cent and 14 per cent, respectively, over the same period. The decline in exports to New Zealand reflected strong competition from the European Union. The share of offal imports to New Zealand supplied by the European Union increased to 60 per cent in 2014–15, compared with 40 per cent the previous year.

The value of Australian pig meat exports increased by 20 per cent in 2014–15 to \$102 million. This reflected an increase in the volume of higher value pig carcasses and meat cuts and a depreciation of the Australian dollar, which supported higher export unit values in Australian dollar terms.



In 2015–16 Australian pig meat exports are forecast to increase by 4 per cent to 28 500 tonnes. A further assumed depreciation of the Australian dollar against the US dollar is expected to increase the competitiveness of Australian pig meat exports on world markets. In particular, a forecast increase in shipments of pig carcasses and meat cuts to Singapore and Papua New Guinea is expected. However, Australian exporters are expected to face continued strong competition from the European Union, particularly in the offal market, because of a forecast increase in supply for export and an expected weaker euro.

### Australian pig meat exports



f ABARES forecast.

### Outlook for pig meat

	unit	2013–14	2014–15	2015–16 f	% change
Over-the-hooks price	Ac/kg cw	306	317	335	5.7
Slaughterings	'000	4 778	4 924	5 080	3.2
Production	kt	360	371	384	3.5
Import volume <b>a</b>	kt	136	163	168	3.1
Export volume <b>ab</b>	kt	26.8	27.5	28.5	3.6
Export value	\$m	85	102	111	8.8

**a** Shipped weight. **b** Excludes preserved pig meat. **f** ABARES forecast.

Sources: ABARES; Australian Bureau of Statistics

# Chicken meat

Beth Deards

- Australian chicken meat production is forecast to rise by 4 per cent in 2015–16 to 1.16 million tonnes, in response to strong domestic demand.
- Chicken consumption is forecast to increase by 2 per cent in 2015–16 to 46.2 kilograms a person, largely reflecting relatively favourable retail prices compared with other meats.
- Australian chicken meat exports are forecast to remain largely unchanged in 2015–16 at around 34 000 tonnes (shipped weight).

## Rising chicken meat production

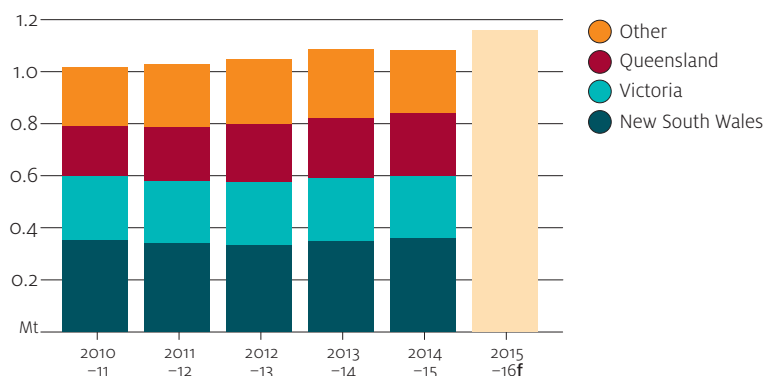
Australian chicken meat production increased steadily over the five years to 2014–15, primarily reflecting higher production in Queensland.

New South Wales is the largest chicken meat producing state. In 2014–15 chicken meat production in New South Wales was 358 000 tonnes, 2 per cent higher than in 2010–11. In contrast, Queensland's chicken meat production has increased by 26 per cent over the past five years; it reached 244 000 tonnes in 2014–15, with Queensland overtaking Victoria as the second-largest producing state. The growth in chicken meat production in Queensland largely reflects the expansion of a major free range chicken producer and some chickens grown in northern New South Wales being transported to Brisbane for slaughter following the closure of a local processing plant.

In 2015–16 Australian chicken meat production is forecast to rise by 4 per cent to 1.16 million tonnes, in response to strong domestic demand.

The Australian chicken meat industry is dominated by small farms that are generally located within 100 kilometres of a processing plant. Most chicken meat farmers are contracted by major processors to grow out day-old chicks. Processors generally supply the chicks and often cover input costs such as feed and veterinary bills. Chicken feed mostly consists of grains but ingredients vary depending on availability and prices. Chicken feed in New South Wales and Victoria is generally based on wheat, while feed in Queensland is based on grain sorghum.

## Australian chicken meat production



f ABARES forecast.

Australian chicken meat production consists of three production types: conventionally farmed chickens, free range chickens and organic chickens. Conventionally farmed chickens account for most of Australian chicken meat production but production of free range and organic chickens has increased over the past decade. According to Free Range Egg & Poultry Australia around 20 per cent of Australian chicken meat production in 2014 was from free range operations. Only around 1 per cent of Australian chicken meat production is organic.

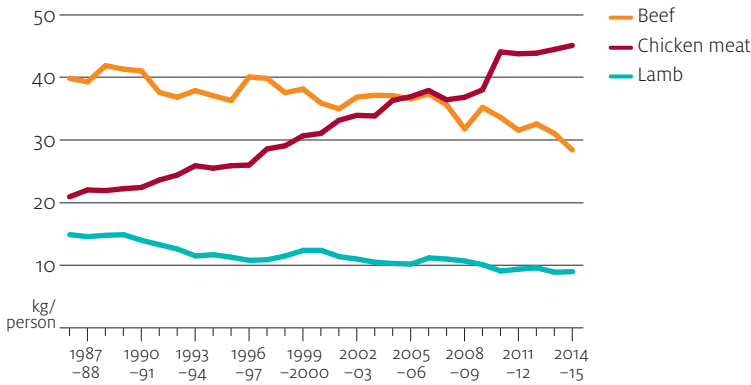
Production cost of conventionally farmed chicken meat is the lowest on a per kilogram basis because farm stocking density levels are relatively high—at around 28 to 40 kilograms of chickens a square metre, depending on barn ventilation. Free range chickens have a higher production cost because of lower stocking density levels (16 to 34 kilograms of chickens a square metre) and the requirements that chickens have access to an outdoor area and not be treated with antibiotics. Selective breeding techniques have resulted in conventional and free range chickens reaching slaughter weight in around 35 days, compared with more than 60 days in the 1970s.

Organic chickens are similar to free range chickens in that they must have access to an outdoor area and cannot be treated with antibiotics. In addition, organic chickens cannot be vaccinated (except where required by law) and must be fed organic feed. Stocking density cannot exceed a maximum of 25 kilograms of chickens a square metre. According to the Australian Certified Organic Standard 2013, organic meat chickens should be a minimum of 70 days old when slaughtered.

## Lower retail price driving chicken consumption

Per person chicken meat consumption in Australia has more than doubled over the past three decades, reflecting the competitive retail price of chicken meat relative to beef, lamb and pork. Over the five years to 2014–15, chicken meat at retail outlets on a per kilogram basis was on average 65 per cent cheaper than beef, 59 per cent cheaper than lamb and 50 per cent cheaper than pork. Higher chicken meat consumption was also supported by consumers viewing chicken meat as a lean source of protein. Per person chicken meat consumption is forecast to increase by 2 per cent in 2015–16 to 46.2 kilograms.

Australian meat consumption

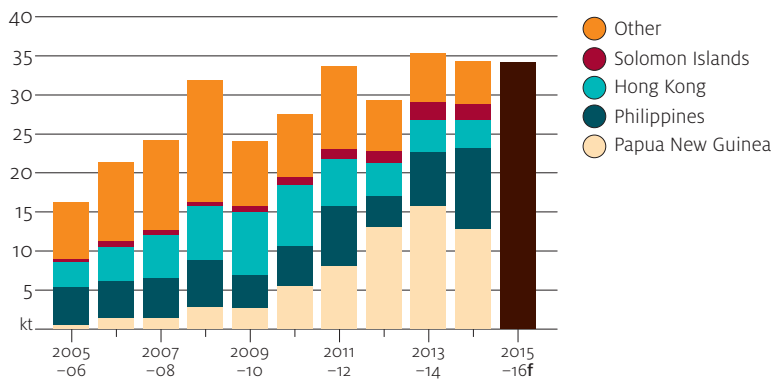


Exports to remain largely unchanged

Australian chicken meat exports are forecast to remain largely unchanged in 2015–16 at around 34 000 tonnes (shipped weight), after a 3 per cent fall in 2014–15. This reflects forecast lower exports to Papua New Guinea largely offsetting expected higher exports to the Philippines and Japan.

Exports to Papua New Guinea (Australia’s largest market) are forecast to decline in 2015–16 because of an ongoing suspension on imports of uncooked Australian poultry meat products. Papua New Guinea began the suspension in April 2015 because of concerns about Campylobacter bacteria. This resulted in Australian chicken meat exports to Papua New Guinea falling by 41 per cent year-on-year between April and June 2015. Mechanically deboned chicken meat products are exempt from the suspension.

Australian chicken meat exports



f ABARES forecast.

Generally around 95 per cent of Australian chicken meat exports are frozen cuts and offal (such as feet, kidneys and livers), which attract a higher price in export markets than domestically. Frozen whole chickens make up most of the remaining 5 per cent of exports. However, in 2014–15 frozen whole chicken exports increased to account for 11 per cent of chicken meat exports. This increase largely reflected higher shipments to the Philippines and Japan as a result of supply disruptions from the United States because of an avian influenza outbreak. Frozen whole chicken exports to the Philippines increased from 656 tonnes in 2013–14 to 1 484 tonnes in 2014–15. Exports to Japan began in March 2015, reaching 690 tonnes by June 2015. Exports of fresh whole chicken accounted for less than 1 per cent (or 144 tonnes) of total chicken meat exports in 2014–15.

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### Outlook for chicken meat

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	<b>unit</b>	<b>2013–14</b>	<b>2014–15 s</b>	<b>2015–16 f</b>	<b>% change</b>
Production <b>a</b>	kt	1 084	1 116	1 155	3.6
Export volume <b>b</b>	kt	35.4	34.2	34.4	0.6
Export value	\$m	48.0	53.7	59.1	10.1

**a** Carcass weight. **b** Shipped weight. **f** ABARES forecast. **s** ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics

# Dairy

Owen McCarthy

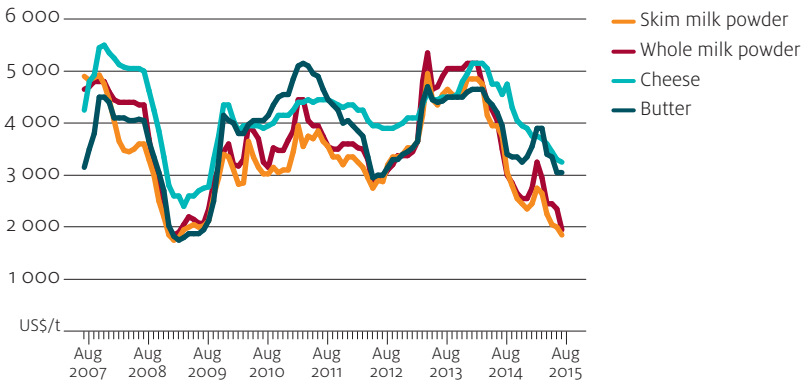
- World dairy prices are forecast to average lower in 2015–16, reflecting reduced demand from major importing countries.
- World milk production is expected to increase in 2015–16 but at a slower rate than in 2014–15.
- Australian milk production is forecast to increase in 2015–16 mainly as a result of higher milk yields.

## World dairy prices to fall in 2015–16

World dairy prices declined in 2014–15 as a result of reduced demand from major importing countries and increased milk supplies in key exporting countries. In 2015–16 continued weak import demand for dairy products and a further increase in global milk supplies is forecast to result in world dairy product prices falling by between 5 per cent and 14 per cent in year-average terms.

World prices of whole milk powder and skim milk powder are forecast to fall in 2015–16 by 14 per cent and 11 per cent to average US\$2 400 a tonne and US\$2 300 a tonne, respectively. Prices are forecast to fall by 11 per cent for cheese to average US\$3 500 a tonne and by 5 per cent for butter to average US\$3 300 a tonne.

### World dairy prices



## Growth in global milk supply

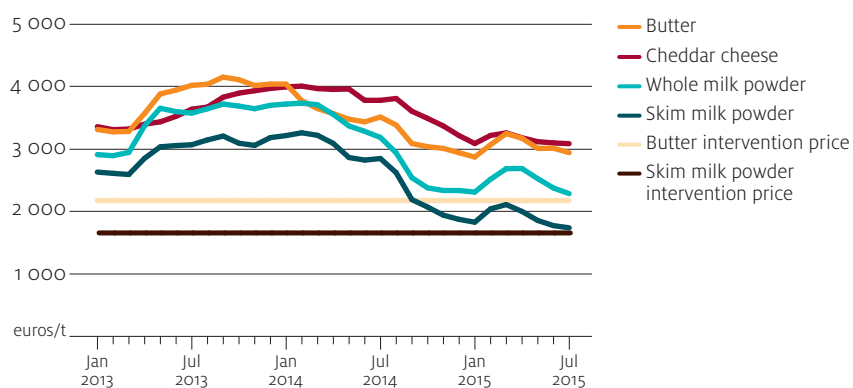
Global milk supply is forecast to rise in 2015–16 as expected production increases in the European Union and the United States more than offset a decline in New Zealand. However, world production growth is expected to be slower than in 2014–15, reflecting reduced returns to dairy farmers because of forecast lower world dairy product prices.

### European Union

EU milk production is forecast to increase by 1 per cent in the 2015–16 marketing year (April to March), largely reflecting removal of milk quotas on 1 April 2015. However, production is expected to vary between member states. Increases are expected to be concentrated in member states with more efficient production systems (such as Austria, Ireland and the Netherlands) and be driven largely by expansion of dairy herds. Farmers in these countries began to expand dairy herds before the removal of quotas, with the aim of taking advantage of long-term market opportunities. This expansion resulted in some farmers exceeding their milk production quota and being fined. Milk production is expected to decline in member states where farmers did not have large expansion plans in place (such as Italy and Romania). In these countries, falling farmgate milk prices are expected to encourage increased culling of cows.

EU domestic prices for most dairy products have fallen since March 2015, with the largest falls in prices of milk powders. By mid August 2015 the skim milk powder price was around 37 per cent lower than in August 2014 and only 2 per cent higher than the intervention price of 1 698 euros (or around US\$1 885) a tonne. The fall in prices largely reflects a continued increase in domestic supply of dairy products and subdued global import demand.

EU dairy prices, monthly average



The European Commission has announced it will extend the public intervention and private storage aid (PSA) schemes for butter and skim milk powder in an effort to stabilise prices. The PSA scheme will be extended until 29 February 2016 and the current intervention scheme until the end of 2015. A new intervention scheme will run from 1 January to 30 September 2016. In July 2015 PSA stocks amounted to 74 955 tonnes of butter and 17 632 tonnes of skim milk powder.

EU exports of dairy products are expected to become more competitive on the world market in 2015–16, largely as a result of an assumed weakening of the euro against the US dollar. Exports of butter are forecast to rise by 9 per cent in 2015–16, as larger shipments to markets such as Egypt, Saudi Arabia and the United States more than offset the effect of the Russian Federation import ban. EU exports of skim milk powder are expected to benefit from strong demand from South-East Asia and to rise by 2 per cent. In contrast, the Russian import ban is expected to result in EU cheese exports falling in 2015–16. This is despite a significant diversion of exports to alternative markets, such as Japan, the Republic of Korea and the United States. Whole milk powder exports are also forecast to fall in 2015–16, largely as a result of lower shipments to Algeria.

### **United States**

Milk production in the United States is forecast to increase by 1 per cent to 94.7 million tonnes in 2015, as a result of higher milk yields and a slight expansion in the national dairy herd. Milk production is forecast to increase slightly in 2016 as milk yields continue to improve. However, any further increase in the dairy herd is expected to be constrained by lower farmgate milk prices.

US domestic prices of butter and cheese increased in the first half of 2015, largely reflecting strong domestic demand for these products. The US spot price of butter increased by 21 per cent and the US spot prices of cheddar cheese increased by 12 per cent for 40-pound blocks and 11 per cent for 500-pound barrels. Increasing returns on the domestic market encouraged producers to redirect products from the world market to the domestic market. As a result, US exports of butter and cheese were 74 per cent and 12 per cent lower year-on-year, respectively.

For the second half of 2015, US imports of cheese and butter are expected to rise and exports to remain relatively low. This reflects continued strong domestic demand growth, an assumed appreciation of the US dollar and increasing competition on the world market from the European Union.

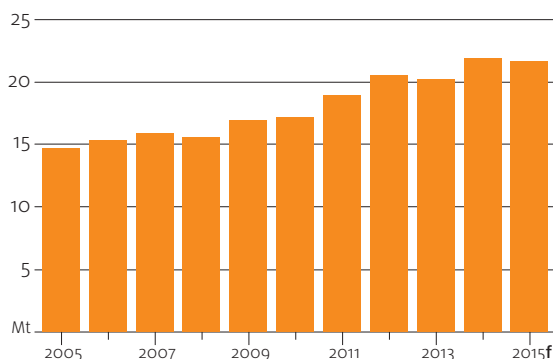
### **New Zealand**

Milk production in New Zealand is forecast to fall by 1 per cent in 2015–16 (June to May), following a 4 per cent increase in 2014–15. Farmgate milk prices in New Zealand have declined significantly as a result of falling world dairy product prices.

