Australian Government
Department of Agriculture and Water Resources
ABARES

# Australian crop report

**Prepared by the Australian Bureau of Agricultural and Resource Economics and Sciences**

No. 179
September 2016



**Cataloguing data**
ABARES 2016, *Australian crop report*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, September.

ISSN 1447-8358
ISBN 978-1-74323-307-8
ABARES project 43506

**Internet**
*Australian crop report* is available at agriculture.gov.au/abares/publications.

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The next issue of *Australian crop report* is scheduled to be released on 6 December 2016.

**In the next issue:**
2016–17 winter crop area estimates and production forecasts updated
2016–17 summer crop area and production forecasts updated

**Acknowledgements**
This report was prepared by Benjamin Agbenyegah, Dean Mansfield, David Mobsby, Nicholas Perndt, Sarah Smith and Kyann Zhang.

# Contents



# Tables

# Maps

# Overview

Seasonal conditions in most cropping regions during winter were very favourable, and crops are generally in very good condition at the beginning of spring. In the eastern states, including South Australia, winter rainfall was average to above average. In Western Australia, winter rainfall was more variable but timely and the season opening was generally very favourable.

In some regions, particularly in parts of New South Wales and far southern Western Australia, crops were waterlogged by very high winter rainfall. This is expected to constrain yields in these regions.

In its latest three-month rainfall outlook (September to November 2016), issued on 25 August 2016, the Bureau of Meteorology forecast spring rainfall to be around average in most cropping regions in Australia.

As a result of the very favourable seasonal conditions over winter and the favourable outlook for spring rainfall, forecast winter crop production in 2016–17 has been revised up from the ABARES forecast in June 2016. Forecast production has been revised up in all major producing states.

Total **winter crop** production is forecast to rise by 16 per cent in 2016–17 to a record 46.1 million tonnes, driven by significant increases in forecast production in Western Australia and Victoria. **Wheat** production is forecast to increase by 16 per cent to 28.1 million tonnes, **barley** production by 11 per cent to 9.5 million tonnes and **canola** production by 23 per cent to around 3.6 million tonnes. Wheat and barley production are both forecast to be the second highest on record and canola production to be the third highest. For the first time since 2007–08 winter crop production is forecast to rise across all states.

This forecast production will only be achieved if spring rainfall is sufficient and timely, especially in regions of Western Australia that had average to below average winter rainfall. Additionally, crops in some regions of Australia have developed relatively shallow root systems—which will not readily access stores of lower layer soil moisture. Shallow root systems may reach stores of upper layer soil moisture, but this can disappear quickly in hot and dry conditions.

**Table 1 Winter crop production, Australia, 2006–07 to 2016–17**

| Year | New South Wales | Victoria | Queensland | South Australia | Western Australia | Australia |
|---|---|---|---|---|---|---|
| | kt | kt | kt | kt | kt | kt |
| 2006–07 | 3 794 | 1 748 | 924 | 2 793 | 8 278 | 17 580 |
| 2007–08 | 3 999 | 4 692 | 1 194 | 4 706 | 10 761 | 25 415 |
| 2008–09 | 9 438 | 3 887 | 2 326 | 4 863 | 13 785 | 34 378 |
| 2009–10 | 7 787 | 5 889 | 1 617 | 7 035 | 12 943 | 35 344 |
| 2010–11 | 14 784 | 7 625 | 1 821 | 9 316 | 8 044 | 41 672 |
| 2011–12 | 11 952 | 7 352 | 2 329 | 7 371 | 16 600 | 45 670 |
| 2012–13 | 11 123 | 6 886 | 2 156 | 6 470 | 11 243 | 37 934 |
| 2013–14 | 9 773 | 6 773 | 1 516 | 7 221 | 16 510 | 41 878 |
| 2014–15 | 10 445 | 5 117 | 1 464 | 7 439 | 14 662 | 39 197 |
| 2015–16 **s** | 11 408 | 4 156 | 2 181 | 7 174 | 14 666 | 39 640 |
| 2016–17 **f** | 12 032 | 6 708 | 2 234 | 8 001 | 17 108 | 46 140 |
| % change 2015–16 to 2016–17 | 5 | 61 | 2 | 12 | 17 | 16 |

**f** ABARES forecast. **s** ABARES estimate.
Note: Includes barley, canola, chickpeas, faba beans, field peas, lentils, linseed, lupins, oats, safflower, triticale and wheat.

**Table 2 Winter crop area, Australia, 2006–07 to 2016–17**

| Year | New South Wales | Victoria | Queensland | South Australia | Western Australia | Australia |
|---|---|---|---|---|---|---|
| | '000 ha | '000 ha | '000 ha | '000 ha | '000 ha | '000 ha |
| 2006–07 | 5 671 | 3 082 | 808 | 4 141 | 6 477 | 20 207 |
| 2007–08 | 6 312 | 3 375 | 873 | 4 131 | 7 265 | 21 978 |
| 2008–09 | 6 295 | 3 492 | 1 208 | 3 979 | 7 899 | 22 901 |
| 2009–10 | 6 106 | 3 488 | 1 173 | 3 783 | 8 271 | 22 844 |
| 2010–11 | 6 158 | 3 457 | 1 217 | 3 821 | 7 715 | 22 392 |
| 2011–12 | 5 969 | 3 411 | 1 205 | 3 838 | 8 252 | 22 693 |
| 2012–13 | 5 852 | 3 457 | 1 222 | 3 776 | 8 097 | 22 421 |
| 2013–14 | 5 314 | 3 283 | 1 105 | 3 448 | 8 249 | 21 420 |
| 2014–15 | 5 491 | 3 304 | 995 | 3 639 | 8 313 | 21 760 |
| 2015–16 **s** | 5 674 | 3 242 | 1 234 | 3 568 | 8 378 | 22 115 |
| 2016–17 **s** | 5 832 | 3 286 | 1 278 | 3 662 | 8 441 | 22 518 |
| % change 2015–16 to 2016–17 | 3 | 1 | 4 | 3 | 1 | 2 |

**s** ABARES estimate.
Note: Includes barley, canola, chickpeas, faba beans, field peas, lentils, linseed, lupins, oats, safflower, triticale and wheat.

Total area planted to **summer crops** is forecast to rise by 21 per cent in 2016–17 to around 1.4 million hectares. Planting conditions for dryland crops are expected to be favourable, and supplies of irrigation water for irrigated crops are expected to be higher than in 2015–16. Forecast increases in area planted to rice and cotton are expected to more than offset a forecast fall in area planted to grain sorghum. Total summer crop production is forecast to rise by 28 per cent to around 4.8 million tonnes.

Area planted to **grain sorghum** is forecast to fall by 7 per cent in 2016–17 to 631 000 hectares. Some area planted to grain sorghum in 2015–16 is expected to be planted to dryland cotton in 2016–17. In August 2016 grain sorghum prices were around 30 per cent lower than in August 2015, and higher returns are expected from producing cotton relative to grain sorghum. Grain sorghum production is forecast to fall by 5 per cent to 1.9 million tonnes.

The area planted to **cotton** is forecast to rise by 76 per cent in 2016–17 to 475 000 hectares. This is in response to higher world cotton prices, higher water levels in dams serving Australian cotton-growing regions and favourable soil moisture in regions suitable for growing dryland cotton. As at 1 September 2016, the average storage level of public irrigation dams serving Australia's cotton-growing regions was around 50 per cent of capacity, compared with 35 per cent at the same time in 2015. Australian cotton production is forecast to rise by 51 per cent in 2016–17 to 875 000 tonnes of cotton lint and 1.2 million tonnes of cottonseed. The average cotton yield is expected to fall because of a forecast increase in area planted to dryland cotton, which has a substantially lower average yield than irrigated cotton.

Area planted to **rice** is forecast to rise to 90 000 hectares in 2016–17, almost four times higher than in the previous season. This reflects a substantial rise in the supply of irrigation water available to rice producers. Rice production is also forecast to increase by almost four times to 920 000 tonnes.

