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The next issue of *Australian crop report* is scheduled to be released on Tuesday 19 February 2019.

In the next issue:

2018–19 winter crop area estimates and production estimates updated

2018–19 summer crop area and production forecasts updated

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National overview

Key points

- Winter crop production is forecast to decrease by 23% in 2018–19 to 29.3 million tonnes.
- Forecast winter crop production is 20% below the 20 year average to 2017–18 but 69% above the lowest production during this period.
- Winter crop production in Western Australia is expected to account for 56% of national production in 2018–19, compared with an average of 36% in the 20 years to 2017–18.
- November to date rainfall has been generally average across summer cropping regions in northern New South Wales and Queensland.
- Prospects for summer crops will be highly dependent on sufficient and timely rainfall because of low levels of soil moisture in a number of regions.

Australian winter crop prospects deteriorated in early spring because of unfavourable seasonal conditions in most cropping regions. September rainfall was very much below average in many cropping regions and the lowest on record in some others. Additionally, significant frost events occurred in southern New South Wales, Victoria, South Australia and Western Australia. The combination of reduced crop prospects and high fodder prices provided producers in some regions with a strong incentive to cut many crops that were planted for grain production for hay. In some regions, particularly in New South Wales, many crops in very poor condition were either grazed or abandoned.

October rainfall was above average in most cropping regions in Queensland, northern New South Wales, Western Australia, and mostly average in other cropping regions. This rainfall benefitted crop prospects in southern New South Wales, southern Wimmera in Victoria, southern South Australia and Western Australia. However, it arrived too late in other regions to benefit winter crops. On balance, the benefit of October rainfall was much smaller than damage that resulted from unfavourable seasonal conditions during September.

Harvesting of winter crops is largely complete in Queensland and is underway in New South Wales, Victoria, South Australia and Western Australia. Quality of crops harvested to date has varied widely among different crops and regions but not enough has been harvested to assess overall crop quality. Rainfall in late October and November has slowed harvest progress in some cropping regions but is not expected to significantly affect overall crop quality. According to the latest rainfall outlook issued by the Bureau of Meteorology on 29 November 2018, there is no strong tendency toward either higher or lower than average December rainfall in most cropping regions.

Winter crop production is forecast to decrease by 23% in 2018–19 to 29.3 million tonnes. This forecast is in line with the revised outlook for winter crop production published by ABARES in the 25 October edition of the [Weekly Australian climate, water and agricultural update](#).

While forecast winter crop production in 2018–19 is 20% below the 20 year average to 2017–18, it is 69% above the lowest production during this period. This is because exceptionally unfavourable seasonal conditions in 2018–19 affected less cropping area than during droughts in 1994–95, 2002–03, 2006–07 and 2007–08. Winter crop production in Western Australia is expected to account for 56% of national production in 2018–19, compared with an average level of 36% in the 20 years to 2017–18.

For the major winter crops, **wheat** production is forecast to decrease by 20% to around 17.0 million tonnes, **barley** production is forecast to fall by 18% to around 7.3 million tonnes, and **canola** production is forecast to fall by 39% to around 2.2 million tonnes. Amongst other crops, **chickpea** production is forecast to decrease by 71% to 330,000 tonnes and **oats** production to fall by 21% to 888,000 tonnes.

Table 1 Winter crop production, Australia, 1998–99 to 2018–19

Year	Unit	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia
1998–99	kt	9718	3,507	2,323	6,304	12,233	34,160
1999–00	kt	11526	5,252	2,221	4,770	13,312	37,143
2000–01	kt	10829	6,266	1,339	7,429	8,724	34,663
2001–02	kt	11170	5,893	1,156	8,796	12,042	39,134
2002–03	kt	3485	1,943	829	4,223	6,812	17,361
2003–04	kt	10795	6,961	1,450	7,359	16,676	43,315
2004–05	kt	10712	4,214	1,391	5,298	12,978	34,671
2005–06	kt	11981	6,267	1,433	7,518	13,945	41,226
2006–07	kt	3794	1,748	924	2,793	8,278	17,580
2007–08	kt	3999	4,692	1,194	4,706	10,761	25,415
2008–09	kt	9438	3,887	2,326	4,863	13,785	34,378
2009–10	kt	7787	5,889	1,617	7,035	12,943	35,344
2010–11	kt	14784	7,625	1,821	9,316	8,044	41,672
2011–12	kt	11,952	7,352	2,329	7,371	16,600	45,670
2012–13	kt	11,123	6,886	2,156	6,470	11,243	37,934
2013–14	kt	9,773	6,773	1,516	7,221	16,510	41,878
2014–15	kt	10,445	5,117	1,464	7,439	14,662	39,197
2015–16	kt	11,624	3,568	2,104	6,105	14,206	37,687
2016–17	kt	15,510	9,513	3,159	10,661	17,737	56,678
2017–18 s	kt	7,228	7,652	1,463	6,945	14,619	37,963
2018–19 f	kt	3,137	3,744	802	5,226	16,267	29,268
% change 2017–18 to 2018–19		-57	-51	-45	-25	11	-23
% change 2018–19 to lowest production		-10	93	-3	24	139	69