Assuming average seasonal conditions, the milk yield per cow in New Zealand is expected to fall in 2015–16 as relatively low farmgate milk prices discourage farmers from purchasing supplementary feed. The size of the dairy herd in New Zealand is expected to fall by around 1 per cent in 2015–16 as farmers are encouraged to cull lower-performing cows.



## New Zealand milk production



f ABARES forecast.

In the first half of 2015, New Zealand exports of whole milk powder were 8 per cent lower than in the same period a year ago, mainly because of fewer shipments to China. Partially offsetting this decline were increased shipments to alternative markets, including Algeria, Malaysia, Saudi Arabia and the United Arab Emirates. For 2015–16 as a whole, New Zealand exports of whole milk powder are forecast to decline. This largely reflects the expectation of continued weak demand from China.

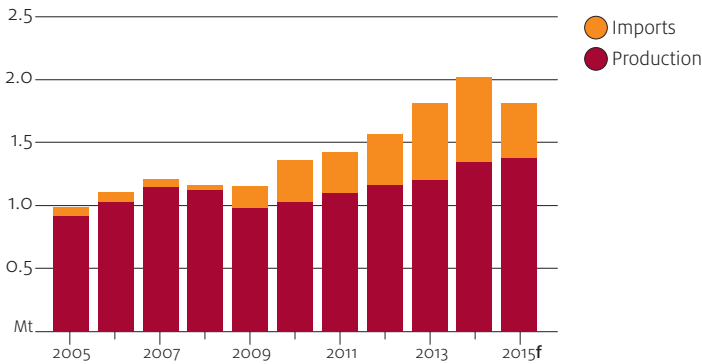
## Demand from major dairy importers subdued

World import demand for dairy products is expected to remain low in 2015–16 because of reduced demand from China and the Russian Federation, the world's two largest dairy product importers. In contrast, relatively strong growth in import demand is expected in developing economies in South-East Asia, the Middle East and North Africa.

### China

China's import demand for dairy products has fallen since mid 2014, reflecting a large build-up of milk powder stocks, a reduction in retail sales of milk products and growth in domestic milk production. In the first half of 2015, China's imports of whole milk powder and skim milk powder fell by 56 per cent and 28 per cent year-on-year, respectively. This is expected to continue for the remainder of 2015. In 2016 China's imports of dairy products are forecast to increase marginally, largely reflecting a decline in milk powder stocks. However, imports are expected to remain significantly below the record highs of 2014 as an assumed slowdown in Chinese economic growth constrains rises in retail sales of milk products.

## Chinese whole milk powder production and imports



f ABARES forecast.

China's domestic milk production is forecast to increase in 2015 as milk yields improve. The improvement in milk yields reflects continued large-scale investments in commercial dairy operations, which are more efficient than small-holder production systems. Large-scale investment is expected to grow, but an expected fall in farmgate milk prices is likely to encourage smaller producers to exit the market.

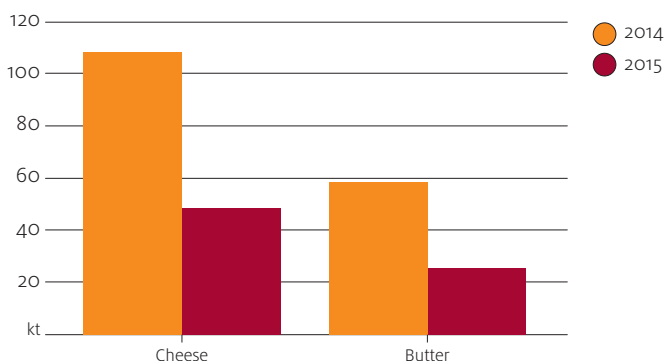
### Russian Federation

The Russian Federation's dairy imports are forecast to fall in 2015 as a result of a reduction in import demand and the ongoing trade embargo. In the first five months of 2015, imports of both cheese and butter fell by more than 50 per cent year-on-year. For the remainder of 2015, demand for dairy imports is expected to remain weak, with declining real incomes reducing the consumption of dairy products. In addition, an assumed weakening of the Russian ruble is expected to make dairy imports expensive in the domestic market.

In June 2015 the Russian Federation announced that it would extend to August 2016 the embargo on selected agricultural imports (including dairy products) from Australia, Canada, the European Union, Norway and the United States. It announced in August 2015 that it would add Albania, Iceland, Liechtenstein and Montenegro to the list of countries subject to the embargo. The trade embargo has resulted in the Russian Federation sourcing imports from alternative suppliers, including Argentina, Belarus and Uruguay.

Milk production in the Russian Federation is forecast to decline by 3 per cent in 2015 as producers reduce herds in response to lower returns. Declining domestic demand is expected to reduce farmgate milk prices. An assumed depreciation of the ruble will increase costs of importing production inputs and borrowing funds.

### Russian dairy imports, January to May



### ASEAN

Falling world prices since 2014 and continued economic growth have led to increased demand for milk powder imports in most ASEAN countries. In the first four months of 2015, Thailand imported twice as much skim milk powder as in the same period in 2014 and Malaysia imported 45 per cent more. However, imports into Indonesia (the region's largest skim milk powder importer) were 11 per cent lower, largely reflecting an accumulation of stocks. For 2015 as a whole, skim milk powder imports into the region are forecast to increase by 5 per cent to 325 000 tonnes, supported by relatively low world prices and strong demand.

### Middle East and North Africa

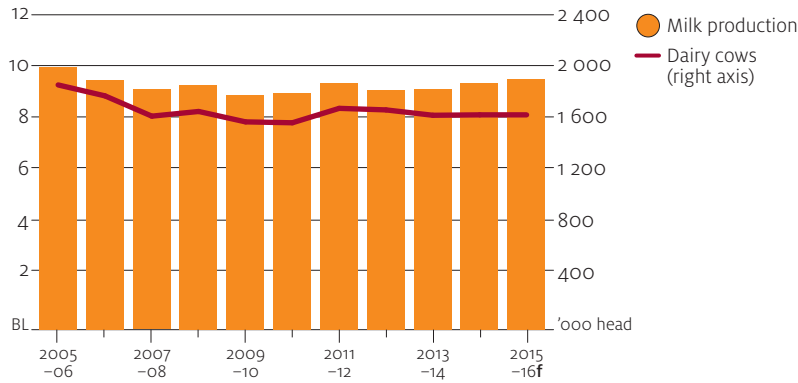
The Middle East and North Africa region is expected to increase imports of dairy products in 2015 in response to lower world prices and increasing domestic demand. In the first four months of 2015, Egypt imported 19 182 tonnes of whole milk powder—more than twice as much as in the same period in 2014. However, imports into the region are expected to grow at a slower rate than in 2014 because of accumulated stockpiles in Algeria (the region's largest importer of milk powders). In the first half of 2015, Algeria's imports of EU skim milk powder were down by more than 30 per cent, following record imports over the same period in 2014.

### Australian dairy outlook

The Australian farmgate milk price is forecast to fall by 6 per cent in 2015–16 to average around 42 cents a litre, largely reflecting forecast lower world dairy product prices. Opening prices for manufacturing milk in 2015–16 were set at around 41.7 cents a litre by the major dairy processors in Victoria. This is between 3 per cent and 7 per cent lower than opening prices in 2014–15.

Australian milk production is forecast to increase by 1 per cent in 2015–16 to 9.8 billion litres, assuming average seasonal conditions. This forecast reflects an increase in the milk yield per cow. The size of the national dairy cow herd is expected to remain largely unchanged at 1.65 million head.

## Australian milk production and dairy cows



f ABARES forecast.

## Australian exports

The total value of Australian dairy exports declined by 9 per cent in 2014–15 to \$2.5 billion. This mainly reflected the effect of lower dairy product prices on world markets.

The total value of Australian dairy exports is forecast to decline by a further 4 per cent in 2015–16 to \$2.4 billion. Forecast lower world dairy prices and increased competition in export markets are expected to more than offset the effect of an assumed depreciation of the Australian dollar.

Whole milk powder production and exports are forecast to decline in 2015–16, as a result of lower returns to manufacturers from this production stream. This follows a 27 per cent decline in Australian whole milk powder exports in 2014–15. The lower returns from whole milk powder are expected to result in dairy product manufacturers concentrating on cheese and butter–skim milk powder production. Increased production of butter is expected to meet strong domestic demand. Skim milk powder and cheese will be directed to export markets in Asia. Australian exporters are expected to face increased competition in Asian markets from the European Union because of relatively large EU supplies of dairy products available for export.

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 Outlook for dairy
 

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	unit	2013–14	2014–15 s	2015–16 f	% change
<b>Australia</b>					
Cow numbers <b>a</b>	'000	1 647	1 650	1 645	-0.3
Milk yields	L/cow	5 611	5 898	5 957	1.0
Production					
Total milk	ML	9 239	9 732	9 800	0.7
– market sales	ML	2 467	2 490	2 550	2.4
– manufacturing	ML	6 771	7 242	7 250	0.1
Butter <b>b</b>	kt	116	130	138	6.2
Cheese	kt	311	338	345	2.1
Whole milk powder	kt	126	100	90	-10.0
Skim milk powder	kt	211	230	240	4.3
Farmgate milk price	Ac/L	51	45	42	-5.8
Value of exports	A\$m	2 725	2 473	2 367	-4.3
<b>World prices</b>					
Butter	US\$/t	4 498	3 483	3 300	-5.3
Cheese	US\$/t	4 817	3 921	3 500	-10.7
Skim milk powder	US\$/t	4 513	2 592	2 300	-11.3
Whole milk powder	US\$/t	4 833	2 775	2 400	-13.5

**a** At 30 June. **b** Includes the butter equivalent of butter oil, butter concentrate, ghee and dry butterfat. **f** ABARES forecast. **s** ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Dairy Australia



# Statistical tables



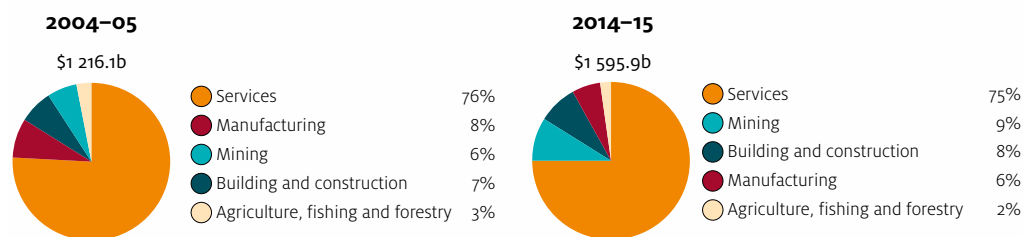
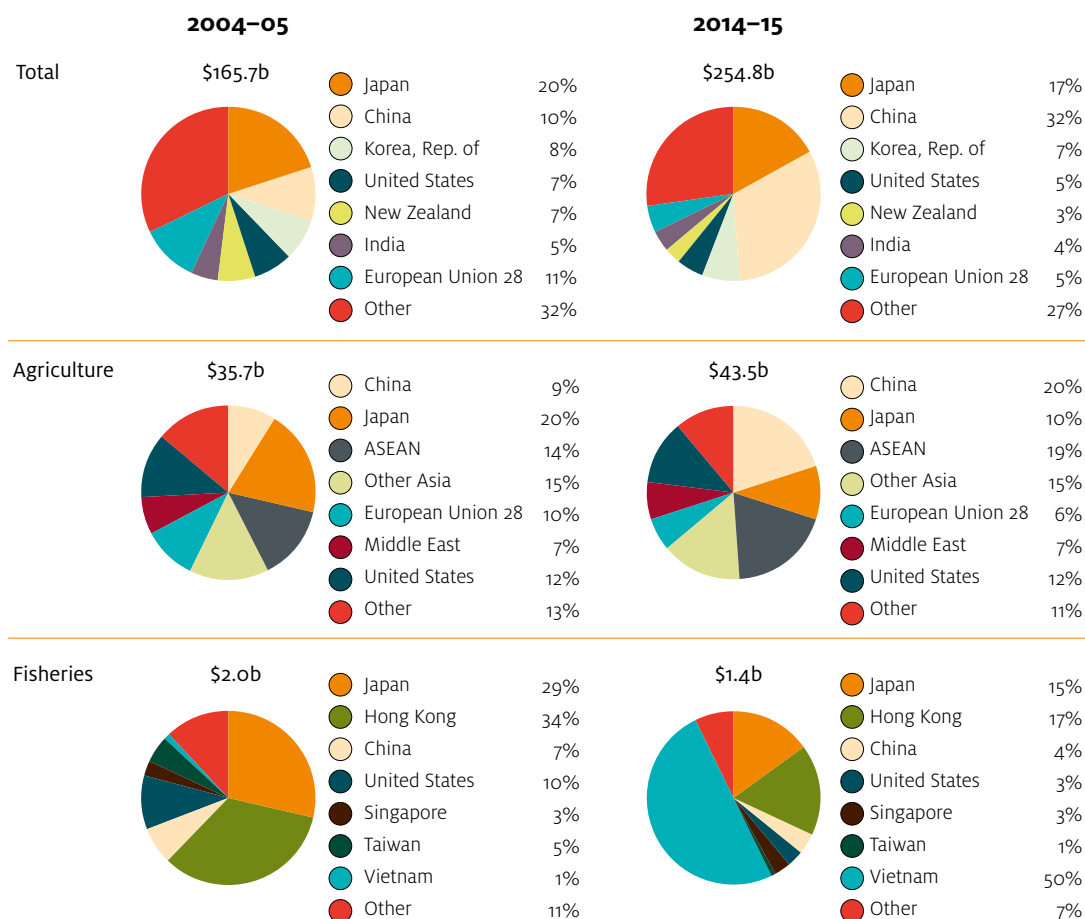
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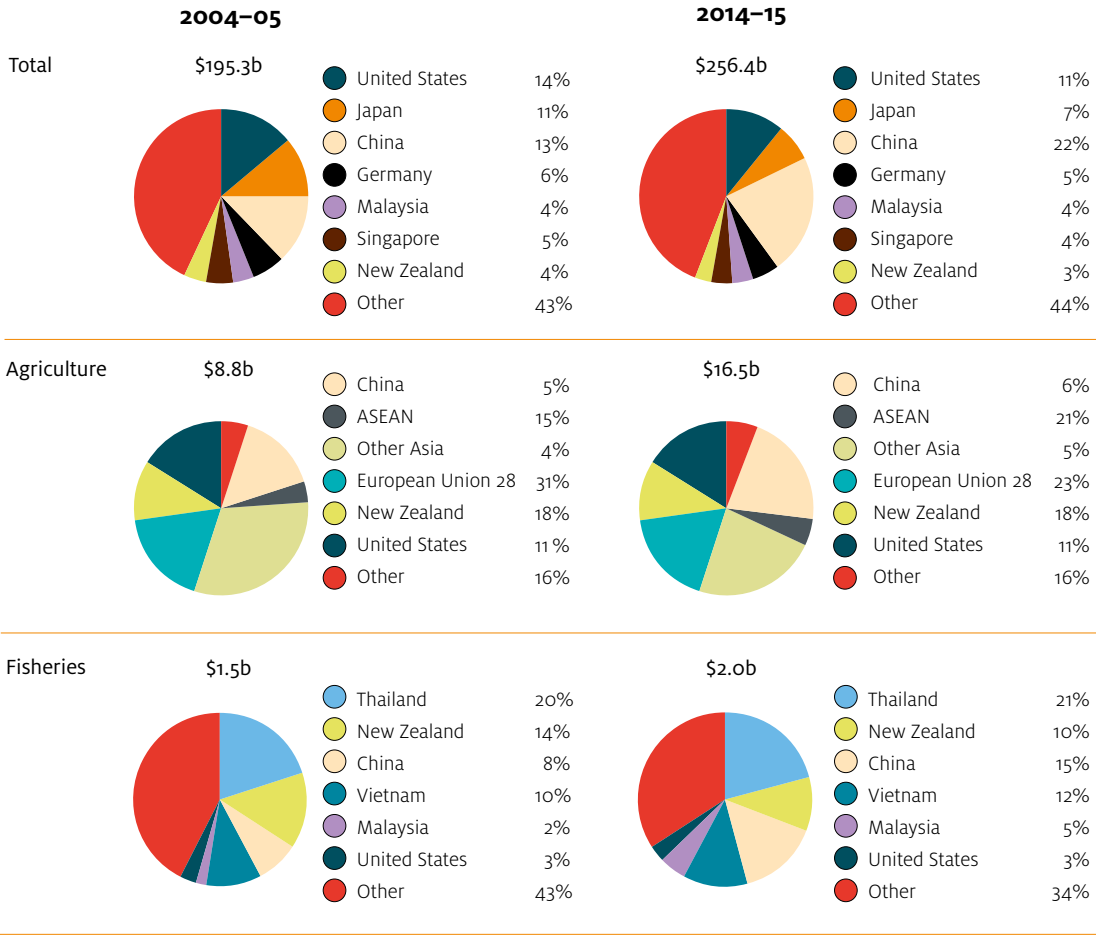
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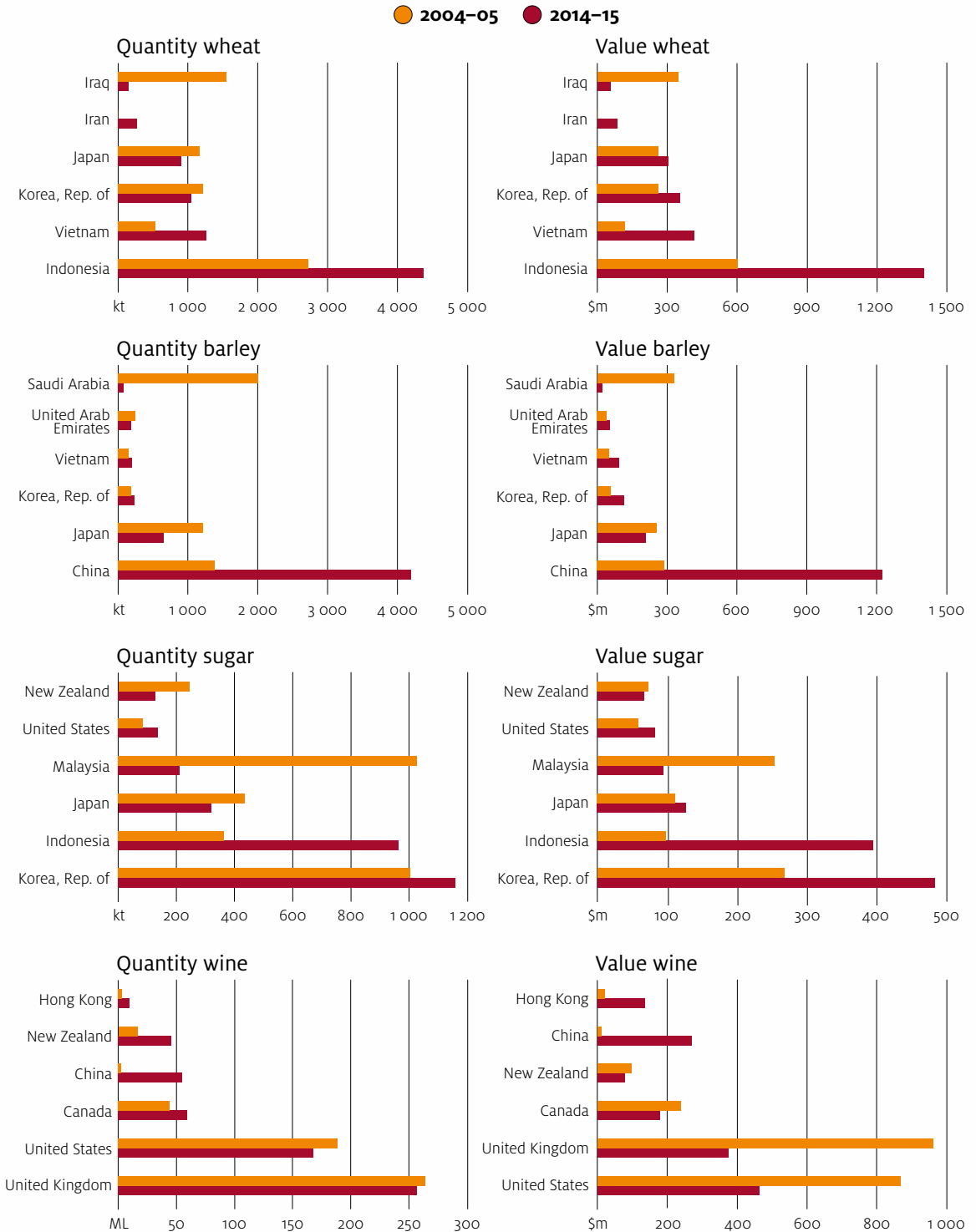