**Table 3 Summer crop area and production, Australia, 2006–07 to 2016–17**

| Year | New South Wales | | Queensland | | Australia | |
|---|---|---|---|---|---|---|
| | '000 ha | kt | '000 ha | kt | '000 ha | kt |
| 2006–07 | 338 | 1 037 | 545 | 1 099 | 918 | 2 166 |
| 2007–08 | 398 | 1 668 | 791 | 2 877 | 1 199 | 4 567 |
| 2008–09 | 402 | 1 430 | 746 | 2 350 | 1 156 | 3 794 |
| 2009–10 | 381 | 1 405 | 514 | 1 342 | 903 | 2 764 |
| 2010–11 | 713 | 2 514 | 790 | 1 901 | 1 514 | 4 446 |
| 2011–12 | 757 | 3 064 | 783 | 2 379 | 1 558 | 5 494 |
| 2012–13 | 711 | 3 205 | 687 | 2 250 | 1 411 | 5 505 |
| 2013–14 | 568 | 2 317 | 559 | 1 469 | 1 139 | 3 846 |
| 2014–15 | 435 | 2 044 | 696 | 2 134 | 1 149 | 4 262 |
| 2015–16 **s** | 436 | 1 586 | 725 | 2 050 | 1 177 | 3 708 |
| 2016–17 **f** | 618 | 2 516 | 786 | 2 177 | 1 420 | 4 765 |
| % change 2015–16 to 2016–17 | 42 | 59 | 8 | 6 | 21 | 28 |

**f** ABARES forecast. **s** ABARES estimate.

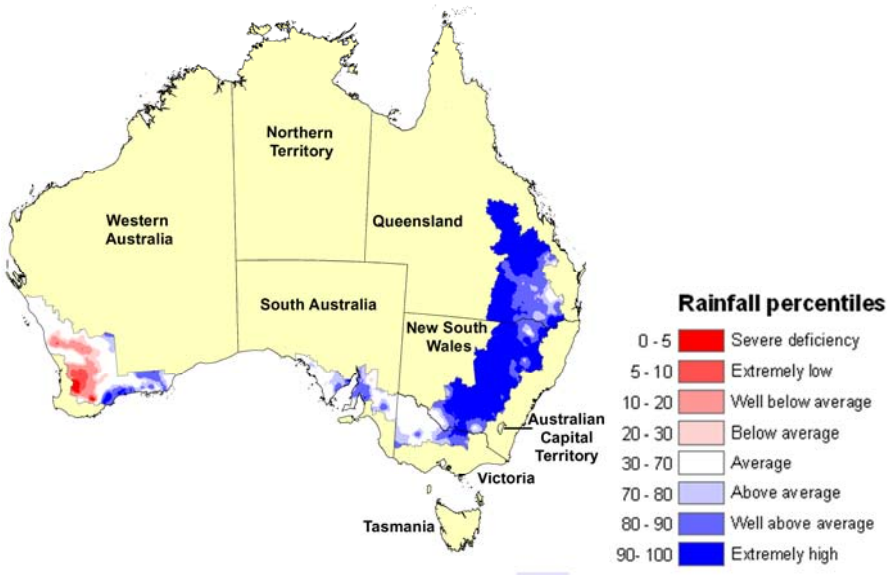
Note: State production includes cottonseed, grain sorghum, corn (maize), mung beans, rice, peanuts, soybeans and sunflower. Total for Australia also includes navy beans and small areas and volumes of summer crops in other states.

# Climatic and agronomic conditions

A wetter than average winter across much of Australia increased soil moisture and provided good conditions for growth and development of crops.

Autumn 2016 had variable rainfall but was Australia's warmest autumn on record. Winter 2016 was Australia's second-wettest winter on record. Rainfall in most cropping regions in each of the individual months was well above average. The main exceptions were some cropping regions in Western Australia, where winter rainfall was generally below average (Map 1).

### Map 1 Australian rainfall percentiles, 1 June to 31 August 2016



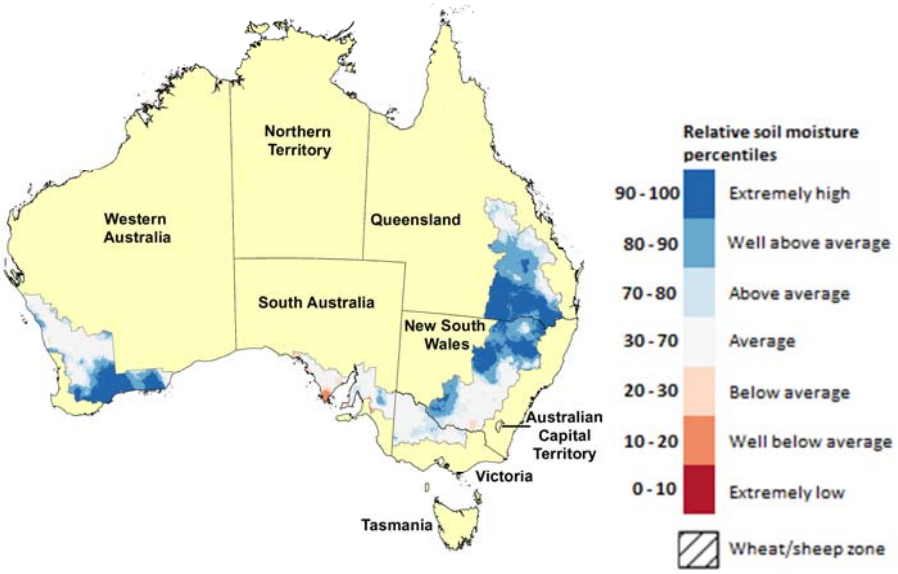

Note: Rainfall percentiles are displayed for wheat–sheep zone only. Spatial rainfall percentile analyses are based on historical monthly rainfall data provided by the Bureau of Meteorology. The rainfall percentile map shows how rainfall recorded during June to August 2016 compared with the rainfall recorded for that same period during the entire historical record (1900 to present). To calculate percentiles, the ranked rainfall data is divided into 100 equal parts. Fifth percentile rainfall for June to August 2016 means that total rainfall recorded during this period was at or below the lowest 5 per cent of all June to August rainfall totals during the entire historical record.

Source: Bureau of Meteorology

Map 2 and Map 3 show the relative levels of modelled upper layer (surface to 0.1 metres) and lower layer (~0.1 to ~1 metre) soil moisture in cropping regions across Australia during August 2016. Upper layer soil moisture responds quickly to seasonal conditions and can reflect rainfall and temperature events in the days leading up to the analysis date. Lower layer soil moisture is a larger, deeper store that is slower to respond to seasonal conditions and tends to reflect the accumulated effects of events that have occurred over longer periods.

Relative upper layer soil moisture during August 2016 was extremely high for cropping regions in southern Queensland, northern New South Wales and parts of far southern Western Australia. Meanwhile, upper layer soil moisture was close to average in northern and central cropping regions in Western Australia, northern cropping regions in Queensland, southern cropping regions New South Wales and most cropping regions in Victoria and South Australia (Map 2).

## Map 2 Upper layer soil moisture, August 2016

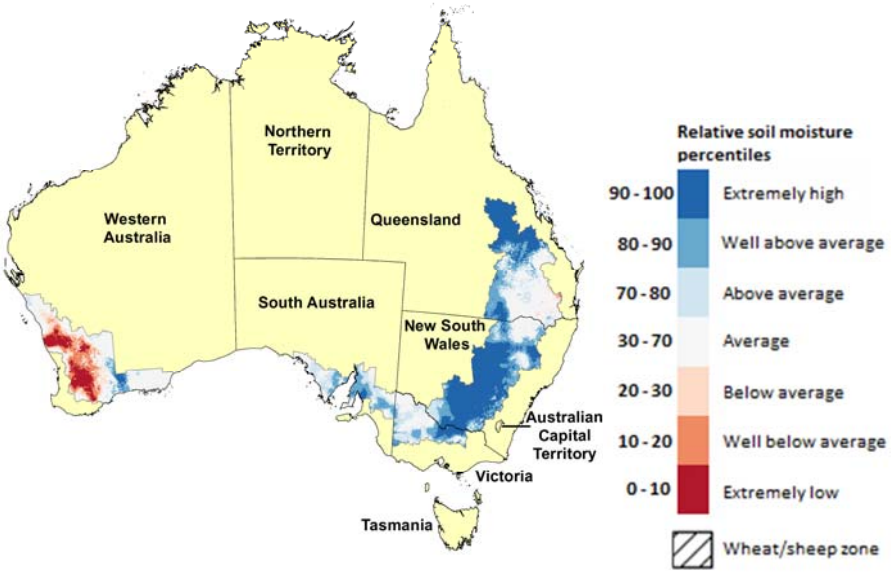



Note: Relative upper layer soil moisture is displayed for wheat–sheep zone only. Soil moisture estimates are relative to the long-term record and ranked in percentiles. Estimates are used to compare the upper layer soil moisture from August 2016 and are ranked according to percentiles for each August in the 1911–2015 historical reference period. The extremely high band indicates where the estimated soil moisture level for August 2016 was in the wettest 10 per cent of estimated soil moisture levels for August during the 1911–2015 reference period. The extremely low band indicates where the estimated soil moisture level for August 2016 was in the driest 10 per cent of estimated soil moisture levels for August during the 1911–2015 reference period.

Source: Bureau of Meteorology

Lower layer soil moisture during August 2016 was generally above average in cropping regions in the eastern states but varied. Lower layer soil moisture was extremely high in most cropping regions in New South Wales and northern cropping regions in Queensland. In contrast, lower layer soil moisture was well below average in most cropping regions in Western Australia, with some areas at extremely low levels. In most cropping regions in Victoria, southern Queensland and South Australia lower layer soil moisture was close to average.