**FIGURE 1** Contribution to GDP Australia, chain volume measures, reference year 2012–13**FIGURE 2** Markets for Australian merchandise exports in 2014–15 dollars

**FIGURE 3** Sources of Australian merchandise imports in 2014–15 dollars

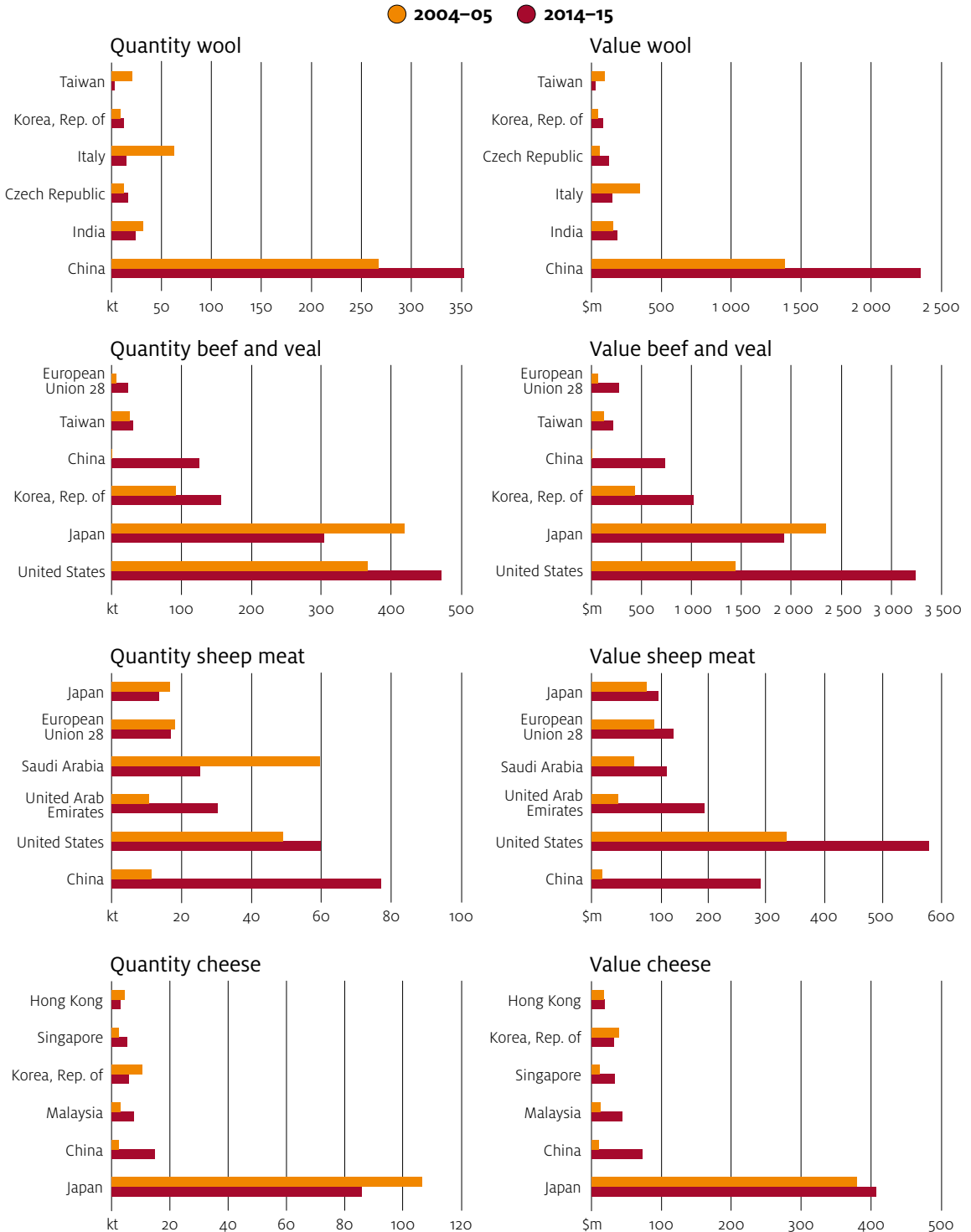


**FIGURE 4** Principal markets for Australian agricultural, forestry and fisheries exports (nominal)



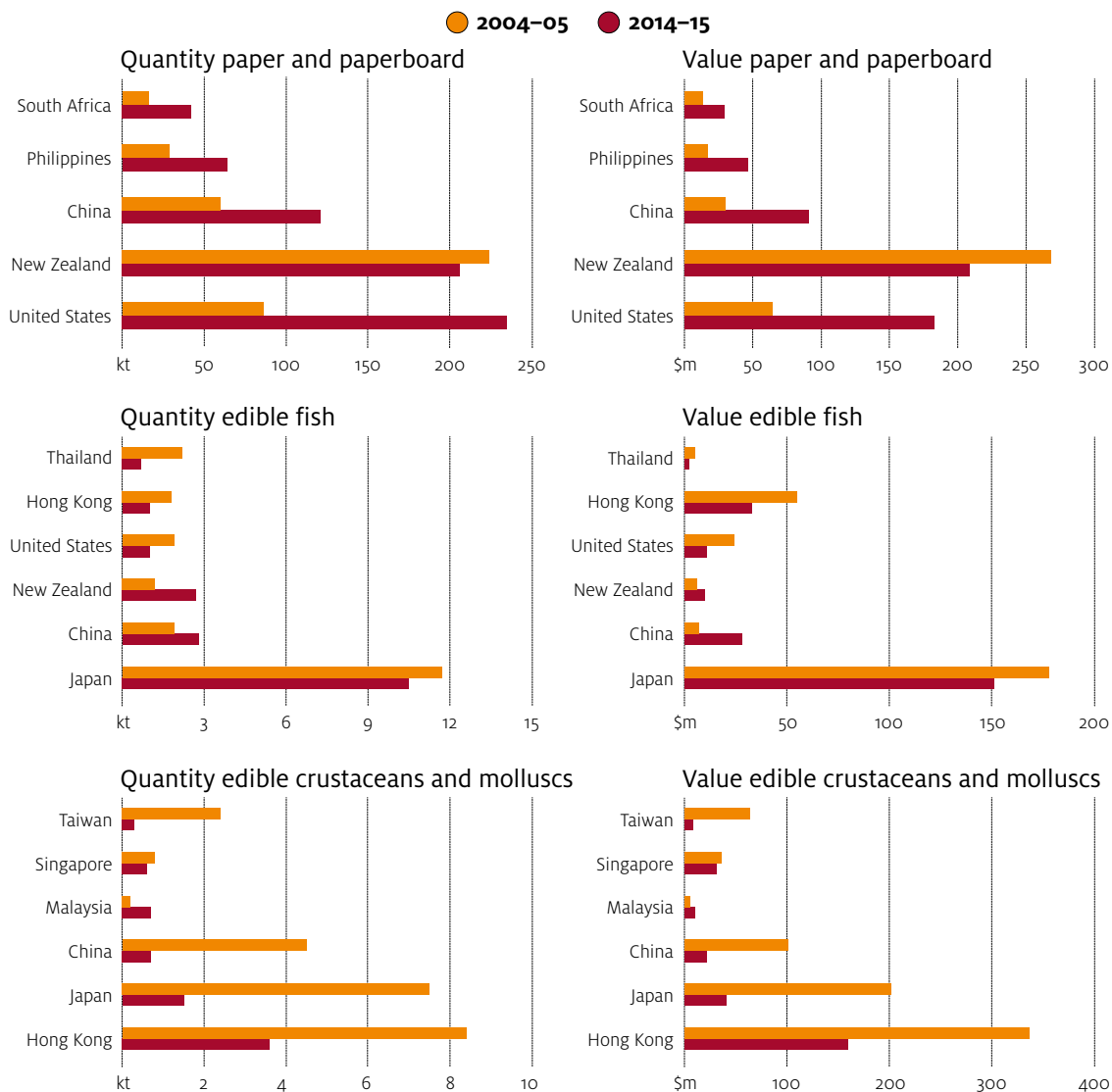
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**FIGURE 4** Principal markets for Australian agricultural, forestry and fisheries exports (nominal) continued



continued ...

**FIGURE 4** Principal markets for Australian agricultural, forestry and fisheries exports (nominal) continued



**TABLE 1** Indexes of prices received by farmers Australia

	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Crops sector</b>						
<b>Grains</b>						
Barley	135.8	131.7	173.4	167.9	186.0	198.3
Canola	141.1	133.1	142.1	132.0	122.8	135.8
Grain sorghum	125.8	111.6	148.9	177.2	181.7	165.1
Lupins	136.9	118.7	173.5	176.4	149.3	152.3
Oats	143.2	147.7	172.9	156.0	172.6	214.9
Wheat	130.1	114.6	158.3	159.8	152.4	149.1
Total grains a	126.3	115.7	147.9	147.8	147.2	149.7
Cotton	103.6	110.8	98.2	103.9	99.2	104.4
Hay	151.1	133.0	144.9	160.9	169.6	183.1
Fruit	181.8	181.4	156.5	158.8	170.4	174.3
Sugar	128.0	147.1	130.0	124.8	110.1	98.3
Vegetables	167.3	161.3	172.8	174.1	179.1	183.2
Total crops sector	121.9	117.8	129.8	130.1	130.6	132.3
<b>Livestock sector</b>						
Livestock for slaughter						
Cattle	172.6	173.3	163.3	156.3	194.1	266.3
Lambs b	255.4	250.8	182.8	201.8	225.9	251.2
Sheep	438.0	390.3	200.0	250.8	326.9	370.1
Live sheep for export	304.6	343.7	247.6	233.4	286.6	315.6
Pigs	135.7	134.5	132.5	151.7	157.3	165.8
Poultry	110.1	108.3	114.4	116.9	117.5	118.2
Total livestock for slaughter	175.6	175.0	158.6	161.2	188.3	232.4
Livestock products						
Wool	158.4	169.2	144.4	150.3	154.8	167.3
Milk	144.8	140.9	134.3	171.5	149.4	140.7
Eggs	104.2	104.2	107.4	112.7	112.9	113.0
Total livestock products	144.6	146.0	134.9	157.4	147.1	146.2
Store and breeding stock	194.0	199.5	173.8	169.3	206.8	284.8
Total livestock sector	162.9	163.4	148.6	157.5	172.2	202.6
<b>Total prices received</b>	139.5	137.2	138.4	142.3	149.2	163.8

a Total for the group includes commodities not separately listed. b Lamb saleyard indicator weight 18–22 kilograms.

f ABARES forecast. s ABARES estimate.

Note: The indexes for commodity groups are calculated on a chained weight basis using Fisher's ideal index with a reference year of 1997–98 = 100. Indexes for most individual commodities are based on annual gross unit value of production. Prices used in these calculations exclude GST.

Source: ABARES

**TABLE 2** Indexes of prices paid by farmers, and terms of trade Australia

	2010–11	2011–12	2012–13	2013–14	2014–15 <sup>s</sup>	2015–16 <sup>f</sup>
<b>Farmers' terms of trade <sup>a</sup></b>	96.3	93.2	95.3	97.9	101.8	108.4
<b>Materials and services</b>						
Seed, fodder and livestock						
Fodder and feedstuffs	121.2	115.6	127.0	125.7	133.3	140.0
Seed, seedlings and plants	120.0	116.4	128.0	130.6	131.5	134.1
Store and breeding stock	194.0	199.5	173.8	169.3	206.8	284.8
Total seed, fodder and livestock	137.8	135.1	138.0	136.3	149.9	171.7
Chemicals	110.4	112.6	110.3	113.6	114.7	120.4
Electricity	158.8	176.7	180.8	185.7	176.4	180.5
Fertiliser	157.3	165.5	157.9	153.2	154.7	159.4
Fuel and lubricants	211.3	228.2	216.8	221.1	196.8	183.0
Total	146.0	149.2	149.5	150.5	154.5	163.8
<b>Marketing</b>	144.8	154.1	153.6	159.3	153.0	151.2
<b>Overheads</b>						
Insurance	173.7	185.8	190.0	195.2	198.5	203.1
Interest paid	122.3	114.9	96.4	85.3	79.7	76.0
Rates and taxes	149.4	153.0	156.4	160.7	163.4	167.2
Other overheads	143.9	147.3	151.8	155.9	158.5	162.2
Total	133.6	129.8	117.6	110.6	107.2	105.4
<b>Capital items</b>	149.3	153.2	157.0	161.5	164.8	169.0
<b>Total prices paid</b>	144.8	147.2	145.2	145.4	146.5	151.1
Excluding capital items	144.4	146.6	144.0	143.8	144.7	149.4
Excluding capital and overheads	147.1	151.3	151.9	154.1	156.5	163.4
Excluding seed, fodder and store and breeding stock	146.2	149.7	146.6	147.3	145.6	146.6

<sup>a</sup> Ratio of index of prices received by farmers and index of prices paid by farmers. <sup>f</sup> ABARES forecast. <sup>s</sup> ABARES estimate.

Note: The indexes for commodity groups are calculated on a chained weight basis using Fisher's ideal index with a reference year of 1997–98 = 100. Prices used in these calculations exclude GST.