### Map 3 Lower layer soil moisture, August 2016



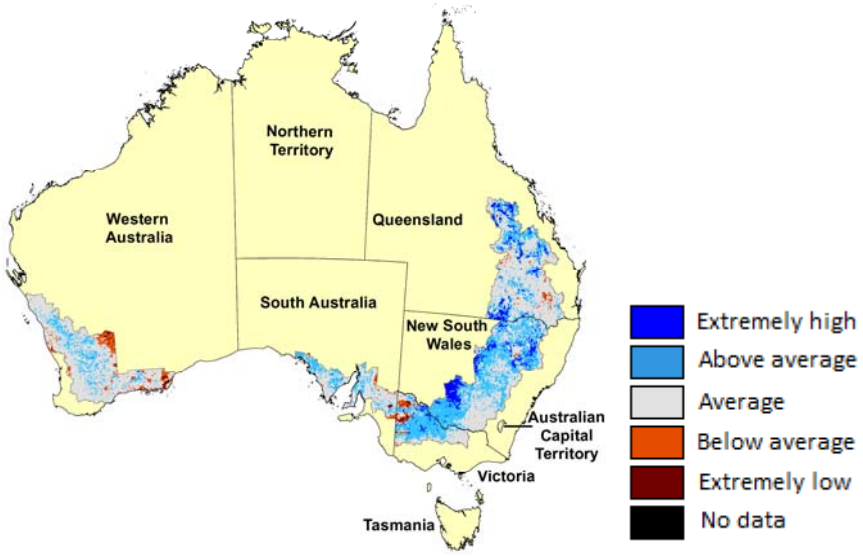

Note: Relative lower layer soil moisture is displayed for wheat–sheep zone only. Soil moisture estimates are relative to the long-term record and ranked in percentiles. Estimates are used to compare the lower layer soil moisture from August 2016 and are ranked according to percentiles for each August in the 1911–2015 historical reference period. The extremely high band indicates where the estimated soil moisture level for August 2016 was in the wettest 10 per cent of estimated soil moisture levels for August during the 1911–2015 reference period. The extremely low band indicates where the estimated soil moisture level for August 2016 was in the driest 10 per cent of estimated soil moisture levels for August during the 1911–2015 reference period.

Source: Bureau of Meteorology

Map 4 shows vegetation greenness anomalies during August 2016 for cropping zones across Australia. This is based on land surface data collected from satellites and shows the level of photosynthetic activity (or greenness) of plants. It can indicate the effectiveness of rainfall for plant growth and can be used to help assess the impacts of seasonal conditions on crop production.

Greenness anomalies for August 2016 indicate that vegetation greenness was above average throughout most of the cropping regions in New South Wales, central and southern Queensland and northern Victoria. This indicates above average vegetation growth and vigour for this time of year—due to well above average winter rainfall in these regions. However, vegetation greenness was closer to average in cropping areas in South Australia and Western Australia, indicating average vegetation growth and crop vigour for this time of year.

## Map 4 Vegetation greenness anomalies, August 2016

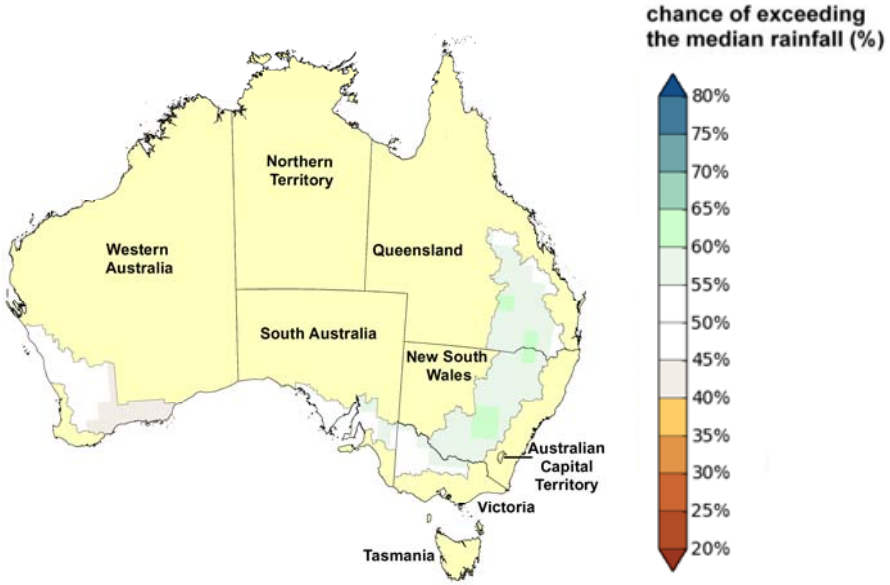



Note: Vegetation greenness anomalies displayed for cropping regions only. The anomalies are calculated as the difference between the greenness for the month and the average for the month, calculated over the reference period (1992–2008). Below average anomalies generally indicate unfavourable plant growing conditions and above average anomalies generally indicate favourable plant growing conditions. Plant growing conditions are strongly influenced by rainfall and temperature and these three factors often show a strong correlation.

Source: Bureau of Meteorology

The Bureau of Meteorology seasonal rainfall outlook for spring (September to November 2016) indicates no strong tendency towards either a wetter or drier than average spring for most Australian cropping regions (Map 5).

## Map 5 Rainfall outlook, September to November 2016




Note: Rainfall outlook is displayed for wheat–sheep zone only. The map shows the likelihood of exceeding the 1981–2010 median rainfall. Median rainfall is defined as the 50th percentile calculated from the 1981–2010 reference period.

Source: Bureau of Meteorology

The temperature outlook for September to November 2016 indicates that maximum and minimum temperatures are likely to be above average in Victorian and SA cropping regions. Meanwhile, cropping regions in Queensland, New South Wales and Western Australia have roughly equal chances of above or below average maximum and minimum temperatures.

Winter 2016 was wetter than average across much of Australia, largely influenced by the strongest negative Indian Ocean Dipole (IOD) event recorded in 50 years. A negative IOD event is characterised by warmer than normal eastern Indian Ocean waters and cooler than normal western Indian Ocean waters. The resulting changes in sea surface temperature intensify westerly winds and can provide more moisture for frontal systems and low pressure systems that move across Australia. During a negative IOD event, winter–spring rainfall typically increases over southern Australia.

In late August 2016, indicators showed a weakening of the negative IOD event. Climate models predicted the negative IOD would continue to decline during spring and conditions would return to neutral by November 2016. This means its influence on Australian rainfall is likely to lessen over the coming months.

At the end of August 2016, the Bureau of Meteorology reported that El Niño–Southern Oscillation (ENSO) indicators in the tropical Pacific Ocean were at neutral levels. Model outlooks for the next six months were mixed between neutral and La Niña scenarios. Three of the eight international climate models indicated a late forming La Niña was likely to develop during late spring or summer, with the other five models indicating ENSO neutral conditions were more likely.

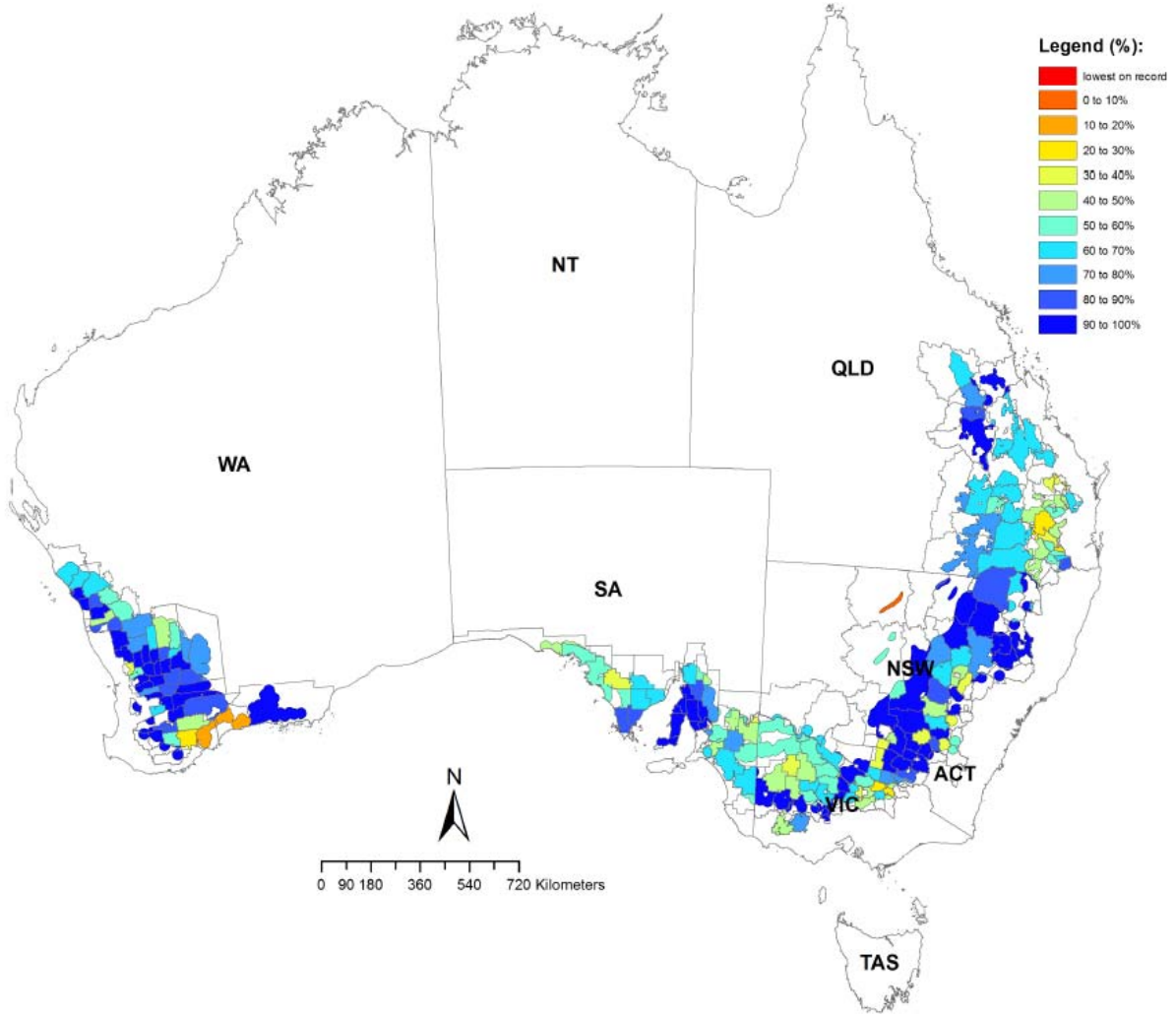
Climate models suggest that a La Niña would not be as strong as the most recent one, of 2010–2012—which was one of the strongest on record. However, conditions similar to those of La Niña can occur even if thresholds are not met. During La Niña events, spring rainfall is typically above average in eastern Australia and the first rains of the tropical wet season often arrive earlier than normal in northern Australia.

The shire-scale wheat forecasting system of the University of Queensland's Queensland Alliance for Agriculture and Food Innovation produces yield predictions for wheat. The system combines soil moisture conditions at the time of the forecast with the seasonal outlook, including the most recent trend in the Southern Oscillation Index (SOI).

At the beginning of September 2016, probability of exceeding median wheat yields in most cropping regions across Australia was generally high (Map 6). Parts of southern Queensland and southern Western Australia show reduced chances of exceeding median yield (between 10 per cent and 40 per cent).

This wheat yield forecast is based on climate data up to the beginning of September 2016 and projected climate data after this date. The projected climate data are drawn from historical analogue years based on similarity to the prevailing phase of the SOI. The prevailing SOI phase during the two months preceding this forecast was 'consistently neutral'.

## Map 6 Probability of exceeding long-term simulated median shire wheat yield




Source: Queensland Alliance for Agriculture and Food Innovation

**Table 4 Rainfall in major cropping districts, June to August**

| District | District no. | June median | June 2016 | July median | July 2016 | August median | August 2016 |
|---|---|---|---|---|---|---|---|
| | | mm | mm | mm | mm | mm | mm |
| **New South Wales** | | | | | | | |
| NW Plains (W) | 52 | 33 | 126 | 30 | 22 | 19 | 44 |
| NW Plains (E) | 53 | 37 | 107 | 37 | 27 | 30 | 61 |
| NW Slopes (N) | 54 | 38 | 107 | 42 | 39 | 37 | 79 |
| NW Slopes (S) | 55 | 43 | 129 | 43 | 43 | 41 | 75 |
| N Tablelands (N) | 56 | 43 | 130 | 44 | 42 | 42 | 116 |
| CW Plains (S) | 50 | 39 | 147 | 37 | 66 | 31 | 42 |
| CW Plains (N) | 51 | 33 | 158 | 28 | 38 | 23 | 47 |
| CW Slopes (N) | 64 | 41 | 138 | 47 | 64 | 36 | 46 |
| CW Slopes (S) | 65 | 47 | 135 | 50 | 100 | 46 | 54 |
| C Tablelands (N) | 62 | 43 | 123 | 47 | 96 | 45 | 48 |
| C Tablelands (S) | 63 | 54 | 181 | 57 | 109 | 59 | 64 |
| Riverina (W) | 75 | 32 | 76 | 30 | 47 | 32 | 50 |
| Riverina (E) | 74 | 44 | 94 | 41 | 64 | 43 | 51 |
| SW Slopes (N) | 73 | 59 | 136 | 60 | 107 | 63 | 63 |
| SW Slopes (S) | 72 | 93 | 196 | 103 | 180 | 114 | 92 |
| **Victoria** | | | | | | | |
| N Mallee | 76 | 26 | 29 | 29 | 31 | 30 | 31 |
| S Mallee | 77 | 33 | 35 | 33 | 42 | 36 | 33 |
| N Wimmera | 78 | 42 | 47 | 42 | 61 | 43 | 42 |
| S Wimmera | 79 | 60 | 61 | 65 | 88 | 65 | 68 |
| Lower North | 80 | 41 | 53 | 40 | 57 | 40 | 52 |
| Upper North | 81 | 54 | 68 | 55 | 81 | 53 | 65 |
| Lower North East | 82 | 108 | 149 | 114 | 204 | 118 | 129 |
| North Central | 88 | 81 | 91 | 83 | 110 | 85 | 87 |
| Western Plains | 89 | 57 | 61 | 60 | 100 | 67 | 59 |
| West Coast | 90 | 85 | 99 | 90 | 143 | 93 | 80 |
| **Queensland** | | | | | | | |
| Central Highlands | 35 | 28 | 94 | 17 | 101 | 13 | 31 |
| Maranoa | 43 | 25 | 74 | 23 | 39 | 20 | 57 |
| W Darling Downs | 42 | 27 | 72 | 29 | 36 | 20 | 53 |
| E Darling Downs | 41 | 31 | 56 | 31 | 28 | 25 | 74 |
| Moreton S Coast | 40 | 37 | 132 | 37 | 36 | 29 | 33 |

continued ...

## Table 4 Rainfall in major cropping districts (continued)

| District | District no. | June median | June 2016 | July median | July 2016 | August median | August 2016 |
|---|---|---|---|---|---|---|---|
| | | mm | mm | mm | mm | mm | mm |
| **South Australia** | | | | | | | |
| Upper South East | 25B | 51 | 51 | 53 | 77 | 55 | 51 |
| Murray Mallee | 25A | 31 | 32 | 32 | 43 | 35 | 45 |
| Murray River | 24 | 29 | 29 | 27 | 40 | 30 | 31 |
| East Central | 23 | 74 | 87 | 77 | 133 | 74 | 63 |
| Yorke Peninsula | 22A | 53 | 65 | 57 | 67 | 54 | 47 |
| Lower North | 21 | 43 | 69 | 44 | 52 | 47 | 44 |
| Upper North | 19 | 26 | 54 | 29 | 20 | 27 | 39 |
| Western Agricultural | 18 | 31 | 57 | 29 | 34 | 28 | 23 |
| **Western Australia** | | | | | | | |
| North Coast | 8 | 71 | 63 | 65 | 68 | 48 | 44 |
| Central Coast | 9 | 143 | 109 | 141 | 118 | 113 | 116 |
| Northern Central | 10 | 53 | 36 | 50 | 49 | 43 | 38 |
| South Central | 10A | 56 | 44 | 59 | 37 | 52 | 63 |
| South East | 12 | 19 | 36 | 18 | 31 | 16 | 19 |

Note: Median rainfall is calculated over the period 1900 to August 2016. Australian rainfall districts are shown in Map 7.
Source: Bureau of Meteorology monthly district rainfall reports

## Map 7 Australian rainfall districts


Note: Displayed for major cropping districts only. See Table 4 for district names and observed district rainfall.
Source: Bureau of Meteorology

# Crop conditions and production forecasts, by state

## New South Wales

Winter crop production is forecast to rise in New South Wales in 2016–17 as a result of very much above average winter rainfall, particularly in large areas of central and southern New South Wales. Waterlogging in in low-lying regions and regions with heavier soil types is expected to constrain yields in parts of these regions. However, crops grown in better-draining soils in the western regions are expected to benefit significantly from the very high winter rainfall.

In its latest three-month rainfall outlook (September to November 20), issued on 25 August 2016, the Bureau of Meteorology forecast spring rainfall to be around average in cropping regions in New South Wales.

Total **winter crop** production in New South Wales is forecast to increase by 5 per cent in 2016–17 to 12 million tonnes, driven by significant increases in expected production of wheat and canola. If realised, production would be the second highest on record after 2010–11.

**Wheat** production is forecast to increase by 6 per cent in 2016–17 to around 8 million tonnes. Planted area is estimated to have increased by 3 per cent to 3.5 million hectares and the average yield is forecast to rise by 3 per cent.

**Barley** production is forecast to rise by 2 per cent in 2016–17 to around 1.9 million tonnes. Planted area is estimated to have fallen by 3 per cent, but the average yield is forecast to rise by 5 per cent to 2.2 tonnes a hectare.

**Canola** production is forecast to increase by 10 per cent in 2016–17 to 920 000 tonnes. Canola crops are not expected to be as adversely affected by waterlogging as wheat crops, and the average canola yield is forecast to rise by 4 per cent to 1.5 tonnes a hectare.