Sources: ABARES (compiled from various market sources); Australian Bureau of Statistics

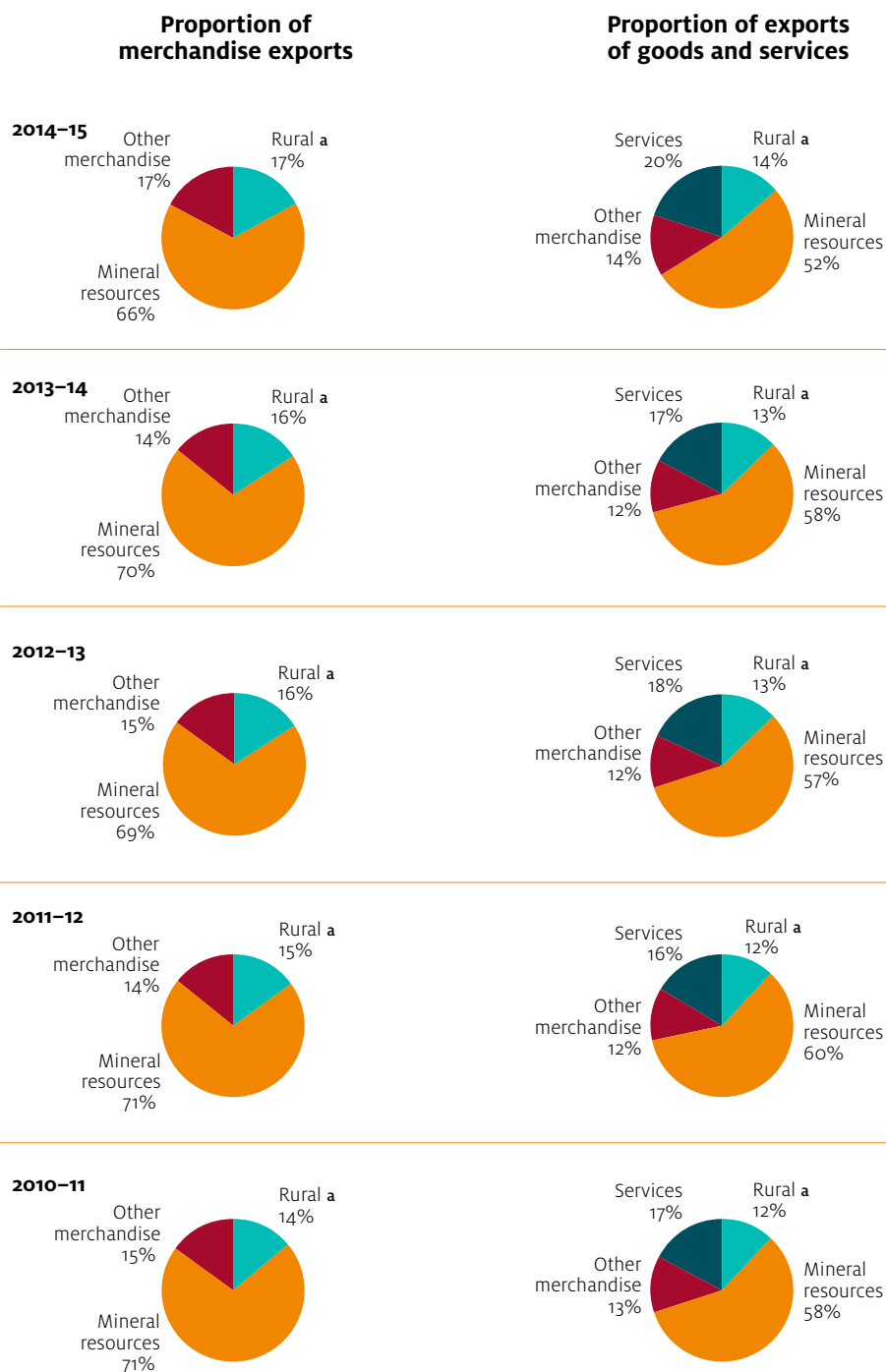
**TABLE 3** Farm costs and returns Australia

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 <sup>s</sup>	2015–16 <sup>f</sup>
<b>Costs</b>							
<b>Materials and services</b>							
Chemicals	\$m	1 462	1 471	1 370	1 461	1 490	1 563
Fertiliser	\$m	2 248	2 344	2 169	2 152	2 160	2 216
Fuel and lubricants	\$m	2 254	2 407	2 232	2 301	2 004	1 844
Marketing	\$m	3 837	3 998	3 842	4 096	4 085	4 233
Repairs and maintenance	\$m	3 659	3 878	4 106	4 488	4 785	5 362
Seed and fodder	\$m	4 213	4 131	4 616	4 636	4 926	5 250
Other	\$m	4 261	4 426	4 555	4 719	4 718	4 824
Total materials and services	\$m	21 935	22 655	22 891	23 853	24 168	25 291
<b>Labour</b>	\$m	4 145	4 174	4 301	4 410	4 306	4 367
<b>Overheads</b>							
Interest paid	\$m	5 023	4 836	4 259	3 956	3 883	3 887
Rent and third-party insurance	\$m	513	525	537	552	561	574
Total overheads	\$m	9 680	9 536	9 097	8 917	8 750	8 828
Total cash costs	\$m	31 615	32 191	31 988	32 770	32 917	34 119
Depreciation <sup>a</sup>	\$m	4 944	5 072	5 199	5 347	5 456	5 594
<b>Total farm costs</b>	\$m	36 559	37 263	37 187	38 117	38 373	39 713
<b>Returns</b>							
Gross value of farm production	\$m	46 375	47 432	48 505	51 034	52 801	57 133
<b>Net returns and production</b>							
Net value of farm production <sup>b</sup>	\$m	9 816	10 169	11 319	12 917	14 428	17 420
Real net value of farm production <sup>c</sup>	\$m	10 979	11 118	12 099	13 443	14 763	17 420
Net farm cash income <sup>d</sup>	\$m	14 759	15 241	16 517	18 264	19 884	23 014
Real net farm cash income <sup>c</sup>	\$m	16 508	16 663	17 657	19 008	20 345	23 014

<sup>a</sup> Based on estimated movements in capital expenditure and prices of capital inputs. <sup>b</sup> Gross value of farm production less total farm costs. <sup>c</sup> In 2015–16 Australian dollars. <sup>d</sup> Gross farm cash income less total cash costs. <sup>f</sup> ABARES forecast. <sup>s</sup> ABARES estimate. Note: Prices used in these calculations exclude GST.

Sources: ABARES (compiled from various market sources); Australian Bureau of Statistics



**FIGURE 5** Contribution to exports by sector, balance of payments basis Australia

**a** ABARES rural balance of payments adjusted to include farm, fisheries and forestry products classified as other merchandise by Australian Bureau of Statistics.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 4** Volume of production indexes Australia

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Farm</b>							
Grains and oilseeds	index	139.9	158.6	138.4	145.3	136.0	144.7
Total crops	index	123.3	135.1	133.0	131.7	123.3	129.0
Livestock slaughtering	index	110.4	110.2	116.1	127.6	137.0	129.2
Total livestock	index	100.6	100.7	104.7	111.4	118.2	113.1
<b>Total farm sector</b>	index	112.8	118.5	119.5	122.1	121.5	121.4
<b>Forestry a</b>							
Hardwood	index	113.9	94.1	89.0	107.9	122.1	122.8
Softwood	index	136.0	126.6	123.0	130.3	135.0	136.0
<b>Total forestry</b>	index	125.4	111.1	106.7	119.6	128.8	129.7

a Volume of logs harvested excluding firewood. f ABARES forecast. s ABARES estimate.

Note: ABARE revised the method for calculating production indexes in October 1999. The indexes for the different groups of commodities are calculated on a chained weight basis using Fisher's ideal index with a reference year of 1997–98 = 100.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 5** Industry gross value added ab Australia

	unit	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
<b>Agriculture, forestry and fishing</b>							
Agriculture	\$m	29 142	30 324	30 670	30 441	31 088	32 188
Forestry and fishing	\$m	4 277	4 290	4 419	4 426	4 275	4 375
<b>Total</b>	\$m	33 442	34 601	35 086	34 868	35 363	36 562
<b>Mining</b>	\$m	98 421	100 304	107 751	117 019	129 155	138 586
<b>Manufacturing</b>							
Food, beverage and alcohol	\$m	24 336	24 312	24 808	25 325	25 385	25 265
Textile, clothing, footwear and leather	\$m	5 878	5 667	5 436	5 372	5 537	5 549
Wood and paper products	\$m	6 917	6 508	6 003	5 988	6 092	6 393
Printing, publishing and recorded media	\$m	4 112	4 106	3 678	3 622	3 423	3 247
Petroleum, coal, chemical products	\$m	18 186	18 195	18 696	17 410	16 327	16 038
Non-metallic mineral products	\$m	6 382	6 275	5 892	5 858	5 928	6 418
Metal products	\$m	16 700	17 456	17 846	16 418	16 726	16 215
Machinery and equipment	\$m	21 237	20 804	21 765	21 545	20 202	19 386
<b>Total manufacturing</b>	\$m	103 573	103 356	104 201	101 538	99 619	98 511
<b>Building and construction</b>	\$m	102 602	105 490	117 227	119 723	124 266	123 096
<b>Electricity, gas and water supply</b>	\$m	41 782	42 926	43 197	43 481	42 227	42 731
<b>Taxes less subsidies on products</b>	\$m	92 201	94 767	96 363	97 471	97 393	97 886
Statistical discrepancy	\$m	0	0	-1	0	1 421	3 826
<b>Gross domestic product</b>	\$m	1 397 903	1 430 354	1 483 675	1 520 944	1 558 365	1 595 851

a Chain volume measures, reference year is 2012–13. b ANZSIC 2006.

Note: Zero is used to denote nil or less than \$0.5 million.

Source: Australian Bureau of Statistics, *Australian national accounts: national income, expenditure and product*, cat. no. 5206.0, Canberra

**TABLE 6** Employment <sup>ab</sup> Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	'000	'000	'000	'000	'000	'000
<b>Agriculture, forestry and fishing</b>						
Agriculture	308	294	277	261	270	276
Forestry and logging	7	5	8	6	6	5
Commercial fishing <sup>c</sup>	12	12	11	9	9	14
Support services	25	26	25	25	27	23
<b>Total</b>	<b>351</b>	<b>337</b>	<b>321</b>	<b>301</b>	<b>312</b>	<b>319</b>
<b>Mining</b>	<b>171</b>	<b>203</b>	<b>247</b>	<b>265</b>	<b>267</b>	<b>228</b>
<b>Manufacturing</b>						
Food, beverage and tobacco product	220	220	219	215	223	229
Textiles, clothing, footwear and leather	46	44	39	40	37	37
Wood and paper product	63	56	54	52	62	56
Printing, publishing and recorded media	52	55	41	47	41	43
Petroleum, coal and chemical product	87	84	88	90	85	91
Non-metallic mineral product	36	36	37	35	35	29
Metal product	143	143	144	127	138	127
Other manufacturing	339	332	318	328	308	304
<b>Total manufacturing</b>	<b>987</b>	<b>970</b>	<b>938</b>	<b>934</b>	<b>928</b>	<b>917</b>
<b>Other industries</b>	<b>9 336</b>	<b>9 605</b>	<b>9 744</b>	<b>9 886</b>	<b>9 962</b>	<b>10 236</b>
<b>Total</b>	<b>10 846</b>	<b>11 115</b>	<b>11 249</b>	<b>11 386</b>	<b>11 469</b>	<b>11 700</b>

<sup>a</sup> Average employment over four quarters. <sup>b</sup> ANZSIC 2006. <sup>c</sup> Includes aquaculture, fishing, hunting and trapping.

Note: Australian Bureau of Statistics advises caution using employment statistics at the ANZSIC subdivision and group levels because estimates may be subject to sampling variability and standard errors too high for most practical purposes.

Source: Australian Bureau of Statistics, *Labour force, Australia*, cat. no. 6291.0.55.003, Canberra

**TABLE 7** All banks lending to business <sup>a</sup> Australia

	2012–13		2013–14			2014–15		
	Jun \$b	Sep \$b	Dec \$b	Mar \$b	Jun \$b	Sep \$b	Dec \$b	Mar \$b
Agriculture, forestry and fishing	60.7	60.0	58.3	58.5	60.7	62.1	60.9	61.3
Mining	21.0	24.1	28.2	29.1	31.4	34.1	37.0	36.5
Manufacturing	39.6	38.7	38.1	41.9	43.2	39.8	40.0	42.8
Construction	27.5	27.8	27.7	28.4	28.5	28.6	29.0	30.4
Wholesale and retail trade, transport and storage	103.0	104.1	104.7	106.9	103.4	104.6	107.5	109.0
Finance and insurance	107.2	112.3	122.8	124.8	131.2	135.0	133.2	132.8
Other	351.3	352.8	354.5	357.8	371.0	377.4	381.6	392.1
<b>Total</b>	<b>710.4</b>	<b>719.8</b>	<b>734.4</b>	<b>747.2</b>	<b>769.5</b>	<b>781.6</b>	<b>789.2</b>	<b>804.7</b>

<sup>a</sup> Includes variable and fixed interest rate loans outstanding plus bank bills outstanding.

Source: Reserve Bank of Australia, *Bank lending to business—selected statistics*, Bulletin Statistical Table D8

**TABLE 8** Rural indebtedness to financial institutions Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Rural debt</b>						
All banks <b>a</b>	58 097	60 184	59 749	60 657	60 733	na
Other government agencies <b>b</b>	1 811	1 871	2 076	2 236	2 360	na
Pastoral and other						
finance companies	2 029	2 010	1 801	1 569	1 486	na
Large finance institutional debt <b>c</b>	61 937	64 065	63 626	64 461	64 579	na
<b>Deposits</b>						
Farm management deposits	2 784	3 216	3 532	3 721	4 139	4 604

**a** Derived from all banks lending to agriculture, fishing and forestry. **b** Includes the government agency business of state banks and advances made under War Service Land Settlement. **c** Sum of rural debt.

Sources: ABARES; Department of Agriculture, Canberra; Reserve Bank of Australia, *Estimated rural debt to specified lenders*, Bulletin Statistical Table D9

**TABLE 9** Annual world indicator prices of selected commodities

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 <b>s</b>	2015–16 <b>f</b>
<b>World</b>							
<b>Crops</b>							
Wheat <b>a</b>	US\$/t	317	299	348	317	266	215
Corn <b>b</b>	US\$/t	254	281	312	219	174	165
Rice <b>c</b>	US\$/t	518	590	565	429	419	399
Soybeans <b>d</b>	US\$/t	493	506	597	547	418	380
Cotton <b>e</b>	USc/lb	164	100	88	91	71	70
Sugar <b>g</b>	USc/lb	28	23	18	17	14	10
<b>Livestock products</b>							
Beef <b>h</b>	USc/kg	391	433	439	439	552	511
Wool <b>i</b>	Ac/kg	1 132	1 203	1 035	1 071	1 105	1 200
Butter <b>j</b>	US\$/t	4 683	3 883	3 727	4 498	3 483	3 300
Cheese <b>j</b>	US\$/t	4 221	4 258	4 150	4 817	3 921	3 500
Skim milk powder <b>j</b>	US\$/t	3 392	3 233	3 731	4 513	2 592	2 300

**a** US no. 2 hard red winter wheat, fob Gulf. **b** US no. 2 yellow corn, fob Gulf. **c** USDA nominal quote for Thai white rice, 100 per cent, Grade B, fob, Bangkok (August–July basis). **d** US no. soybeans, fob Gulf. **e** Cotlook 'A' index.

**f** ABARES forecast. **g** Nearby futures price (October–September basis), Intercontinental Exchange, New York no. 11 contract. **h** Cow 90CL US cif price. **i** Australian Wool Exchange eastern market indicator. **j** Average of traded prices (excluding subsidised sales). **s** ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Australian Wool Exchange; Cotlook Ltd; Dairy Australia; Intercontinental Exchange; International Grains Council; Meat & Livestock Australia; New York Board of Trade; United States Department of Agriculture

**TABLE 10** Gross unit values of farm products <sup>a</sup>

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 <sup>s</sup>	2015–16 <sup>f</sup>
<b>Crops <sup>b</sup></b>							
<b>Grains</b>							
Barley	\$/t	216	210	276	267	296	316
Corn (maize)	\$/t	259	251	238	297	291	291
Grain sorghum	\$/t	213	189	252	300	307	279
Oats	\$/t	196	202	236	213	236	294
Rice	\$/t	240	270	260	340	412	442
Triticale	\$/t	184	176	249	258	242	244
Wheat	\$/t	257	227	313	316	301	295
<b>Oilseeds</b>							
Canola	\$/t	544	513	548	509	473	524
Soybeans <sup>c</sup>	\$/t	501	472	442	483	507	533
Sunflower seed <sup>c</sup>	\$/t	567	551	570	660	656	676
<b>Pulses</b>							
Chickpeas	\$/t	404	457	394	352	577	588
Field peas	\$/t	266	295	406	419	413	421
Lupins	\$/t	268	232	340	345	292	298
<b>Industrial crops</b>							
Cotton lint <sup>d</sup>	c/kg	377	225	199	229	199	228
Sugar cane (cut for crushing)	\$/t	38	43	41	40	36	33
Wine grapes	\$/t	413	458	499	441	463	470
<b>Livestock</b>							
Beef cattle	c/kg	336	337	318	304	378	518
Lambs	c/kg	519	509	371	410	459	510
Pigs	c/kg	269	266	262	300	312	328
Poultry	c/kg	197	194	205	209	211	212
<b>Livestock products</b>							
Wool	c/kg	623	666	568	591	609	658
Milk	c/L	43	42	40	51	45	42

<sup>a</sup> Average gross unit value across all grades in principal markets, unless otherwise indicated. Includes the cost of containers, commission and other expenses incurred in getting the commodities to their principal markets. These expenses are significant. <sup>b</sup> Average unit gross value relates to returns received from crops harvested in that year, regardless of when sales take place, unless otherwise indicated. <sup>c</sup> Price paid by crusher. <sup>d</sup> Australian base price for sales in the financial year indicated. <sup>f</sup> ABARES forecast. <sup>s</sup> ABARES estimate.