**Table 5 Winter crop forecasts, New South Wales, 2016–17**

| Crop | Area '000 ha | Yield t/ha | Production kt | Area change % | Prod. % |
|---|---|---|---|---|---|
| Wheat | 3 500 | 2.27 | 7 950 | 3 | 6 |
| Barley | 870 | 2.21 | 1 925 | –3 | 2 |
| Canola | 595 | 1.55 | 920 | 6 | 10 |

Note: Yields are based on area planted.

The total area planted to **summer crops** in New South Wales is forecast to rise by 42 per cent in 2016–17 to around 618 000 hectares. This forecast is underpinned by expected favourable planting conditions for dryland crops and increased water availability for irrigated crops. Total summer crop production is forecast to be around 59 per cent higher at 2.5 million tonnes.

Area planted to **grain sorghum** is forecast to fall by 8 per cent in 2016–17 to 165 000 hectares. Grain sorghum production is forecast to fall by 6 per cent to 550 000 tonnes. Some area planted to grain sorghum in 2015–16 is expected to be planted to dryland cotton in 2016–17 because of higher expected returns from growing cotton relative to grain sorghum.

Area planted to **cotton** is forecast to rise by 75 per cent in 2016–17 to 285 000 hectares. Area planted to dryland cotton is expected to more than triple to 95 000 hectares in response to favourable soil moisture and favourable expected returns from growing cotton. Cotton production in New South Wales is forecast to increase by 52 per cent to 543 000 tonnes of cotton lint and around 768 000 tonnes of cottonseed. Average yields are forecast to fall by 13 per cent as a result of the forecast increase in area planted to dryland cotton, which has a lower average yield than irrigated cotton.

The area planted to **rice** is forecast to be 90 000 hectares in 2016–17, four times higher than the previous season. This reflects a large increase in the supply of irrigation water available to rice producers. Rice production is forecast to more than triple to 916 000 tonnes.

**Table 6 Summer crop forecasts, New South Wales, 2016–17**

| Crop | Area '000 ha | Yield t/ha | Production kt | Area change % | Prod. change % |
|---|---|---|---|---|---|
| Grain sorghum | 165 | 3.33 | 550 | –8 | –6 |
| Cotton lint | 285 | 1.91 | 543 | 75 | 52 |
| Cottonseed | 285 | 2.69 | 768 | 75 | 52 |
| Rice | 90 | 10.21 | 916 | 303 | 274 |

Note: Yields are based on area planted.

# Queensland

Winter rainfall in Queensland's cropping regions was generally average to above average, improving crop prospects across the state. The significant and widespread winter rainfall increased soil moisture levels, which is expected to support crop development through to harvest.

**Winter crop** production in Queensland is forecast to rise by 2 per cent in 2016–17 to around 2.2 million tonnes because of higher forecast chickpea production. The total area planted to winter crops is estimated to have risen by 4 per cent to 1.3 million hectares, reflecting a large estimated increase in area planted to chickpeas.

**Wheat** production is forecast to fall by 4 per cent in 2016–17 to around 1.3 million tonnes, driven by an estimated 6 per cent fall in planted area. However, the average yield is forecast to rise by 3 per cent. Area planted to wheat fell largely because of a sharp rise in area planted to chickpeas.

**Chickpea** production is forecast to increase by 26 per cent in 2016–17 to a record 700 000 tonnes. This forecast reflects an estimated 33 per cent rise in area planted to chickpeas. The average yield is forecast to decline from the previous season but is still expected to be above average. The forecast decline in the average yield reflects relatively late planting and wetter than average conditions in some regions.

**Table 7 Winter crop forecasts, Queensland, 2016–17**

| Crop | Area '000 ha | Yield t/ha | Production kt | Area change % | Prod. change % |
|---|---|---|---|---|---|
| Wheat | 725 | 1.86 | 1 345 | –6 | –4 |
| Barley | 75 | 2.15 | 161 | –25 | –22 |
| Chickpeas | 450 | 1.56 | 700 | 33 | 26 |

Note: Yields are based on area planted.

The area planted to **summer crops** in Queensland is forecast to increase by 8 per cent in 2016–17 to 786 000 hectares as a result of above average winter rainfall and the outlook for around average spring rainfall. At this forecast level, area planted to summer crops would be the highest since 2010–11. Summer crop production in Queensland is forecast to rise by 6 per cent to 2.2 million tonnes.

In its latest three-month rainfall outlook (September to November 2016), issued on 25 August 2016, the Bureau of Meteorology forecast the chance of spring rainfall exceeding the median at between 50 per cent and 60 per cent in Queensland's cropping regions.

Area planted to **grain sorghum** is forecast to fall by 7 per cent in 2016–17 to 465 000 hectares. A fall in planted area is expected in response to a sharp fall in grain sorghum prices compared with cotton prices. As a result, some area planted to grain sorghum in the previous season is expected to be planted to dryland cotton in 2016–17. Grain sorghum production is forecast to decline by 5 per cent to 1.4 million tonnes.

Area planted to **cotton** is forecast to rise by 78 per cent in 2016–17 to 190 000 hectares. Area planted to dryland cotton is expected to more than double to 80 000 hectares in response to favourable soil moisture and favourable cotton prices relative to grain sorghum prices. Cotton production is forecast to increase by 50 per cent to 332 000 tonnes of cotton lint and around 469 000 tonnes of cottonseed. The average yield is expected to fall by 16 per cent as a result of the forecast increase in area planted to dryland cotton, which has a lower average yield than irrigated cotton.

**Table 8 Summer crop forecasts, Queensland, 2016–17**

| Crop | Area '000 ha | Yield t/ha | Production kt | Area change % | Prod. change % |
|---|---|---|---|---|---|
| Grain sorghum | 465 | 2.97 | 1 380 | –7 | –5 |
| Cotton lint | 190 | 1.75 | 332 | 78 | 50 |
| Cottonseed | 190 | 2.47 | 469 | 78 | 50 |

Note: Yields are based on area planted.

# Victoria

Seasonal conditions in the major cropping regions in Victoria during winter were favourable for crop growth and development. Winter rainfall was average to above average and soil moisture levels were around average at the end of winter. In the major growing regions of the Mallee and Wimmera, winter rainfall was around average. However, winter rainfall was regular in most regions, which resulted in many crops developing shallow root systems. Therefore, sufficient and timely rainfall during spring will be important for ongoing crop development.

In its latest three-month rainfall outlook (September to November 2016), issued on 25 August 2016, the Bureau of Meteorology forecast spring rainfall to be around average in the cropping regions of Victoria.

The risk of frost damage to cereal crops in frost-prone regions from significant frost events in early spring is higher than usual. This is because crops are more advanced than usual following the favourable seasonal conditions during winter.

Russian wheat aphids were first detected in western Victoria in early June but had limited impact on the wheat crops through winter. As temperatures rise through spring, the risk of infestation will also increase. However, close monitoring and spraying where necessary is likely to limit any damage.

Total **winter crop** production in Victoria is forecast to increase by 61 per cent in 2016–17 to 6.7 million tonnes. This is primarily the result of the favourable seasonal conditions driving forecast increases in yields compared with below average yields in the previous year. Planted area is estimated to have increased by around 1 per cent in 2016–17 to 3.3 million hectares.

**Wheat** production is forecast to rise by 56 per cent in 2016–17 to 3.3 million tonnes, largely driven by a forecast increase in the average yield to 2.2 tonnes a hectare. Planted area is estimated to have increased only slightly from the previous year.

**Barley** production is forecast to increase by 56 per cent in 2016–17 to 2.1 million tonnes. The expected increase in production is mainly the result of a forecast increase in the average yield. Planted area is estimated to have increased slightly from the previous year.

**Canola** production is forecast to increase by almost three-quarters in 2016–17 to 610 000 tonnes, largely driven by a forecast 67 per cent increase in the average yield to 1.6 tonnes a hectare. This forecast increase in the average yield is the result of above average rainfall in canola-growing regions during winter. Area planted to canola is estimated to have risen by 4 per cent to 385 000 hectares, reflecting favourable expected returns at the time of planting.

**Table 9 Winter crop forecasts, Victoria, 2016–17**

| Crop | Area '000 ha | Yield t/ha | Production kt | Area change % | Prod. change % |
|---|---|---|---|---|---|
| Wheat | 1 460 | 2.23 | 3 250 | 1 | 56 |
| Barley | 945 | 2.22 | 2 100 | 1 | 56 |
| Canola | 385 | 1.58 | 610 | 4 | 74 |

Note: Yields are based on area planted.

# South Australia

Winter rainfall in the major cropping regions in South Australia was average to above average. Soil moisture levels rose during early winter in most cropping regions and by the end of winter were generally around average. Waterlogging was not widespread in South Australia and warmer than average maximum temperatures in August accelerated crop development. Sufficient and timely spring rainfall will be important to ongoing crop development.

In its latest three-month rainfall outlook (September to November 2016) issued on the 25 August 2016, the Bureau of Meteorology forecast the likelihood of spring rainfall exceeding the

median in most cropping regions in South Australia to be 50 per cent to 60 per cent. Spring temperatures are also forecast to be warmer than the median.

Total **winter crop** production in South Australia is forecast to increase by 12 per cent in 2016–17 to 8 million tonnes, primarily driven by forecast increases in average yields. Given the favourable seasonal conditions during winter, and the favourable rainfall outlook for spring, yields are expected to be generally above average. Planted area is estimated to have increased by 3 per cent to 3.7 million hectares.

**Wheat** production is forecast to rise by 14 per cent in 2016–17 to 5 million tonnes, mainly driven by a forecast 9 per cent increase in the average yield. Additionally, planted area is estimated to have increased by 5 per cent.

**Barley** production is forecast to fall by 2 per cent in 2016–17 to around 1.9 million tonnes, driven by an estimated 4 per cent fall in planted area. However, the average yield is forecast to rise by 2 per cent and partially offset the effect of the fall in planted area.

**Canola** production is forecast to increase by 18 per cent in 2016–17 to 350 000 tonnes. Area planted to canola is estimated to have risen by 2 per cent in response to higher expected returns from growing canola. Additionally, the average yield is forecast to increase by 16 per cent.

**Lentil** production is forecast to increase by 14 per cent in 2016–17 to 235 000 tonnes. Production growth is expected to result from an estimated 10 per cent increase in planted area. The estimated increase in planted area was mostly on Yorke Peninsula. An increase in expected returns may have encouraged some producers to plant area to lentils before the conclusion of the recommended rest period for this crop, increasing the risk of disease outbreak. However, yields are expected to be generally above average because of the largely favourable growing conditions.

**Table 10 Winter crop forecasts, South Australia, 2016–17**

| Crop | Area '000 ha | Yield t/ha | Production kt | Area change % | Prod. change % |
|---|---|---|---|---|---|
| Wheat | 2 100 | 2.38 | 5 000 | 5 | 14 |
| Barley | 780 | 2.37 | 1 850 | –4 | –2 |
| Canola | 230 | 1.52 | 350 | 2 | 18 |

Note: Yields are based on area planted.

# Western Australia

Following a very favourable start to the cropping season in Western Australia in 2016–17, winter rainfall was variable in grain-growing regions. For example, rainfall in some central growing regions was below average but in southern growing regions was above average. However, rainfall was timely and the generally cooler than average winter temperatures reduced the threat of pests and diseases establishing during winter. Sufficient and timely spring rainfall will be important to ongoing crop development, particularly in regions where winter rainfall was below average.

In its latest three-month rainfall outlook (September to November 2016), issued on 25 August 2016, the Bureau of Meteorology forecast spring rainfall to be around average in cropping regions.

Winter crops were generally planted early so many are more developed than would be usual at the end of winter. This means crops in frost-prone regions will be more susceptible than usual to damage from significant frost events in early spring.

Total **winter crop** production in Western Australia is forecast to increase by 17 per cent in 2016–17 to 17.1 million tonnes, largely driven by forecast increases in average yields. Planted area is estimated to have increased by around 1 per cent because of favourable planting conditions.

**Wheat** production is forecast to increase by 19 per cent in 2016–17 to 10.5 million tonnes. The average yield is expected to increase by 20 per cent to 2 tonnes a hectare and the area planted to wheat is estimated to be marginally lower.

**Barley** production is forecast to rise by 6 per cent in 2016–17 to around 3.4 million tonnes, driven by a forecast 8 per cent rise in the average yield. Area planted to barley is estimated to have fallen by 2 per cent.

**Canola** production is forecast to rise by 20 per cent in 2016–17 to 1.75 million tonnes, largely because of a 16 per cent increase in the average yield. Area planted to canola is estimated to be 3 per cent higher at 1.2 million hectares.

**Table 11 Winter crop forecasts, Western Australia, 2016–17**

| Crop | Area<br>'000 ha | Yield<br>t/ha | Production<br>kt | Area change<br>% | Prod. change<br>% |
|---|---|---|---|---|---|
| Wheat | 5 125 | 2.05 | 10 500 | 0 | 19 |
| Barley | 1 325 | 2.60 | 3 445 | –2 | 6 |
| Canola | 1 240 | 1.41 | 1 750 | 3 | 20 |
| Lupins | 361 | 1.51 | 545 | 11 | 22 |

Note: Yields are based on area planted.

# Statistical tables

**Table 12 Australian winter crop production and area, 2014–15 to 2016–17**

| Crop | Area | | | Production | | |
|---|---|---|---|---|---|---|
| | **2014–15** | **2015–16 s** | **2016–17 s** | **2014–15** | **2015–16 s** | **2016–17 f** |
| | '000 ha | '000 ha | '000 ha | kt | kt | kt |
| Wheat | 12 384 | 12 793 | 12 918 | 23 743 | 24 193 | 28 079 |
| Barley | 4 078 | 4 105 | 4 000 | 8 646 | 8 593 | 9 496 |
| Canola | 2 897 | 2 357 | 2 452 | 3 540 | 2 944 | 3 632 |
| Chickpeas | 425 | 661 | 822 | 555 | 1 013 | 1 234 |
| Faba beans | 164 | 282 | 293 | 284 | 319 | 492 |
| Field peas | 237 | 238 | 242 | 290 | 205 | 317 |
| Lentils | 189 | 232 | 253 | 242 | 258 | 365 |
| Lupins | 443 | 490 | 517 | 549 | 607 | 705 |
| Oats | 854 | 832 | 909 | 1 198 | 1 308 | 1 632 |
| Triticale | 82 | 117 | 104 | 143 | 195 | 181 |

**f** ABARES forecast. **s** ABARES estimate.
Note: Crop year refers to crops planted during the 12 months to 31 March. Slight discrepancies may appear between tables as a result of including the Australian Capital Territory and the Northern Territory in Australian totals.
Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

**Table 13 Australian summer crop production and area, 2014–15 to 2016–17**

| Crop | Area | | | Production | | |
|---|---|---|---|---|---|---|
| | **2014–15** | **2015–16 s** | **2016–17 f** | **2014–15** | **2015–16 s** | **2016–17 f** |
| | '000 ha | '000 ha | '000 ha | kt | kt | kt |
| Grain sorghum | 732 | 681 | 631 | 2 209 | 2 037 | 1 932 |
| Cottonseed **a** | 197 | 270 | 475 | 746 | 819 | 1 237 |
| Cotton lint **a** | 197 | 270 | 475 | 528 | 579 | 875 |
| Rice | 70 | 23 | 90 | 690 | 250 | 920 |
| Corn (maize) | 60 | 67 | 69 | 495 | 439 | 483 |
| Soybeans | 20 | 21 | 28 | 37 | 40 | 54 |
| Sunflower | 25 | 23 | 29 | 30 | 25 | 34 |

**a** Cotton area is estimated harvested area. **f** ABARES forecast. **s** ABARES estimate.
Note: Crop year refers to crops planted during the 12 months to 31 March. Slight discrepancies may appear between tables as a result of including the Australian Capital Territory and the Northern Territory in Australian totals.
Sources: ABARES; Australian Bureau of Statistics

## Table 14 State production, major crops, 2014–15 to 2016–17

| Winter crops | New South Wales | | Victoria | | Queensland | | South Australia | | Western Australia | | Tasmania | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | area '000 ha | prod. kt | area '000 ha | prod. kt | area '000 ha | prod. kt | area '000 ha | prod. kt | area '000 ha | prod. kt | area '000 ha | prod. kt |
| **Wheat** | | | | | | | | | | | | |
| 2016–17 **f** | 3 500 | 7 950 | 1 460 | 3 250 | 725 | 1 345 | 2 100 | 5 000 | 5 125 | 10 500 | 8 | 34 |
| 2015–16 **s** | 3 410 | 7 500 | 1 450 | 2 085 | 775 | 1 400 | 2 000 | 4 376 | 5 150 | 8 800 | 8 | 32 |
| 2014–15 | 3 166 | 6 654 | 1 493 | 2 631 | 634 | 987 | 2 045 | 4 602 | 5 038 | 8 824 | 8 | 44 |
| Five-year average to 2015–16 | 3 440 | 7 317 | 1 548 | 3 096 | 797 | 1 385 | 2 068 | 4 287 | 5 074 | 9 078 | 7 | 37 |
| **Barley** | | | | | | | | | | | | |
| 2016–17 **f** | 870 | 1 925 | 945 | 2 100 | 75 | 161 | 780 | 1 850 | 1 325 | 3 445 | 5 | 15 |
| 2015–16 **s** | 900 | 1 890 | 940 | 1 350 | 100 | 207 | 810 | 1 881 | 1 350 | 3 250 | 5 | 15 |
| 2014–15 | 882 | 1 869 | 916 | 1 374 | 125 | 253 | 840 | 1 941 | 1 308 | 3 192 | 5 | 17 |
| Five-year average to 2015–16 | 758 | 1 591 | 892 | 1 743 | 100 | 200 | 841 | 1 865 | 1 276 | 3 002 | 6 | 19 |
| **Canola** | | | | | | | | | | | | |
| 2016–17 **f** | 595 | 920 | 385 | 610 | 1 | 1 | 230 | 350 | 1 240 | 1 750 | 1 | 1 |
| 2015–16 **s** | 560 | 833 | 370 | 350 | 1 | 1 | 225 | 296 | 1 200 | 1 463 | 1 | 1 |
| 2014–15 | 699 | 1 014 | 483 | 559 | 1 | 0 | 316 | 324 | 1 397 | 1 641 | 1 | 2 |
| Five-year average to 2015–16 | 737 | 1 071 | 472 | 635 | 1 | 1 | 291 | 374 | 1 239 | 1 495 | 1 | 1 |
| **Oats** | | | | | | | | | | | | |
| 2016–17 **f** | 322 | 390 | 154 | 305 | 25 | 23 | 63 | 107 | 341 | 800 | 4 | 7 |
| 2015–16 **s** | 300 | 360 | 140 | 175 | 18 | 15 | 60 | 101 | 310 | 651 | 4 | 6 |
| 2014–15 | 362 | 350 | 133 | 179 | 65 | 15 | 57 | 89 | 233 | 558 | 4 | 6 |
| Five-year average to 2015–16 | 280 | 305 | 125 | 207 | 34 | 14 | 59 | 88 | 270 | 607 | 4 | 8 |