Note: Prices used in these calculations exclude GST.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 11** World production, consumption, stocks and trade for selected commodities a

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Farm</b>							
<b>Grains</b>							
Wheat							
production	Mt	653	695	655	714	723	723
consumption	Mt	657	697	676	694	706	715
closing stocks	Mt	193	192	171	192	209	217
exports bc	Mt	126	145	141	160	158	152
Coarse grains							
production	Mt	1 097	1 151	1 131	1 281	1 295	1 277
consumption	Mt	1 129	1 137	1 142	1 230	1 261	1 279
closing stocks	Mt	166	165	169	210	244	242
exports b	Mt	116	147	118	164	172	168
Rice							
production d	Mt	450	467	473	478	480	475
consumption d	Mt	445	459	469	479	485	488
closing stocks d	Mt	101	109	113	112	106	93
exports be	Mt	36	39	38	43	43	40
<b>Oilseeds and vegetable oils</b>							
Oilseeds							
production	Mt	461	448	476	506	537	523
consumption	Mt	446	467	470	492	510	518
closing stocks	Mt	86	67	68	78	103	109
exports	Mt	108	111	118	134	139	141
Vegetable oils							
production	Mt	149	158	161	171	175	180
consumption	Mt	146	152	158	166	173	180
closing stocks	Mt	16	18	18	19	19	18
exports	Mt	61	65	68	70	71	74
Vegetable protein meals							
production	Mt	257	267	269	282	294	301
consumption	Mt	251	263	264	277	289	299
closing stocks	Mt	11	13	11	13	13	15
exports	Mt	77	80	78	82	86	88
<b>Industrial crops</b>							
Cotton							
production	Mt	26	28	27	26	26	24
consumption	Mt	25	23	23	24	24	25
closing stocks	Mt	11	16	20	22	24	23
exports	Mt	8	10	10	9	8	8
Sugar							
production	Mt	166	175	185	183	183	182
consumption	Mt	164	169	176	179	181	185
closing stocks	Mt	59	65	74	78	81	78
exports	Mt	55	56	61	58	59	61

continued ...

**TABLE 11** World production, consumption, stocks and trade for selected commodities <sup>a</sup> continued

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 <sup>s</sup>	2015–16 <sup>f</sup>
<b>Livestock products</b>							
<b>Meat egh</b>							
production	Mt	262	268	272	276	271	273
consumption	Mt	258	263	268	271	266	272
closing stocks	Mt	2.3	3.0	3.0	3.1	2.6	2.7
exports <sup>b</sup>	Mt	26.1	27.2	28.2	29.1	28.5	29.4
<b>Wool i</b>							
production	kt	1 117	1 133	1 159	1 131	1 132	1 132
consumption <sup>ej</sup>	kt	1 130	1 110	1 105	1 127	1 130	na
closing stocks <sup>k</sup>	kt	45	24	25	35	35	na
exports <sup>l</sup>	kt	502	447	485	496	490	na
<b>Butter eh</b>							
production	kt	8 584	8 914	9 150	9 529	9 693	na
consumption	kt	8 105	8 431	8 667	8 961	9 167	na
closing stocks	kt	213	247	231	256	260	na
exports	kt	724	762	815	873	825	na
<b>Skim milk powder ehm</b>							
production	kt	3 675	3 983	3 955	4 380	4 495	na
consumption	kt	3 192	3 447	3 483	3 607	3 672	na
closing stocks	kt	452	431	386	451	408	na
exports	kt	1 529	1 627	1 663	1 878	1 976	na

<sup>a</sup> Some figures are not based on precise or complete analyses. <sup>b</sup> Excludes intra-EU trade. <sup>c</sup> Includes the grain equivalent of wheat flour. <sup>d</sup> Milled equivalent. <sup>e</sup> On a calendar year basis, e.g. 2011–12 = 2012. <sup>f</sup> ABARES forecast. <sup>g</sup> Beef and veal, mutton, lamb, goat, pig and poultry meat. <sup>h</sup> Selected countries. <sup>i</sup> Clean equivalent. <sup>j</sup> Virgin wool at the spinning stage in 65 countries. <sup>k</sup> Held by marketing bodies and on-farm in five major exporting countries. <sup>l</sup> Five major exporting countries. <sup>m</sup> Non-fat dry milk. <sup>s</sup> ABARES estimate. <sup>na</sup> Not available.

Sources: ABARES; Argentine Wool Federation; Australian Bureau of Statistics; Capewools South Africa; Commonwealth Secretariat; Department of Agriculture, Canberra; Economic Commission for Europe; Fearnleys; Food and Agriculture Organization; International Grains Council; International Sugar Organization; International Wool Textile Organisation; ISTA Mielke and Co; Ministry of Agriculture, Forestry and Fisheries (Japan); New Zealand Wool Board; Poimena Analysis, Melbourne; United States Department of Agriculture; Uruguayan Association of Wool Exporters

**TABLE 12** Agricultural, fisheries and forestry commodity production Australia

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Crops</b>							
<b>Grains</b>							
Barley	kt	7 995	8 221	7 472	9 174	8 014	8 623
Corn (maize)	kt	357	451	506	390	389	406
Grain sorghum	kt	1 935	2 239	2 229	1 282	2 104	2 029
Oats	kt	1 128	1 262	1 121	1 255	1 087	1 409
Rice	kt	723	919	1 161	819	724	655
Triticale	kt	355	285	171	126	225	181
Wheat	kt	27 410	29 905	22 855	25 303	23 666	25 284
<b>Oilseeds</b>							
Canola	kt	2 359	3 427	4 142	3 832	3 464	3 149
Cottonseed	kt	1 269	1 732	1 439	1 252	636	665
Soybeans	kt	30	86	91	62	54	63
Sunflower seed	kt	43	47	44	31	30	29
Other oilseeds a	kt	33	35	35	31	31	31
<b>Pulses</b>							
Chickpeas	kt	513	673	813	629	555	990
Field peas	kt	395	342	320	342	290	288
Lupins	kt	808	982	459	626	549	735
<b>Total grains, oilseeds and pulses b</b>	kt	46 127	51 212	43 461	45 774	42 383	45 318
<b>Industrial crops</b>							
Cotton lint	kt	926	1 225	1 017	885	450	470
Sugar cane (cut for crushing)	kt	27 443	27 943	30 400	30 500	32 100	33 101
Sugar (tonnes actual)	kt	3 610	3 683	4 300	4 380	4 700	5 001
Wine grapes	kt	1 598	1 582	1 642	1 438	1 543	1 566
<b>Horticulture</b>							
<b>Fruit</b>							
Apples	kt	300	289	289	267	275	280
Bananas	kt	203	286	330	254	265	290
Oranges	kt	291	390	401	350	380	400
<b>Vegetables</b>							
Carrots	kt	225	319	272	243	297	304
Onions	kt	331	347	302	256	240	245
Potatoes	kt	1 128	1 288	1 273	1 171	1 229	1 225
Tomatoes	kt	302	372	456	326	400	380
<b>Livestock</b>							
<b>Slaughterings</b>							
Cattle and calves	'000	8 097	7 873	8 457	9 473	10 103	9 200
Lambs	'000	17 880	18 879	21 122	21 899	22 867	22 000
Sheep	'000	5 341	5 175	8 192	10 066	9 022	8 000
Pigs	'000	4 643	4 733	4 745	4 778	4 924	5 080
<b>Live exports</b>							
Cattle exported live c	'000	805	683	634	1 133	1 379	1 200
Sheep exported live d	'000	2 916	2 562	2 000	2 020	2 180	2 110
<b>Meat produced</b>							
Beef and veal e	kt	2 133	2 115	2 245	2 464	2 662	2 443
Lamb e	kt	391	419	457	474	507	498
Mutton e	kt	123	120	183	228	214	191
Chicken meat e	kt	1 015	1 030	1 046	1 084	1 116	1 155
Pig meat	kt	342	351	356	360	371	384
<b>Total</b>	kt	4 005	4 034	4 287	4 610	4 869	4 672

continued ...



**TABLE 12** Agricultural, fisheries and forestry commodity production Australia continued

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Livestock products</b>							
Wool g	kt	429	411	435	428	428	408
Milk h	ML	9 100	9 480	9 201	9 239	9 732	9 800
Butter i	kt	122	120	118	116	130	138
Cheese	kt	339	347	338	311	338	345
Casein	kt	5	5	5	4	1	1
Skim milk powder	kt	222	230	224	211	230	240
Whole milk powder	kt	151	140	109	126	100	90
Buttermilk powder	kt	12	11	11	11	11	11
<b>Forestry products j</b>							
Hardwood	'000 m <sup>3</sup>	11 551	9 548	9 029	10 940	12 383	12 455
Softwood	'000 m <sup>3</sup>	14 981	13 949	13 551	14 358	14 869	14 983
Total	'000 m <sup>3</sup>	26 532	23 497	22 580	25 298	27 252	27 438
<b>Fisheries k</b>							
Tuna	kt	9.1	10.1	11.4	11.4	13.1	11.9
Salmonids l	kt	36.8	44.2	43.0	41.8	48.4	52.8
Other fish	kt	112.9	113.1	105.6	110.5	109.7	108.6
Prawns	kt	27.2	22.5	21.1	24.9	23.9	25.0
Rock lobster m	kt	9.9	9.1	10.5	10.3	10.1	10.4
Abalone n	kt	5.2	5.1	5.0	4.8	4.9	4.6
Scallops	kt	7.0	3.6	6.8	4.9	5.9	6.1
Oysters	kt	13.9	12.6	12.5	11.5	11.7	12.1
Other molluscs	kt	6.6	7.9	7.9	7.2	7.4	7.6
Other crustaceans	kt	6.3	5.5	5.2	5.6	5.4	5.4

a Linseed, safflower seed and peanuts. b Total includes components not listed separately. c Includes all bovine for feeder/slaughter, breeding and dairy purposes. d Includes animals for breeding. e In carcass weight and includes carcass equivalent of canned meats. f ABARES forecast. g Greasy equivalent of shorn wool (includes crutching), dead and fellmongered wool and wool exported on skins. h Includes the whole milk equivalent of farm cream intake. i Includes the butter equivalent of butter oil, butter concentrate, ghee and dry butterfat. j Excludes logs harvested for firewood. k Liveweight. l Includes salmon and trout production. m Includes Queensland bugs. n Excludes Victorian aquaculture production for 2009–10 and 2010–11. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Australian Fisheries Management Authority; Dairy Australia; Department of Fisheries, Western Australia; Department of Primary Industries, Parks, Water and Environment, Tasmania; Fisheries Queensland, Department of Agriculture, Fisheries and Forestry; Fisheries Victoria, Department of Primary Industries; Industry & Investment New South Wales; Northern Territory Department of Regional Development, Primary Industry, Fisheries and Resources; Primary Industries and Regions, Fisheries, South Australia; Pulse Australia; Raw Cotton Marketing Advisory Committee; South Australian Research and Development Institute; state and territory forest services; various Australian forestry industries

**TABLE 13** Gross value of farm, fisheries and forestry production Australia

	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Crops</b>						
<b>Grains</b>						
Barley	1 729	1 723	2 063	2 453	2 373	2 723
Corn (maize)	92	113	120	116	113	118
Grain sorghum	412	423	562	384	647	567
Oats	221	255	265	268	256	414
Rice	174	248	302	279	298	290
Triticale	65	50	43	32	55	44
Wheat	7 052	6 775	7 154	7 998	7 130	7 452
<b>Oilseeds</b>						
Canola	1 283	1 759	2 270	1 950	1 640	1 649
Soybeans	15	41	40	30	27	34
Sunflower seed	24	26	25	20	20	19
Other oilseeds a	30	33	27	21	24	24
<b>Pulses</b>						
Chickpeas	207	308	320	222	320	582
Field peas	105	101	130	143	120	121
Lupins	216	228	156	216	160	219
<b>Total grains, oilseeds and pulses</b>	<b>12 138</b>	<b>12 485</b>	<b>13 924</b>	<b>14 633</b>	<b>13 716</b>	<b>14 723</b>
<b>Industrial crops</b>						
Cotton lint and cottonseed b	2 087	2 954	2 174	2 002	972	1 068
Sugar cane (cut for crushing)	1 036	1 214	1 253	1 225	1 160	1 102
Wine grapes	712	725	858	672	714	736
<b>Total industrial crops</b>	<b>3 834</b>	<b>4 893</b>	<b>4 284</b>	<b>3 899</b>	<b>2 846</b>	<b>2 906</b>
<b>Horticulture</b>						
Table and dried grapes	302	316	303	331	295	338
Fruit and nuts (excl. grapes)	3 013	3 050	3 662	3 187	3 435	3 607
Vegetables	3 338	3 339	3 770	3 510	3 755	3 905
Other horticulture	1 606	1 272	1 285	1 247	1 245	1 259
<b>Total horticulture</b>	<b>8 259</b>	<b>7 976</b>	<b>9 020</b>	<b>8 274</b>	<b>8 730</b>	<b>9 108</b>
Other crops nei c	1 105	898	1 165	1 405	1 345	1 345
<b>Total crops</b>	<b>25 336</b>	<b>26 251</b>	<b>28 393</b>	<b>28 211</b>	<b>26 637</b>	<b>28 082</b>

continued ...

**TABLE 13** Gross value of farm, fisheries and forestry production Australia continued

	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Livestock</b>						
<b>Slaughterings</b>						
Cattle and calves d	7 164	7 134	7 136	7 495	10 056	12 661
Sheep e	484	419	329	513	629	635
Lambs eg	2 029	2 136	1 696	1 943	2 324	2 540
Pigs	919	934	934	1 081	1 156	1 262
Poultry	2 077	2 078	2 214	2 344	2 430	2 530
<b>Live exports</b>						
Cattle exported live h	660	651	589	1 049	1 356	1 312
Sheep exported live i	348	345	194	185	245	261
Total livestock j	13 795	13 797	13 212	14 765	18 396	21 410
<b>Livestock products</b>						
Wool k	2 673	2 734	2 472	2 530	2 608	2 688
Milk l	3 932	3 986	3 687	4 729	4 340	4 116
Eggs	572	583	653	710	720	730
Honey and beeswax	66	79	88	88	101	107
<b>Total livestock products</b>	<b>7 243</b>	<b>7 383</b>	<b>6 900</b>	<b>8 057</b>	<b>7 769</b>	<b>7 640</b>
<b>Total farm</b>	<b>46 375</b>	<b>47 432</b>	<b>48 505</b>	<b>51 034</b>	<b>52 801</b>	<b>57 133</b>
<b>Forestry products m</b>						
Hardwood	896	745	680	819	929	945
Softwood	959	879	836	970	1 014	1 031
Total	1 856	1 624	1 516	1 789	1 944	1 976
<b>Fisheries products n</b>						
Tuna	139	172	177	148	160	160
Salmonids o	427	514	497	543	623	654
Other fish q	432	456	441	466	438	437
Prawns	308	266	277	337	357	378
Rock lobster r	392	394	451	581	660	754
Abalone t	178	170	178	165	162	167
Scallops	22	8	15	9	14	15
Oysters	97	90	95	91	94	95
Pearls u	120	102	79	73	92	96
Other molluscs v	32	33	59	42	40	42
Other crustaceans	66	67	64	70	67	68
<b>Total fish</b>	<b>2 248</b>	<b>2 305</b>	<b>2 369</b>	<b>2 559</b>	<b>2 743</b>	<b>2 901</b>

a Linseed, safflower seed and peanuts. b Value delivered to gin. c Mainly fodder crops. d Includes dairy cattle slaughtered. e Excludes skin values. f ABARES forecast. g Lamb saleyard indicator weight 18–22 kilograms. h Includes all bovine for feeder/slaughter, breeding and dairy purposes. i Includes animals exported for breeding purposes. j Total livestock slaughterings includes livestock disposals. k Shorn, dead and fellmongered wool and wool exported on skins. l Milk intake by factories and valued at the farm gate. m Excludes logs harvested for firewood. n Value to fishers of product landed in Australia. o Includes salmon and trout production. q Includes an estimated value of aquaculture. r Includes Queensland bugs. s ABARES estimate. t Excludes Victorian aquaculture production for 2009–10 and 2010–11. u Northern Territory aquaculture production not included in 2012–13 due to confidentiality. v Also includes fish and aquaculture values not elsewhere included. nei Not elsewhere included. Note: The gross value of production is the value placed on recorded production at the wholesale prices realised in the marketplace. The point of measurement can vary between commodities. Generally the marketplace is the metropolitan market in each state and territory. However, where commodities are consumed locally or where they become raw material for a secondary industry, these points are presumed to be the marketplace. Prices used in these calculations exclude GST.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 14** Crop and forestry areas and livestock numbers Australia

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Crop areas</b>							
<b>Grains</b>							
Barley	'000 ha	3 681	3 718	3 644	3 814	3 836	3 996
Corn (maize)	'000 ha	62	70	78	52	67	66
Grain sorghum	'000 ha	633	659	647	532	651	651
Oats	'000 ha	826	731	729	715	683	808
Rice	'000 ha	76	103	113	75	71	66
Triticale	'000 ha	187	145	99	80	126	106
Wheat	'000 ha	13 502	13 902	12 979	12 613	13 810	13 793
<b>Oilseeds</b>							
Canola	'000 ha	2 078	2 461	3 272	2 721	2 712	2 347
Soybeans	'000 ha	17	38	41	31	27	31
Sunflower seed	'000 ha	37	40	30	26	24	23
Other oilseeds a	'000 ha	19	18	17	16	16	16
<b>Pulses</b>							
Chickpeas	'000 ha	653	456	574	508	425	662
Field peas	'000 ha	318	249	281	245	237	235
Lupins	'000 ha	756	689	450	387	443	487
<b>Total grains, oilseeds and pulses b</b>	'000 ha	23 946	24 295	23 838	22 598	23 756	24 050
<b>Industrial crops</b>							
Cotton	'000 ha	590	600	443	392	202	214
Sugar cane c	'000 ha	314	368	371	375	381	393
Winegrapes d	'000 ha	154	145	133	127	133	135
<b>Livestock numbers e</b>							
Beef cattle	million	25.94	25.69	26.46	26.30	24.17	23.66
Dairy cattle	million	2.57	2.73	2.83	2.81	2.85	2.86
Milking herd g	million	1.59	1.70	1.69	1.65	1.65	1.65
Total cattle	million	28.51	28.42	29.29	29.10	27.02	26.52
Sheep	million	73.10	74.72	75.55	72.61	71.29	71.82
Pigs	million	2.29	2.14	2.10	2.31	2.37	2.44
<b>Forestry plantation area</b>							
Hardwood	'000 ha	980	977	976	963	na	na
Softwood	'000 ha	1 025	1 024	1 024	1 024	na	na
<b>Total plantation area h</b>	'000 ha	2 017	2 013	2 013	2 000	na	na

a Linseed and safflower seed. b Total includes components not listed separately. c Cut for crushing. d This figure is for grapes for wine only. e At 30 June. f ABARES forecast. g Cows in milk and dry. h Includes areas where plantation type is unknown.

s ABARES estimate. na Not available.

Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

**TABLE 15** Average farm yields Australia

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Crops</b>							
<b>Grains</b>							
Barley	t/ha	2.17	2.21	2.05	2.41	2.09	2.16
Corn (maize)	t/ha	5.74	6.47	6.49	7.46	5.77	6.14
Grain sorghum	t/ha	3.06	3.40	3.45	2.41	3.23	3.12
Oats	t/ha	1.37	1.73	1.54	1.76	1.59	1.74
Rice	t/ha	9.54	8.91	10.28	10.94	10.27	9.97
Triticale	t/ha	1.90	1.97	1.73	1.57	1.79	1.71
Wheat	t/ha	2.03	2.15	1.76	2.01	1.71	1.83
<b>Oilseeds</b>							
Canola	t/ha	1.14	1.39	1.27	1.41	1.28	1.34
Soybeans	t/ha	1.71	2.26	2.22	2.00	2.00	2.05
Sunflower seed	t/ha	1.14	1.17	1.47	1.19	1.25	1.22
<b>Pulses</b>							
Chickpeas	t/ha	0.79	1.48	1.42	1.24	1.31	1.50
Field peas	t/ha	1.24	1.38	1.14	1.40	1.23	1.22
Lupins	t/ha	1.07	1.42	1.02	1.62	1.24	1.51
<b>Industrial crops</b>							
Cotton (lint)	t/ha	1.57	2.04	2.30	2.26	2.23	2.20
Sugar cane (for crushing)	t/ha	87	76	82	81	84	84
Winegrapes	t/ha	10.4	10.9	12.3	11.3	11.6	11.6
<b>Livestock</b>							
Wool a	kg/sheep	4.34	4.19	4.41	4.37	4.55	4.28
Whole milk	L/cow	5 727	5 577	5 450	5 611	5 898	5 957

a Shorn (including lambs). f ABARES forecast. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

**TABLE 16** Volume of agricultural and fisheries exports Australia

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
<b>Farm</b>							
<b>Crops</b>							
<b>Grains</b>							
Barley a	kt	4 625	6 568	5 165	7 124	6 208	6 646
Corn (maize)	kt	12	68	134	83	58	60
Grain sorghum	kt	553	1 112	1 291	701	1 205	1 116
Oats	kt	127	163	200	238	301	388
Rice	kt	172	537	584	544	469	293
Wheat b	kt	18 431	23 026	21 265	18 336	16 571	17 529
<b>Oilseeds</b>							
Canola	kt	1 471	2 323	3 488	3 194	2 445	2 323
Cottonseed	kt	268	654	754	464	167	111
Other oilseeds c	kt	7	6	10	14	6	7
<b>Pulses</b>							
Chickpeas	kt	409	653	852	562	674	900
Peas d	kt	254	248	208	155	179	150
Lupins	kt	289	316	416	274	321	350
Other pulses	kt	485	775	691	795	479	595
<b>Total grains, oilseeds and pulses</b>	kt	27 104	36 448	35 058	32 483	29 082	30 467
<b>Industrial crops</b>							
Raw cotton e	kt	505	994	1 305	1 036	681	437
Sugar	kt	2 735	2 572	3 004	3 052	3 348	3 644
Wine	ML	748	737	717	717	745	740
<b>Meat and live animals</b>							
Beef and veal g	kt	937	948	1 014	1 184	1 349	1 225
Live feeder/slaughter cattle h	'000	728	579	513	996	1 283	1 100
Live breeder cattle i	'000	77	105	121	137	96	100
Lamb g	kt	157	174	201	226	242	230
Live sheep j	'000	2 916	2 562	2 000	2 020	2 180	2 110
Mutton g	kt	86	89	144	183	169	142
Pig meat g	kt	31	29	26	27	27	29
Poultry meat g	kt	31	38	32	37	36	36
<b>Wool</b>							
Greasy ks	kt	335	301	316	295	325	275
Semi-processed	kt (gr eq)	44	37	34	35	41	40
Skins	kt (gr eq)	65	67	86	97	92	89
Total ks	kt (gr eq)	444	405	437	428	459	404
<b>Dairy products</b>							
Butter l	kt	56	49	54	49	44	48
Cheese	kt	163	161	174	151	159	170
Casein	kt	5	4	4	3	0	0
Skim milk powder	kt	155	141	147	143	186	193
Whole milk powder	kt	108	102	87	94	69	65

continued ...

**TABLE 16** Volume of agricultural and fisheries exports Australia continued

	unit	2010–11	2011–12	2012–13	2013–14	2014–15 <sup>s</sup>	2015–16 <sup>f</sup>
<b>Fisheries products</b>							
Tuna	kt	7.8	8.9	8.9	11.0	12.1	10.7
Salmonids	kt	6.4	5.8	2.6	1.8	5.0	5.4
Other fish	kt	7.7	6.5	5.5	4.9	5.8	5.4
<b>Prawns <sup>m</sup></b>							
Frozen	kt	6.4	5.3	3.9	7.0	6.4	6.7
<b>Rock lobster</b>							
Fresh, chilled, frozen or cooked	kt	7.0	6.9	7.8	8.0	8.2	8.4
<b>Abalone</b>							
Live, fresh or chilled	kt	1.7	1.6	1.4	1.5	1.3	1.5
Frozen or cooked	kt	0.8	0.8	0.7	0.7	0.8	0.7
Prepared or preserved	kt	1.0	0.8	0.7	0.5	0.5	0.6
Scallops <sup>n</sup>	kt	0.6	0.4	0.4	0.5	0.3	0.5

**a** Includes the grain equivalent of malt. **b** Includes the grain equivalent of wheat flour. **c** Includes soybeans, linseed, sunflower seed, safflower seed and peanuts. Excludes meals and oils. **d** Includes field peas and cowpeas. **e** Excludes cotton waste and linters. **f** ABARES forecast. **g** In shipped weight. Fresh, chilled or frozen. **h** Includes buffalo. **i** Includes dairy cattle and buffalo. **j** Includes breeding stock. **k** Australian Bureau of Statistics recorded trade data adjusted for changes in stock levels held overseas. **l** Includes ghee, dry butterfat, butter concentrate and butter oil, and dairy spreads, all expressed as butter. **m** Excludes volume of other prawn products. **n** Includes crumbed scallops. **s** ABARES estimate.

Note: Zero used to denote nil or less than 500 tonnes.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra; Department of Foreign Affairs and Trade; United Nations Commodity Trade Statistics Database (UN Comtrade)

**TABLE 17** Value of agricultural and fisheries exports (fob) Australia

	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Farm</b>						
<b>Crops</b>						
<b>Grains</b>						
Barley a	1 295	1 875	1 626	2 199	2 137	2 347
Corn (maize)	6	24	50	36	30	39
Grain sorghum	146	299	364	253	426	402
Oats	37	47	65	81	104	138
Rice	165	427	459	490	515	400
Wheat b	5 516	6 378	6 776	6 103	5 547	5 789
<b>Oilseeds</b>						
Canola	866	1 344	2 094	1 929	1 349	1 382
Cottonseed	85	195	219	168	75	53
Other oilseeds c	14	10	13	18	14	17
<b>Pulses</b>						
Chickpeas	213	384	533	297	414	703
Peas d	85	93	89	67	91	74
Lupins	89	86	143	116	138	150
Other pulses	311	436	418	539	490	438
<b>Total grains, oilseeds and pulses</b>	<b>8 827</b>	<b>11 598</b>	<b>12 850</b>	<b>12 297</b>	<b>11 330</b>	<b>11 932</b>
<b>Industrial crops</b>						
Raw cotton e	1 367	2 736	2 695	2 355	1 546	1 040
Sugar	1 436	1 556	1 437	1 384	1 401	1 377
Wine	2 009	1 910	1 867	1 847	1 983	2 068
<b>Total industrial crops</b>	<b>4 812</b>	<b>6 203</b>	<b>5 999</b>	<b>5 587</b>	<b>4 930</b>	<b>4 485</b>
<b>Horticulture</b>						
Fruit	456	505	634	724	755	765
Tree nuts	211	240	348	610	734	771
Vegetables	296	276	260	270	293	303
Nursery	20	15	12	11	12	11
Other horticulture g	293	258	224	250	266	255
<b>Total horticulture</b>	<b>1 277</b>	<b>1 294</b>	<b>1 478</b>	<b>1 865</b>	<b>2 060</b>	<b>2 106</b>
Other crops and crop products	2 504	2 560	2 740	3 072	3 437	3 640
<b>Total crops</b>	<b>17 420</b>	<b>21 654</b>	<b>23 067</b>	<b>22 821</b>	<b>21 757</b>	<b>22 163</b>
<b>Meat and live animals</b>						
Beef and veal	4 328	4 467	4 871	6 265	8 858	8 571
Live feeder/slaughter cattle h	499	412	339	780	1 143	1 055
Live breeder cattle i	161	239	251	269	213	257
Lamb	1 026	1 060	1 086	1 468	1 696	1 679
Live sheep j	348	345	194	185	245	261
Mutton	404	362	480	758	778	673
Pig meat	106	100	81	85	102	111
Poultry meat	38	45	43	50	56	62
<b>Total meat and live animals</b>	<b>6 910</b>	<b>7 030</b>	<b>7 344</b>	<b>9 859</b>	<b>13 091</b>	<b>12 669</b>
<b>Wool</b>						
Greasy k	2 371	2 448	2 261	2 212	2 331	2 302
Semi-processed	251	242	209	238	282	305
Skins	426	433	398	426	375	403
<b>Total k</b>	<b>3 048</b>	<b>3 123</b>	<b>2 869</b>	<b>2 877</b>	<b>2 988</b>	<b>3 011</b>

continued ...



**TABLE 17** Value of agricultural and fisheries exports (fob) Australia continued

	2010–11	2011–12	2012–13	2013–14	2014–15 s	2015–16 f
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Dairy products</b>						
Butter	252	201	180	243	198	227
Cheese	731	751	784	765	823	854
Casein	53	48	46	42	10	10
Skim milk powder	504	474	467	708	682	607
Whole milk powder	402	378	312	532	294	235
Other dairy products	408	442	443	435	466	433
Total	2 349	2 295	2 232	2 725	2 473	2 367
<b>Other livestock and livestock products</b>	2 190	2 287	2 512	2 876	3 194	3 234
<b>Total livestock exports</b>	14 497	14 735	14 956	18 337	21 746	21 280
<b>Total farm exports</b>	31 917	36 389	38 023	41 158	43 503	43 443
<b>Fisheries products</b>						
Tuna	131	163	163	136	151	146
Salmonids	54	42	25	17	48	53
Other fish	101	85	70	72	72	72
Prawns l						
Frozen	77	65	51	99	93	108
Rock lobster						
Fresh, chilled, frozen or cooked	368	387	447	590	691	807
Abalone						
Live, fresh or chilled	88	81	80	74	77	94
Frozen or cooked	59	57	55	56	60	63
Prepared or preserved	65	59	52	41	36	51
Scallops m	15	15	11	14	11	20
Pearls	241	207	152	144	111	127
Other fisheries products	48	66	70	61	89	55
<b>Total fisheries products</b>	1 248	1 227	1 175	1 304	1 440	1 595

a Includes malt. b Includes wheat flour. c Includes soybeans, linseed, sunflower seed, safflower seed and peanuts.

Excludes meals and oils. d Field peas and cowpeas. e Excludes cotton waste and linters. f ABARES forecast. g Other

horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. h Includes

buffalo. i Includes dairy cattle and buffalo. j Includes breeding stock. k On a balance of payments basis. Australian Bureau

of Statistics recorded trade data adjusted for changes in stock levels held overseas. l Other prawn products included in

other fisheries products. m Includes crumbed scallops. s ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra; United Nations Commodity Trade Statistics Database (UN Comtrade)

**TABLE 18** Agricultural exports to China (fob) Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15 s
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Farm</b>						
<b>Crops</b>						
<b>Grains</b>						
Barley a	280	311	454	494	1 080	1 222
Grain sorghum	14	14	4	98	215	412
Wheat b	189	144	457	357	484	323
Other grains c	1	0	1	6	0	0
<b>Oilseeds</b>	1	45	116	344	627	317
<b>Pulses</b>	5	3	4	1	1	17
<b>Total grains, oilseeds and pulses</b>	490	516	1 036	1 300	2 407	2 291
<b>Industrial crops</b>						
Raw cotton d	274	551	1 812	1 849	1 520	851
Sugar	4	31	21	2	42	95
Wine	144	178	209	241	202	269
<b>Total industrial crops</b>	421	760	2 041	2 093	1 764	1 214
<b>Horticulture</b>						
Fruit	6	8	10	28	37	64
Tree nuts	8	6	11	36	37	39
Vegetables	1	2	3	3	3	4
Nursery	0	1	1	0	0	1
Other horticulture e	4	3	4	4	4	5
<b>Total horticulture</b>	20	20	29	71	82	113
Other crops and crop products	7	8	22	30	31	46
<b>Total crops</b>	938	1 305	3 128	3 493	4 284	3 664
<b>Meat and live animals</b>						
Beef and veal	17	28	40	406	785	736
Live breeder cattle g	102	102	133	125	195	169
Lamb	34	63	73	108	184	152
Mutton	13	12	14	102	209	137
Other meat and live animals h	5	4	0	1	5	17
<b>Total meat and live animals</b>	171	209	260	741	1 378	1 212
<b>Wool</b>						
Greasy	1 460	1 864	1 925	1 844	1 713	1 986
Semi-processed	62	21	24	18	18	32
Skins	257	351	369	337	378	336
<b>Total</b>	1 779	2 235	2 319	2 200	2 109	2 354
<b>Dairy products</b>						
Butter	5	4	7	6	7	11
Cheese	23	30	37	44	74	72
Casein	7	1	1	1	1	0
Skim milk powder	22	37	50	35	108	59
Whole milk powder	38	52	11	56	159	20
Other dairy products	45	35	58	68	71	107
<b>Total dairy product exports</b>	139	159	164	210	421	270
Other livestock exports	501	558	614	635	778	834
<b>Total livestock exports</b>	2 591	3 161	3 357	3 786	4 685	4 669
<b>Total agricultural exports</b>	3 529	4 466	6 485	7 280	8 969	8 332

a Includes malt. b Includes wheat flour. c Includes grains not separately listed. d Excludes cotton waste and linters. e Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. g Includes dairy cattle and buffalo. h Includes meat and other live animals not listed separately. s ABARES estimate.