continued ...

Table 14 State production, major crops, 2014–15 to 2016–17 (continued)

| Summer crops | New South Wales | | Victoria | | Queensland | | South Australia | | Western Australia | | Tasmania | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | area | prod. | area | prod. | area | prod. | area | prod. | area | prod. | area | prod. |
| | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt |
| **Grain sorghum** | | | | | | | | | | | | |
| 2016–17 **f** | 165 | 550 | 0 | 0 | 465 | 1 380 | 0 | 0 | 1 | 2 | 0 | 0 |
| 2015–16 **s** | 180 | 585 | 0 | 0 | 500 | 1 450 | 0 | 0 | 1 | 2 | 0 | 0 |
| 2014–15 | 184 | 586 | 0 | 1 | 547 | 1 618 | 0 | 1 | 1 | 4 | 0 | 0 |
| Five-year average to 2015–16 | 195 | 630 | 1 | 2 | 454 | 1 364 | 0 | 0 | 1 | 2 | 0 | 0 |
| **Cottonseed a** | | | | | | | | | | | | |
| 2016–17 **f** | 285 | 768 | 0 | 0 | 190 | 469 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015–16 **s** | 163 | 505 | 0 | 0 | 107 | 313 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2014–15 | 124 | 472 | 0 | 0 | 73 | 274 | 0 | 0 | 0 | 0 | 0 | 0 |
| Five-year average to 2015–16 | 237 | 764 | 0 | 0 | 143 | 433 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Rice** | | | | | | | | | | | | |
| 2016–17 **f** | 90 | 916 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015–16 **s** | 22 | 245 | 0 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2014–15 | 69 | 688 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Five-year average to 2015–16 | 76 | 763 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

**a** Cotton area is estimated harvested area. **f** ABARES forecast. **s** ABARES estimate.
Note: Zero is used to denote nil or less than 500 tonnes or 500 hectares.
Sources: ABARES; Australian Bureau of Statistics

## Table 15 State production, other crops, 2014–15 to 2016–17

| Winter crops | New South Wales | | Victoria | | Queensland | | South Australia | | Western Australia | | Tasmania | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | area | prod. | area | prod. | area | prod. | area | prod. | area | prod. | area | prod. |
| | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt |
| **Chickpeas** | | | | | | | | | | | | |
| 2016–17 **f** | 335 | 491 | 15 | 20 | 450 | 700 | 18 | 20 | 3 | 3 | 0 | 0 |
| 2015–16 **s** | 291 | 439 | 13 | 5 | 338 | 555 | 17 | 11 | 3 | 3 | 0 | 0 |
| 2014–15 | 209 | 282 | 26 | 52 | 165 | 201 | 21 | 16 | 3 | 4 | 0 | 0 |
| Five-year average to 2015–16 | 249 | 342 | 37 | 46 | 217 | 326 | 18 | 18 | 4 | 5 | 0 | 0 |
| **Field peas** | | | | | | | | | | | | |
| 2016–17 **f** | 50 | 75 | 49 | 60 | 0 | 0 | 112 | 140 | 31 | 42 | 0 | 0 |
| 2015–16 **s** | 48 | 73 | 54 | 21 | 0 | 0 | 114 | 82 | 22 | 29 | 0 | 0 |
| 2014–15 | 51 | 66 | 51 | 65 | 0 | 0 | 110 | 127 | 25 | 32 | 0 | 0 |
| Five-year average to 2015–16 | 49 | 64 | 49 | 56 | 0 | 0 | 112 | 135 | 40 | 46 | 0 | 0 |
| **Lentils** | | | | | | | | | | | | |
| 2016–17 **f** | 0 | 0 | 111 | 130 | 0 | 0 | 142 | 235 | 0 | 0 | 0 | 0 |
| 2015–16 **s** | 3 | 2 | 100 | 50 | 0 | 0 | 130 | 206 | 0 | 0 | 0 | 0 |
| 2014–15 | 1 | 1 | 86 | 80 | 0 | 0 | 102 | 162 | 0 | 0 | 0 | 0 |
| Five-year average to 2015–16 | 1 | 1 | 84 | 89 | 0 | 0 | 100 | 155 | 0 | 0 | 0 | 0 |
| **Lupins** | | | | | | | | | | | | |
| 2016–17 **f** | 51 | 50 | 33 | 30 | 0 | 0 | 72 | 80 | 361 | 545 | 0 | 0 |
| 2015–16 **s** | 62 | 76 | 33 | 24 | 0 | 0 | 70 | 61 | 326 | 445 | 0 | 0 |
| 2014–15 | 56 | 66 | 32 | 26 | 0 | 0 | 68 | 75 | 287 | 382 | 0 | 0 |
| Five-year average to 2015–16 | 62 | 69 | 34 | 30 | 0 | 0 | 64 | 72 | 332 | 473 | 0 | 0 |

continued ...

**Table 15 State production, other crops, 2014–15 to 2016–17 (continued)**

| Summer crops | New South Wales | | Victoria | | Queensland | | South Australia | | Western Australia | | Tasmania | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | area | prod. | area | prod. | area | prod. | area | prod. | area | prod. | area | prod. |
| | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt | '000 ha | kt |
| **Corn (maize)** | | | | | | | | | | | | |
| 2016–17 **f** | 23 | 207 | 5 | 53 | 41 | 217 | 0 | 0 | 1 | 6 | 0 | 0 |
| 2015–16 **s** | 22 | 188 | 5 | 52 | 39 | 193 | 0 | 0 | 1 | 6 | 0 | 0 |
| 2014–15 | 23 | 246 | 5 | 59 | 31 | 183 | 0 | 0 | 1 | 7 | 0 | 0 |
| Five-year average to 2015–16 | 25 | 222 | 4 | 40 | 36 | 189 | 0 | 1 | 1 | 5 | 0 | 0 |
| **Soybeans** | | | | | | | | | | | | |
| 2016–17 **f** | 16 | 33 | 1 | 1 | 11 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015–16 **s** | 13 | 26 | 1 | 1 | 7 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2014–15 | 13 | 26 | 0 | 0 | 7 | 11 | 0 | 0 | 0 | 0 | 0 | 0 |
| Five-year average to 2015–16 | 21 | 31 | 0 | 1 | 8 | 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Sunflower** | | | | | | | | | | | | |
| 2016–17 **f** | 15 | 20 | 0 | 0 | 11 | 11 | 0 | 0 | 3 | 3 | 0 | 0 |
| 2015–16 **s** | 11 | 13 | 0 | 0 | 9 | 9 | 0 | 0 | 3 | 3 | 0 | 0 |
| 2014–15 | 11 | 17 | 1 | 0 | 9 | 9 | 0 | 0 | 4 | 4 | 0 | 0 |
| Five-year average to 2015–16 | 13 | 17 | 1 | 0 | 9 | 8 | 0 | 0 | 2 | 2 | 0 | 0 |

**f** ABARES forecast. **s** ABARES estimate.

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

Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

**Table 16 Australian supply and disposal of wheat, canola and pulses, 2009–10 to 2014–15**

| Crop | 2009–10 | 2010–11 | 2011–12 | 2012–13 | 2013–14 | 2014–15 |
|---|---|---|---|---|---|---|
| | kt | kt | kt | kt | kt | kt |
| **Wheat** | | | | | | |
| Production | 21 834 | 27 410 | 29 905 | 22 855 | 25 303 | 23 743 |
| Apparent domestic use | 4 999 | 5 663 | 6 334 | 6 451 | 6 785 | 7 154 |
| – seed | 675 | 695 | 649 | 631 | 619 | 640 |
| – other **a** | 4 324 | 4 968 | 5 685 | 5 820 | 6 165 | 6 514 |
| Exports **b** | 14 791 | 18 584 | 24 656 | 18 644 | 18 612 | 16 587 |
| Imports **b** | 15 | 12 | 14 | 17 | 20 | 22 |
| **Canola** | | | | | | |
| Production | 1 907 | 2 359 | 3 427 | 4 142 | 3 832 | 3 540 |
| Apparent domestic use **a** | 721 | 810 | 871 | 631 | 969 | 915 |
| Exports | 1 187 | 1 549 | 2 557 | 3 512 | 2 863 | 2 626 |
| **Pulses** | | | | | | |
| Production | | | | | | |
| – lupins | 823 | 808 | 982 | 459 | 626 | 549 |
| – field peas | 356 | 395 | 342 | 320 | 342 | 290 |
| – chickpeas | 487 | 513 | 673 | 813 | 629 | 555 |
| Apparent domestic use **a** | | | | | | |
| – lupins | 470 | 621 | 416 | 290 | 310 | 306 |
| – field peas | 196 | 95 | 130 | 145 | 175 | 124 |
| – chickpeas | 1 | 39 | 93 | 1 | 0 | 1 |
| Exports | | | | | | |
| – lupins | 353 | 186 | 565 | 169 | 316 | 243 |
| – field peas | 162 | 302 | 215 | 177 | 169 | 168 |
| – chickpeas | 503 | 474 | 581 | 853 | 629 | 663 |

**a** Calculated as a residual: production plus imports less exports less any observed or assumed change in stocks and, for wheat only, less seed use. **b** Includes grain and grain equivalent of wheat flour.
Note: Production, use, trade and stock data are on a marketing-year basis: October–September for wheat; November–October for canola, peas and lupins. The export data on a marketing-year basis are not comparable with financial year export figures published elsewhere. Zero is used to denote nil or less than 500 tonnes.
Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

## Table 17 Australian supply and disposal of coarse grains, 2009–10 to 2014–15

| Crop | 2009–10 | 2010–11 | 2011–12 | 2012–13 | 2013–14 | 2014–15 |
|---|---|---|---|---|---|---|
| | kt | kt | kt | kt | kt | kt |
| **Barley** | | | | | | |
| Production | 7 865 | 7 995 | 8 221 | 7 472 | 9 174 | 8 646 |
| Apparent domestic use | 3 230 | 2 631 | 2 075 | 2 182 | 2 218 | 2 714 |
| – seed | 226 | 199 | 166 | 167 | 164 | 172 |
| – other **a** | 3 004 | 2 432 | 1 909 | 2 015 | 2 054 | 2 542 |
| Export | 4 635 | 5 364 | 6 146 | 5 289 | 6 957 | 5 932 |
| – feed barley | 2 668 | 3 601 | 3 758 | 2 972 | 3 944 | 3 070 |
| – malting barley | 1 248 | 1 062 | 1 619 | 1 512 | 2 273 | 2 149 |
| – malt (grain equivalent) | 720 | 700 | 770 | 805 | 740 | 713 |
| **Oats** | | | | | | |
| Production | 1 162 | 1 128 | 1 262 | 1 121 | 1 255 | 1 198 |
| Apparent domestic use | 954 | 1 009 | 1 049 | 884 | 1 001 | 960 |
| – seed | 42 | 41 | 40 | 35 | 35 | 34 |
| – other **a** | 912 | 969 | 1 009 | 849 | 966 | 926 |
| Export | 208 | 118 | 213 | 237 | 253 | 238 |
| **Triticale** | | | | | | |
| Production | 545 | 355 | 285 | 171 | 126 | 143 |
| Apparent domestic use | 545 | 355 | 285 | 171 | 126 | 143 |
| – seed | 9 | 7 | 5 | 4 | 4 | 6 |
| – other **a** | 536 | 348 | 280 | 167 | 122 | 137 |
| Export | 0 | 0 | 0 | 0 | 0 | 0 |
| **Grain sorghum** | | | | | | |
| Production | 1 508 | 1 935 | 2 239 | 2 229 | 1 282 | 2 209 |
| Apparent domestic use | 1 167 | 984 | 1 060 | 1 083 | 885 | 571 |
| – seed | 3 | 3 | 3 | 3 | 4 | 3 |
| – other **a** | 1 164 | 981 | 1 056 | 1 080 | 881 | 568 |
| Export **b** | 998 | 341 | 950 | 1 179 | 1 146 | 397 |
| **Corn (maize)** | | | | | | |
| Production | 328 | 357 | 451 | 506 | 390 | 495 |
| Apparent domestic use | 321 | 312 | 346 | 402 | 330 | 432 |
| – seed | 1 | 1 | 1 | 1 | 1 | 1 |
| – other **a** | 320 | 311 | 345 | 401 | 329 | 431 |
| Export **b** | 13 | 9 | 46 | 106 | 106 | 60 |

**a** Calculated as a residual: production plus imports less exports less any observed or assumed change in stocks and less seed use. **b** Export volumes are shown in year of actual export, which is typically one year after production.
Note: Production, use and export data are on a marketing-year basis: marketing years are November–October for barley, oats and triticale; March–February for grain sorghum and corn (maize). The export data on a marketing-year basis are not comparable with financial year export figures published elsewhere. Zero is used to denote nil or less than 500 tonnes.
Sources: ABARES; Australian Bureau of Statistics; United Nations Commodity Trade Statistics Database (UN Comtrade)

## Table 18 Grains and oilseed prices, fourth quarter 2014 to second quarter 2016

| Crop | 2014 Q4 | 2015 Q1 | 2015 Q2 | 2015 Q3 | 2015 Q4 | 2016 Q1 | 2016 Q2 |
|---|---|---|---|---|---|---|---|
| | A$/t | A$/t | A$/t | A$/t | A$/t | A$/t | A$/t |
| **Wheat** | | | | | | | |
| Domestic: feed, del. Sydney | 295 | 300 | 297 | 295 | 289 | 271 | 264 |
| International: US no. 2 hard red winter, fob Gulf **a** | 334 | 323 | 304 | 309 | 298 | 288 | 265 |
| **Barley** | | | | | | | |
| Domestic: 2 row feed, del. Sydney | 284 | 283 | 285 | 275 | 252 | 237 | 227 |
| Export: feed **b** | 299 | 325 | 327 | 374 | 273 | 278 | 248 |
| Export: malting **b** | 326 | 352 | 373 | 387 | 329 | 318 | 292 |
| International: feed, fob Rouen **a** | 247 | 262 | 251 | 255 | 251 | 228 | 218 |
| **Grain sorghum** | | | | | | | |
| Domestic: feed, del. Sydney | 316 | 314 | 328 | 318 | 286 | 259 | 244 |
| Export **b** | 369 | 377 | 352 | 367 | 500 | 290 | 261 |
| **Oats** | | | | | | | |
| Domestic: feed, del. Sydney | 221 | 279 | 310 | 295 | 214 | 218 | 231 |
| International: CME oats nearby contract | 264 | 248 | 221 | 221 | 223 | 184 | 181 |
| **Corn (maize)** | | | | | | | |
| Domestic: feed, del. Sydney | 375 | 370 | 387 | 391 | 377 | 351 | 366 |
| International: US no. 2 yellow corn, fob Gulf **a** | 203 | 222 | 217 | 234 | 233 | 222 | 231 |
| **Oilseeds** | | | | | | | |
| Domestic: canola, del. Melbourne | 470 | 494 | 501 | 541 | 552 | 536 | 537 |
| International: Europe rapeseed, cif Hamburg | 490 | 517 | 549 | 571 | 576 | 548 | 557 |
| International: US no. 2 soybeans, fob Gulf **a** | 493 | 505 | 497 | 524 | 492 | 482 | 547 |
| **Pulses** | | | | | | | |
| Domestic: lupins, del. Kwinana | 322 | 350 | 320 | 322 | 320 | 297 | 270 |
| Domestic: chickpeas, del. Melbourne | 449 | 607 | 768 | 841 | 794 | 993 | 1115 |
| Domestic: field peas, del. Melbourne | 361 | 433 | 530 | 534 | 519 | 555 | 591 |
| Export: chickpeas **b** | 571 | 618 | 699 | 874 | 865 | 908 | 1055 |
| Export: field peas **b** | 462 | 513 | 575 | 544 | 568 | 613 | 646 |

**a** Average of daily offer prices made in US$, converted to A$ using quarterly average of daily exchange rates. **b** Export unit values reflect the average price received for grain exported over the quarter, not current market prices. These prices are the average unit value (free on board) of Australian exports recorded by the Australian Bureau of Statistics. A long lag time can exist between when exporters negotiate prices and when the product is exported.

Note: Q1 refers to January–March; Q2 refers to April–June; Q3 refers to July–September; Q4 refers to October–December. Prices used in these calculations exclude GST.

Sources: ABARES (compiled from various market sources); Australian Bureau of Statistics; US Department of Agriculture, *Oilseeds: world markets and trade*, Washington DC