Note: Zero is used to denote nil or less than \$0.5 million.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra

**TABLE 19** Agricultural exports to Indonesia (fob) Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15 <sup>s</sup>
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Farm</b>						
<b>Crops</b>						
<b>Grains</b>						
Barley <sup>a</sup>	13	9	10	7	6	5
Wheat <sup>b</sup>	752	1 144	1 156	1 395	1 194	1 403
Other grains, oilseeds and pulses <sup>c</sup>	3	15	14	12	28	14
<b>Total grains, oilseeds and pulses</b>	<b>768</b>	<b>1 169</b>	<b>1 180</b>	<b>1 414</b>	<b>1 228</b>	<b>1 423</b>
<b>Industrial crops</b>						
Raw cotton <sup>d</sup>	160	247	282	220	174	136
Sugar	420	296	302	316	467	394
Wine	3	4	4	5	3	4
Total industrial crops	582	547	588	540	644	534
<b>Horticulture</b>						
Fruit	36	29	33	49	53	62
Tree nuts	0	0	2	1	1	2
Vegetables	13	14	11	12	11	6
Nursery	0	0	0	0	0	0
Other horticulture <sup>e</sup>	1	2	3	2	3	4
Total horticulture	50	45	49	65	68	75
Other crops and crop products	13	15	17	24	26	28
<b>Total crops</b>	<b>1 413</b>	<b>1 775</b>	<b>1 835</b>	<b>2 043</b>	<b>1 968</b>	<b>2 059</b>
<b>Meat and live animals</b>						
Beef and veal	169	169	156	132	245	233
Live feeder/slaughter cattle <sup>g</sup>	428	287	252	165	452	595
Live breeder cattle <sup>h</sup>	13	3	2	9	9	5
Lamb	5	6	9	8	4	7
Mutton	1	1	1	2	1	4
Other meat and live animals <sup>i</sup>	0	0	0	0	0	0
Total meat and live animals	615	466	421	316	712	844
<b>Wool</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Dairy products</b>						
Butter	9	9	4	5	7	5
Cheese	22	19	19	18	18	18
Casein	10	5	7	9	10	0
Skim milk powder	49	80	72	68	126	164
Whole milk powder	29	40	34	18	37	8
Other dairy products	15	17	19	21	21	19
Total dairy product exports	134	169	155	140	220	214
Other livestock exports	114	101	113	146	147	142
<b>Total livestock exports</b>	<b>865</b>	<b>737</b>	<b>689</b>	<b>603</b>	<b>1 079</b>	<b>1 201</b>
<b>Total agricultural exports</b>	<b>2 278</b>	<b>2 512</b>	<b>2 524</b>	<b>2 646</b>	<b>3 046</b>	<b>3 260</b>

<sup>a</sup> Includes malt. <sup>b</sup> Includes wheat flour. <sup>c</sup> Includes grains not separately listed, oilseeds and pulses. <sup>d</sup> Excludes cotton waste and linters. <sup>e</sup> Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. <sup>g</sup> Includes buffalo. <sup>h</sup> Includes dairy cattle and buffalo. <sup>i</sup> Includes meat and other live animals not listed separately. <sup>s</sup> ABARES estimate.

Note: Zero is used to denote nil or less than \$0.5 million.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra

**TABLE 20** Agricultural exports to Japan (fob) Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15 s
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Farm</b>						
<b>Grains</b>						
Barley a	284	260	316	292	251	208
Grain sorghum	70	105	219	202	16	2
Wheat b	299	408	395	392	322	305
<b>Oilseeds</b>						
Canola	109	41	47	72	113	175
Cottonseed	31	24	31	36	31	23
Other grains and oilseeds c	4	4	9	17	10	6
<b>Pulses</b>	11	10	12	10	11	3
<b>Total grains, oilseeds and pulses</b>	806	853	1 030	1 021	754	723
<b>Industrial crops</b>						
Raw cotton d	31	48	63	28	32	25
Sugar	190	194	211	198	245	127
Wine	43	44	45	42	41	44
Total industrial crops	264	286	319	268	318	196
<b>Horticulture</b>						
Fruit	61	70	59	63	61	59
Tree nuts	17	16	20	23	19	23
Vegetables	33	46	41	41	39	38
Nursery	4	4	3	3	2	2
Other horticulture e	5	7	6	4	9	8
Total horticulture	120	142	129	133	130	130
Other crops and crop products	47	54	47	50	40	46
<b>Total crops</b>	1 237	1 335	1 524	1 472	1 242	1 095
<b>Meat and live animals</b>						
Beef and veal	1 682	1 667	1 549	1 439	1 446	1 922
Live feeder/slaughter cattle g	15	16	20	15	15	14
Lamb	52	60	63	54	76	88
Mutton	24	26	24	17	29	27
Other meat and live animals h	3	3	3	3	4	5
Total meat and live animals	1 776	1 772	1 658	1 528	1 570	2 056
<b>Wool</b>						
Greasy	4	9	12	8	1	
Semi-processed	12	23	26	21	10	14
Skins	1	1	2	1	2	2
Total	17	33	39	30	12	16
<b>Dairy products</b>						
Butter	2	6	9	4	2	4
Cheese	358	356	423	415	343	407
Casein	26	22	21	17	20	5
Skim milk powder	3	2	2	5	17	30
Whole milk powder	0	0	1	0	0	0
Other dairy products	46	38	45	66	38	33
Total dairy product exports	436	423	500	507	420	480
Other livestock exports	320	337	302	293	276	294
<b>Total livestock exports</b>	2 549	2 566	2 499	2 358	2 278	2 846
<b>Total agricultural exports</b>	3 786	3 901	4 023	3 830	3 521	3 940

a Includes malt. b Includes the grain equivalent of wheat flour. c Includes grains and oilseeds not separately listed.

d Excludes cotton waste and linters. e Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. g Excludes breeding stock and includes buffalo for feeder/slaughter purposes.

h Includes other meat and live animals not listed separately. s ABARES estimate.

Note: Zero is used to denote nil or less than \$0.5 million.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra

**TABLE 21** Agricultural exports to the Republic of Korea (fob) Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15 <sup>s</sup>
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Farm</b>						
<b>Crops</b>						
<b>Grains</b>						
Barley <sup>a</sup>	54	75	94	87	116	114
Wheat <sup>b</sup>	219	368	628	449	310	354
Corn (maize)	4	4	12	20	23	22
<b>Oilseeds</b>						
Cottonseed	5	16	26	37	30	15
Other grains and oilseeds <sup>c</sup>	2	1	0	2	6	2
<b>Pulses</b>	70	51	36	74	57	64
<b>Total grains, oilseeds and pulses</b>	353	514	797	668	541	571
<b>Industrial crops</b>						
Raw cotton <sup>d</sup>	62	58	120	119	130	82
Sugar	685	424	521	475	309	483
Wine	9	7	9	10	8	10
Total industrial crops	755	490	650	605	446	576
<b>Horticulture</b>						
Fruit	4	4	5	7	6	10
Tree nuts	1	1	3	2	4	11
Vegetables	4	8	9	7	5	9
Other horticulture <sup>e</sup>	2	2	2	3	5	3
Total horticulture	10	15	19	19	19	32
Other crops and crop products	114	119	117	131	144	135
<b>Total crops</b>	1 232	1 138	1 583	1 423	1 151	1 314
<b>Meat and live animals</b>						
Beef and veal	535	656	572	641	844	1 016
Lamb	10	13	15	14	24	32
Mutton	4	5	4	4	6	7
Other meat and live animals <sup>g</sup>	1	2	1	1	1	1
Total meat and live animals	549	676	592	659	875	1 056
<b>Wool</b>	41	36	43	44	61	81
<b>Dairy products</b>						
Butter	13	16	9	7	6	10
Cheese	28	37	31	30	26	32
Casein	3	2	2	2	1	0
Skim milk powder	18	23	23	19	27	25
Whole milk powder	3	6	7	2	3	2
Other dairy products	19	25	29	17	19	14
Total dairy product exports	84	109	103	77	82	83
Other livestock exports	93	108	125	100	118	185
<b>Total livestock exports</b>	768	930	862	879	1 136	1 405
<b>Total agricultural exports</b>	2 000	2 068	2 446	2 303	2 286	2 719

<sup>a</sup> Includes malt. <sup>b</sup> Includes wheat flour. <sup>c</sup> Includes grains and oilseeds not separately listed. <sup>d</sup> Excludes cotton waste and linters. <sup>e</sup> Other horticulture includes mainly nursery, coffee, tea, spices, essential oils and other miscellaneous horticultural products. <sup>g</sup> Includes meat and other animals not listed separately. <sup>s</sup> ABARES estimate.

Note: Zero is used to denote nil or less than \$0.5 million.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra

**TABLE 22** Agricultural exports to the United States (fob) Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15 s
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Farm</b>						
<b>Crops</b>						
Grains	0	0	0	1	2	0
Oilseeds	10	0	20	50	66	22
Pulses	3	4	5	4	5	4
<b>Total grains, oilseeds and pulses</b>	13	4	25	55	73	26
<b>Industrial crops</b>						
Sugar	68	92	135	66	43	82
Wine	627	524	493	483	472	463
Total industrial crops	695	616	628	549	515	545
<b>Horticulture</b>						
Fruit	67	33	33	25	31	24
Tree nuts	22	12	15	28	48	65
Vegetables	7	6	5	5	6	8
Nursery	3	2	2	2	2	2
Other horticulture a	14	16	15	19	28	37
Total horticulture	112	69	69	79	115	136
Other crops and crop products	167	168	142	191	258	246
<b>Total crops</b>	987	857	864	873	962	953
<b>Meat and live animals</b>						
Beef and veal	817	704	896	961	1 375	3 240
Lamb	303	335	305	295	399	504
Mutton	32	38	21	34	49	75
Other meat and live animals b	0	0	0	0	0	1
Total meat and live animals	1 152	1 077	1 222	1 290	1 823	3 820
<b>Wool</b>						
Greasy	9	11	8	7	4	7
Semi-processed	3	3	3	2	2	3
Skins	0	0	0	0	0	0
Total	12	14	11	9	7	9
<b>Dairy products</b>						
Butter	10	3	7	13	1	13
Cheese	20	12	3	11	9	27
Casein	23	13	7	9	4	1
Whole milk powder	9	4	4	5	0	1
Other dairy products	13	18	15	16	11	10
Total dairy product exports	75	50	35	53	24	52
Other livestock exports	116	125	115	136	176	289
<b>Total livestock exports</b>	1 354	1 266	1 383	1 488	2 030	4 170
<b>Total agricultural exports</b>	2 341	2 123	2 248	2 361	2 992	5 124

a Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products.

b Includes meat and live animals not listed separately. s ABARES estimate.

Note: Zero is used to denote nil or less than \$0.5 million.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Canberra

**TABLE 23** Volume of fisheries products exports Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	kt	kt	kt	kt	kt	kt
<b>Edible a</b>						
<b>Fish</b>						
Live	1.0	0.9	0.9	0.8	0.9	0.8
Tuna	9.5	7.8	8.9	8.9	11.0	12.1
Salmonids	4.0	6.4	5.8	2.6	1.8	5.0
Swordfish	0.4	0.4	0.5	0.5	0.4	0.5
Whiting	1.3	1.8	0.9	0.4	0.1	0.0
Other fish	5.4	5.5	5.1	4.7	4.4	5.3
<b>Total fish</b>	<b>21.7</b>	<b>22.7</b>	<b>22.0</b>	<b>17.8</b>	<b>18.6</b>	<b>23.6</b>
<b>Crustaceans and molluscs</b>						
Rock lobster	7.7	7.0	6.9	7.8	8.0	8.2
Prawns	4.7	6.4	5.4	3.9	7.1	6.5
Abalone	3.6	3.4	3.1	2.8	2.7	2.6
Scallops	1.1	0.6	0.4	0.4	0.5	0.3
Crabs	1.1	1.0	0.8	0.4	0.4	0.6
Other crustaceans and molluscs	1.0	1.2	1.7	2.1	1.6	1.6
<b>Total crustaceans and molluscs</b>	<b>19.2</b>	<b>19.6</b>	<b>18.4</b>	<b>17.5</b>	<b>20.3</b>	<b>19.7</b>
<b>Total edible</b>	<b>40.9</b>	<b>42.4</b>	<b>40.5</b>	<b>35.3</b>	<b>38.9</b>	<b>43.3</b>

a Includes prepared and preserved.

Note: Zero is used to denote nil or less than 500 tonnes.

Source: Australian Bureau of Statistics

**TABLE 24** Value of fisheries products exports (fob) Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Edible</b>						
<b>Fish</b>						
Live	40.4	33.4	32.0	30.7	34.2	29.9
Tuna	118.5	131.4	162.7	162.6	135.5	151.0
Salmonids	29.6	54.4	41.8	25.4	17.4	48.1
Swordfish	4.2	4.5	4.2	3.9	3.9	4.4
Whiting	3.4	5.0	2.5	1.4	0.2	0.1
Other fish	61.6	58.1	46.2	34.2	34.2	37.7
<b>Total fish</b>	<b>257.8</b>	<b>286.8</b>	<b>289.4</b>	<b>258.2</b>	<b>225.4</b>	<b>271.3</b>
<b>Crustaceans and molluscs</b>						
Rock lobster	399.7	369.3	386.7	447.3	590.3	691.3
Prawns	61.5	77.1	66.7	51.8	101.0	94.2
Abalone	216.4	212.0	197.3	186.0	170.0	173.8
Scallops	29.5	15.4	15.3	10.8	13.6	10.7
Crabs	13.8	13.4	11.0	8.2	5.5	7.9
Other crustaceans and molluscs	8.5	16.3	34.4	40.2	32.5	43.7
<b>Total crustaceans and molluscs</b>	<b>729.3</b>	<b>703.6</b>	<b>711.3</b>	<b>744.2</b>	<b>912.9</b>	<b>1 021.5</b>
<b>Total edible</b>	<b>987.1</b>	<b>990.3</b>	<b>1 000.7</b>	<b>1 002.3</b>	<b>1 138.3</b>	<b>1 292.8</b>
<b>Non-edible</b>						
Marine fats and oils	4.8	5.4	7.3	10.0	9.1	20.9
Fish meal	2.1	1.6	0.4	1.0	0.7	1.0
Pearls <sup>a</sup>	243.9	241.3	206.6	151.5	144.4	110.8
Ornamental fish	2.7	2.3	2.3	3.8	2.0	1.9
Other non-edible	5.5	7.3	9.4	6.5	9.7	12.3
<b>Total non-edible</b>	<b>259.0</b>	<b>257.9</b>	<b>226.1</b>	<b>172.8</b>	<b>165.9</b>	<b>147.0</b>
<b>Total fisheries products</b>	<b>1 246.1</b>	<b>1 248.2</b>	<b>1 226.8</b>	<b>1 175.2</b>	<b>1 304.3</b>	<b>1 439.8</b>

<sup>a</sup> Includes items temporarily exported and re-imported.

Source: Australian Bureau of Statistics



**TABLE 25** Volume of fisheries products imports Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	kt	kt	kt	kt	kt	kt
<b>Edible a</b>						
<b>Fish</b>						
Tuna	39.9	45.6	40.8	46.9	50.1	49.2
Salmonids	9.8	9.9	10.2	11.9	14.2	16.1
Hake	5.4	6.7	5.3	6.1	4.5	4.9
Swordfish	0.2	0.2	0.2	0.2	0.2	0.2
Toothfish	0.1	0.1	0.1	0.2	0.2	0.1
Herrings	0.9	1.0	0.9	1.8	0.9	1.1
Shark	0.6	0.5	0.5	0.5	0.7	0.6
Other fish	83.3	83.1	86.6	92.8	90.0	87.6
<b>Total fish b</b>	140.3	147.1	144.4	160.5	160.8	159.8
<b>Crustaceans and molluscs</b>						
Prawns	34.5	32.6	37.5	34.8	38.7	32.4
Lobster	0.7	0.9	0.9	0.8	1.0	1.1
Crabs	1.2	1.4	1.5	1.5	2.1	2.0
Mussels	2.4	2.6	2.8	3.7	3.6	3.1
Scallops	2.8	2.6	3.0	3.1	3.5	2.9
Squid and octopus	16.0	15.2	17.0	19.9	23.2	22.3
Other crustaceans and molluscs	9.6	9.4	7.3	4.1	4.8	4.0
<b>Total crustaceans and molluscs</b>	67.2	64.7	69.8	67.9	76.7	67.8
<b>Total edible abc</b>	207.4	211.8	214.2	228.4	237.5	227.6

a Includes prepared and preserved. b Excludes live tonnage. c Includes other fisheries products not classified into fish or crustaceans and molluscs.

Source: Australian Bureau of Statistics

**TABLE 26** Value of fisheries products imports Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Edible a</b>						
<b>Fish</b>						
Tuna	169.3	200.8	205.5	258.2	296.1	283.9
Salmonids	85.8	84.4	91.8	118.8	167.5	190.7
Hake	26.1	27.2	20.9	23.4	19.5	21.8
Swordfish	1.8	1.5	1.2	1.7	1.4	1.7
Toothfish	1.3	1.4	1.3	2.2	3.0	3.5
Herrings	4.5	4.3	4.2	5.1	4.5	3.9
Shark	5.6	4.4	4.0	4.6	5.5	4.9
Other fish	455.0	443.7	459.6	480.0	507.5	544.2
<b>Total fish b</b>	<b>751.5</b>	<b>769.1</b>	<b>788.6</b>	<b>866.5</b>	<b>1 004.9</b>	<b>1 054.6</b>
<b>Crustaceans and molluscs</b>						
Prawns	298.7	291.0	350.9	304.8	495.1	431.2
Lobster	11.8	15.0	16.0	15.3	22.4	28.3
Crabs	12.4	13.3	15.5	16.8	28.3	31.1
Mussels	9.3	10.2	11.7	17.1	19.1	17.9
Scallops	33.5	34.5	43.6	41.1	52.9	49.6
Squid and octopus	62.0	74.3	90.4	97.7	114.5	111.6
Other crustaceans and molluscs	66.5	65.3	57.0	40.7	44.0	42.9
<b>Total crustaceans and molluscs</b>	<b>494.2</b>	<b>503.5</b>	<b>585.1</b>	<b>533.4</b>	<b>776.3</b>	<b>712.5</b>
<b>Total edible abc</b>	<b>1 243.9</b>	<b>1 271.3</b>	<b>1 373.8</b>	<b>1 427.7</b>	<b>1 781.3</b>	<b>1 767.3</b>
<b>Non-edible</b>						
Pearls d	170.8	166.9	138.2	105.4	102.1	97.2
Fish meal	51.9	46.7	34.2	43.3	43.2	64.3
Ornamental fish	4.6	3.9	3.7	4.0	4.5	4.4
Marine fats and oils	26.8	31.0	39.5	39.1	40.1	52.7
Other marine products	14.9	9.9	17.1	29.0	30.4	22.2
<b>Total non-edible</b>	<b>269.0</b>	<b>258.4</b>	<b>232.8</b>	<b>220.7</b>	<b>220.3</b>	<b>240.8</b>
<b>Total fisheries products</b>	<b>1 512.9</b>	<b>1 529.7</b>	<b>1 606.6</b>	<b>1 648.4</b>	<b>2 001.6</b>	<b>2 008.1</b>

a Includes prepared and preserved. b Includes live value. c Includes other fisheries products not classified into fish or crustaceans and molluscs. d Mainly re-imports.

Source: Australian Bureau of Statistics

**TABLE 27** Value of Australian fisheries products trade, by selected countries Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Exports</b>						
<b>Edible (including live)</b>						
Hong Kong	530.0	425.9	479.1	317.0	208.9	192.5
Vietnam	4.3	8.4	60.5	293.2	565.6	715.6
Japan	215.5	225.9	254.6	236.0	192.1	192.1
China	43.5	143.2	58.5	45.2	36.6	48.7
Singapore	37.4	41.2	42.5	31.0	34.2	35.0
United States	49.5	35.7	23.1	17.9	22.1	28.0
Taiwan	32.5	29.6	17.5	9.8	13.7	15.1
Thailand	9.0	16.0	18.1	9.3	8.0	10.0
New Zealand	16.6	9.6	10.1	9.1	14.5	13.9
Malaysia	9.2	12.9	7.7	7.8	9.9	11.2
Indonesia	6.9	8.7	6.1	7.4	9.9	9.3
<b>Non-edible</b>						
Hong Kong	137.8	145.1	96.6	54.3	74.6	55.9
Japan	49.8	43.3	44.4	33.0	26.9	23.4
United States	15.5	8.1	22.2	21.0	19.2	16.6
<b>Imports a</b>						
<b>Edible (excluding live)</b>						
Thailand	322.1	340.2	362.1	399.8	417.0	422.1
New Zealand	212.3	210.0	197.3	206.3	206.8	189.6
China	173.0	185.6	231.5	196.5	341.5	284.7
Vietnam	152.7	161.7	174.5	163.1	231.7	233.1
Malaysia	63.0	71.2	73.2	81.0	97.9	94.7
United States	37.3	39.9	45.1	52.2	56.0	53.0
Indonesia	38.9	27.9	36.3	50.9	73.5	85.6
Taiwan	36.7	39.5	38.9	48.1	44.5	58.3
South Africa	35.8	33.1	32.2	36.2	50.5	53.0
Denmark	29.6	28.2	31.3	35.1	31.6	27.5
Norway	23.6	18.8	25.3	32.2	44.8	58.2
Other	26.7	24.7	27.1	29.9	45.4	68.1

a Country details for non-edible imports are not available.

Source: Australian Bureau of Statistics

**TABLE 28** Volume of forest products exports Australia

	unit	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
<b>Quantity</b>							
Roundwood	'000 m <sup>3</sup>	1 377	1 638	1 806	1 516	2 363	2 616
<b>Sawnwood a</b>							
Softwood roughsawn	'000 m <sup>3</sup>	322	265	198	207	268	387
Softwood dressed	'000 m <sup>3</sup>	13	9	13	3	5	31
Hardwood roughsawn	'000 m <sup>3</sup>	37	39	26	20	73	117
Hardwood dressed	'000 m <sup>3</sup>	16	30	15	7	25	73
Total	'000 m <sup>3</sup>	387	344	252	237	371	608
Railway sleepers	'000 m <sup>3</sup>	9	8	8	8	17	48
<b>Wood-based panels</b>							
Veneers	'000 m <sup>3</sup>	90	119	106	52	64	50
Plywood	'000 m <sup>3</sup>	24	7	18	36	36	14
Particleboard	'000 m <sup>3</sup>	11	6	4	2	6	11
Hardboard b	'000 m <sup>3</sup>	1	2	2	2	3	11
Medium-density fibreboard	'000 m <sup>3</sup>	152	115	79	52	154	141
Softboard and other fibreboards	'000 m <sup>3</sup>	2	5	5	1	1	21
Total	'000 m <sup>3</sup>	280	254	214	146	263	249
<b>Paper and paperboard</b>							
Newsprint	kt	6	19	30	72	85	56
Printing and writing	kt	146	84	132	139	153	141
Household and sanitary	kt	31	39	26	12	20	23
Packaging and industrial	kt	708	887	933	906	950	948
Total	kt	890	1 029	1 121	1 127	1 207	1 168
Recovered paper	kt	1 444	1 323	1 403	1 506	1 449	1 397
Pulp	kt	18	31	1	0	0	0
<b>Woodchips cd</b>	kt	4 818	5 064	4 150	3 806	4 776	5 707

a Excludes railway sleepers. b Uncoated hardboard confidential from January 2007. c Includes particles. d Bone dry tonnes.

Note: Components may not add to totals due to rounding. Zero is used to denote nil or less than 500 tonnes.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 29** Value of forest products exports (fob) Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Value</b>						
Roundwood	138	198	175	155	292	313
Sawnwood						
Softwood roughsawn	76	67	55	61	75	74
Softwoods dressed	7	5	3	2	3	11
Hardwood roughsawn	33	34	23	20	22	20
Hardwood dressed	10	10	7	6	7	5
Total	125	115	88	90	108	110
Railway sleepers	2	3	3	3	3	2
Miscellaneous forest products <b>a</b>	61	69	68	69	80	84
Wood-based panels						
Veneers	44	52	51	24	29	27
Plywood	3	2	2	4	3	3
Particleboard	4	2	1	1	1	2
Hardboard <b>b</b>	1	2	2	2	2	2
Medium-density fibreboard <b>c</b>	54	39	26	19	26	27
Softboard and other fibreboards	1	1	1	0	0	6
Total	106	98	83	51	62	67
Paper and paperboard						
Newsprint	6	13	15	36	59	39
Printing and writing	143	88	120	117	139	146
Household and sanitary	97	94	64	33	49	60
Packaging and industrial	404	552	518	526	605	657
Total	649	747	717	712	853	901
Paper manufactures <b>d</b>	102	112	134	132	132	109
Recovered paper	228	240	240	230	241	241
Pulp	13	11	1	0	0	0
Woodchips	856	884	729	611	768	954
<b>Total</b>	<b>2 281</b>	<b>2 478</b>	<b>2 238</b>	<b>2 052</b>	<b>2 538</b>	<b>2 782</b>

**a** Includes such items as wooden doors, mouldings, packing cases, parquet flooring, builders carpentry, cork, gums, resins, eucalyptus oils and other miscellaneous wood articles. Excludes wooden furniture. **b** Uncoated hardboard confidential from January 2007. **c** Some categories of medium-density fibreboard are confidential. **d** Includes other paper articles that have had some further processing.

Note: Components may not add to totals due to rounding. Zero is used to denote nil or less than \$0.5 million.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 30** Volume of forest products imports Australia

	unit	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
<b>Quantity</b>							
Roundwood	'000 m <sup>3</sup>	1	1	1	1	1	1
<b>Sawnwood <sup>a</sup></b>							
Softwood roughsawn	'000 m <sup>3</sup>	293	290	239	247	271	291
Softwood dressed	'000 m <sup>3</sup>	367	468	470	443	449	608
Hardwood roughsawn	'000 m <sup>3</sup>	43	43	46	41	41	43
Hardwood dressed	'000 m <sup>3</sup>	45	45	36	28	25	26
Total	'000 m <sup>3</sup>	748	846	791	759	786	968
<b>Wood-based panels</b>							
Veneers	'000 m <sup>3</sup>	15	17	15	13	9	12
Plywood	'000 m <sup>3</sup>	228	278	293	278	287	341
Particleboard	'000 m <sup>3</sup>	57	72	67	72	95	97
Hardboard	'000 m <sup>3</sup>	33	49	69	60	86	82
Medium-density fibreboard	'000 m <sup>3</sup>	70	58	91	77	65	85
Softboard and other fibreboards	'000 m <sup>3</sup>	6	7	7	6	5	7
Total	'000 m <sup>3</sup>	410	480	542	505	548	625
<b>Paper and paperboard</b>							
Newsprint	kt	191	222	121	85	75	76
Printing and writing	kt	1 167	1 237	1 174	1 155	1 172	1 040
Household and sanitary	kt	101	114	118	159	123	142
Packaging and industrial	kt	285	314	333	385	357	392
Total	kt	1 744	1 886	1 746	1 783	1 727	1 651
Recovered paper	kt	3	2	3	4	5	4
Pulp	kt	265	233	256	263	297	302
Woodchips	kt	1	1	1	1	2	2

<sup>a</sup> Excludes railway sleepers.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 31** Value of forest products imports Australia

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Value</b>						
Roundwood	0	1	1	1	1	1
Sawnwood						
Softwood roughsawn	140	135	105	100	111	128
Softwood dressed	200	248	248	246	281	382
Hardwood roughsawn	39	40	44	41	46	57
Hardwood dressed	50	50	51	35	31	34
Total	429	473	448	423	468	601
Miscellaneous forest products <b>a</b>	630	707	756	769	946	1 102
Wood-based panels						
Veneers	22	21	21	19	15	22
Plywood	138	170	183	184	210	264
Particleboard	18	21	26	27	35	38
Hardboard	30	40	54	48	72	67
Medium-density fibreboard	37	34	36	32	35	45
Softboard and other fibreboards	3	3	3	2	3	3
Total	248	289	323	311	370	439
Paper and paperboard						
Newsprint	158	176	91	58	49	48
Printing and writing	1 355	1 347	1 217	1 151	1 194	1 123
Household and sanitary	164	185	187	244	208	254
Packaging and industrial	499	515	543	590	654	728
Total	2 175	2 223	2 037	2 043	2 105	2 153
Paper manufactures <b>b</b>	563	557	486	446	537	582
Recovered paper	1	0	1	1	2	1
Pulp	178	180	164	154	203	217
Woodchips	1	2	2	3	3	3
<b>Total</b>	<b>4 225</b>	<b>4 431</b>	<b>4 217</b>	<b>4 151</b>	<b>4 636</b>	<b>5 099</b>

**a** Includes such items as wooden doors, mouldings, packing cases, parquet flooring, builders carpentry, cork, gums, resins, eucalyptus oils and other miscellaneous wood articles. Excludes wooden furniture. **b** Includes other paper articles that have had some further processing.

Note: Components may not add to totals due to rounding. Zero used to denote nil or less than \$0.5 million.

Sources: ABARES; Australian Bureau of Statistics

**TABLE 32** Value of Australian forest products trade, by selected countries a

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
	\$m	\$m	\$m	\$m	\$m	\$m
<b>Exports</b>						
China	394	544	534	474	542	817
Hong Kong	69	42	39	16	10	12
Japan	774	745	579	394	21	316
Korea, Rep. of	48	40	40	33	45	38
Malaysia	83	106	112	73	87	70
New Zealand	320	315	306	268	290	296
Taiwan	88	79	68	68	57	73
<b>Imports</b>						
China	635	690	800	913	1 110	1 321
Finland	172	143	120	205	221	184
Germany	179	183	148	135	163	150
Indonesia	355	332	342	313	348	427
Malaysia	218	228	236	227	249	270
New Zealand	705	715	634	557	605	646
United States	315	285	298	304	339	361

a Value of wood products trade to selected countries may exclude data where confidentiality restrictions apply.

Sources: ABARES; Australian Bureau of Statistics



# Report extracts

## **ABARES reports released since Agricultural commodities (vol. 5 no. 2 June quarter 2015)**

The selection provides an overview of the range of subjects covered by ABARES.

Full reports can be downloaded from [agriculture.gov.au/abares/publications](http://agriculture.gov.au/abares/publications).

For more information contact [info.abares@agriculture.gov.au](mailto:info.abares@agriculture.gov.au).

## **Research reports**

### **Australian grains: financial performance of grain producing farms 2012–13 to 2014–15**

#### **Research report 15.3**

Publication date: 30 June 2015

The report, commissioned by the Grains Research and Development Corporation, draws on data from the ABARES annual Australian Agricultural and Grazing Industries Survey to provide an overview of production, financial performance and productivity growth of the Australian grains, oilseed and pulse industry from 2012–13 to 2014–15.

### **Australian lamb: financial performance of slaughter lamb producing farms, 2012–13 to 2014–15**

#### **Research report 15.4**

Publication date: 22 Jul 2015

The report presents detailed financial performance of slaughter lamb producing farms in 2012–13, 2013–14 and 2014–15. It discusses incomes, investment, farm debt and costs of slaughter lamb production in a historical context. It expands on results published in *Agricultural commodities, March quarter 2015*, and *Australian farm survey results 2012–13 to 2014–15*, released in March 2015. The report was commissioned by Meat & Livestock Australia.

## **Australian beef: financial performance of beef cattle producing farms, 2012–13 to 2014–15**

### **Research report 15.5**

Publication date: 6 August 2015

The report presents detailed financial performance of beef cattle producing farms in 2012–13, 2013–14 and 2014–15. It discusses incomes, investment, farm debt and costs of beef production in a historical context. It draws heavily on data from the ABARES annual Australian Agricultural and Grazing Industries Survey. The report was commissioned by Meat & Livestock Australia.

## **Development of the Australia's Indigenous forest estate (2013) dataset**

### **Research report 15.6**

Publication date: 28 August 2015

Authors: Robert Dillon, Jeya Jeyasingham, Sid Eades and Steve Read

The report describes the methodology used to compile a national spatial dataset of forested and non-forested land either owned or managed by Australia's Indigenous communities or over which Indigenous people have use and rights.

It comprehensively describes the forest areas over which Indigenous people have ownership, management or special rights.

## **Other reports**

## **Participatory wild dog management: views and practices of Australian wild dog management groups**

Publication date: 12 June 2015

The report, produced for Australian Wool Innovation, examines Australian wild dog management groups. It focuses on landholder participation and collaboration to identify how groups achieve coordinated and effective wild dog management. Representatives from 30 groups across Australia were interviewed for the study.

## **Setting economic target reference points for multiple species in mixed fisheries**

Publication date: 18 June 2015

ABARES provided research and data support for this CSIRO report, produced for the Fisheries Research and Development Corporation. It can assist managers to cost-effectively develop target reference points consistent with the Commonwealth Fisheries Harvest Strategy Policy for multispecies in mixed fisheries. The report covers appropriate target reference points for target and by-product stocks in multispecies fisheries. It applies the framework to the Southern and Eastern Scalefish and Shark Fishery as a case study.

## **Australian forest and wood products statistics: September and December quarters 2014**

Publication date: 23 June 2015

The report provides 2013–14 data for volume and value of logs harvested, wood product output and consumption, plantation areas and establishment. It includes September and December 2014 quarterly data for dwelling commencements and forest products trade data from the Australian Bureau of Statistics.

## **Wild dog management 2010 to 2014: National landholder survey results**

Publication date: 27 July 2015

The report presents results and analysis from a late 2014 national survey of Australian sheep and cattle landholders in areas affected by wild dogs. Results are combined with data from a similar 2010 survey to assess longitudinal changes in wild dog impacts and management activities. It discusses landholders' perspectives on the severity and distribution of the wild dog problem, its personal and economic impacts and collective management actions.

## **Australian crop report**

Publication date: 8 September 2015

This quarterly report provides a consistent and regular assessment of crop prospects for major field crops, forecasts of area, yield and production and a state-by-state summary of seasonal conditions.

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## **Agricultural commodities September quarter 2015**

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## The 'Biosphere' Graphic Element

The biosphere is a key part of the department's visual identity. Individual biospheres are used to visually describe the diverse nature of the work we do as a department, in Australia and internationally.



### Also in this series

- Agricultural commodities, June 2014
- Agricultural commodities, September 2014
- Agricultural commodities, December 2014
- Agricultural commodities, March 2015
- Agricultural commodities, June 2015



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