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

Notes: Includes barley, canola, chickpeas, faba beans, field peas, lentils, linseed, lupins, oats, safflower, triticale and wheat. Due to a change in scope by the ABS of its agricultural data collections, crop production is shown for establishments with an estimated value of agricultural operations (EVAO) of \$5,000 or more until 2014–15, and an EVAO of \$40,000 or more from 2015–16.

Winter crop area is estimated to have fallen by 20% in 2018–19. This is because less area was planted at the beginning of the 2018–19 winter crop season and significant area planted for grain production in eastern states (including South Australia) was cut for hay during spring.

Table 2 Winter crop area, Australia, 2008–09 to 2018–19

Year	Unit	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia
2008–09	'000 ha	6,295	3,492	1,208	3,979	7,899	22,901
2009–10	'000 ha	6,106	3,488	1,173	3,783	8,271	22,844
2010–11	'000 ha	6,158	3,457	1,217	3,821	7,715	22,392
2011–12	'000 ha	5,969	3,411	1,205	3,838	8,252	22,693
2012–13	'000 ha	5,852	3,457	1,222	3,776	8,097	22,421
2013–14	'000 ha	5,314	3,283	1,105	3,448	8,249	21,419
2014–15	'000 ha	5,491	3,304	995	3,639	8,313	21,760
2015–16	'000 ha	5,375	2,915	1,049	3,152	7,771	20,283
2016–17	'000 ha	6,062	3,231	1,375	3,904	8,531	23,126
2017–18 s	'000 ha	5,496	3,333	1,309	3,505	8,441	22,101
2018–19 f	'000 ha	2,939	2,918	742	3,315	7,797	17,734
% change 2017–18 to 2018–19		-47	-12	-43	-5	-8	-20

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

Notes: Includes barley, canola, chickpeas, faba beans, field peas, lentils, linseed, lupins, oats, safflower, triticale and wheat. Due to a change in scope by the ABS of its agricultural data collections, crop production is shown for establishments with an estimated value of agricultural operations (EVAO) of \$5,000 or more until 2014–15, and an EVAO of \$40,000 or more from 2015–16.

Summer crop planting in Queensland and northern New South Wales increased following favourable late spring rainfall. However current low levels of soil moisture in most regions is likely to constrain planting in the absence of further rainfall during the summer crop planting window.

According to the latest three-month rainfall outlook (December to February), issued by the Bureau of Meteorology on 29 November 2018, there is no strong tendency toward either above or below average summer rainfall in cropping regions in New South Wales. Summer rainfall in Queensland is more likely to be below average than above average.

Area planted to **summer crops** is forecast to decrease by 18% in 2018–19 to 1.1 million hectares driven by forecast falls in area planted to rice and cotton. Summer crop production is forecast to fall by 24% to 3.1 million tonnes.

Area planted to **grain sorghum** is forecast to increase by 8% in 2018–19 to 572,000 hectares in response to favourable prices. Grain sorghum production is forecast to increase by 6% to 1.5 million tonnes.

Area planted to **cotton** is forecast to fall by 44% in 2018–19 to 280,000 hectares. This is because below average rainfall in 2018 resulted in a significant fall in water levels in irrigation dams serving cotton-growing regions and low soil moisture levels. Cotton production is forecast to fall by 42% to around 581,000 tonnes of cotton lint and 822,000 tonnes of cottonseed.

Area planted to **rice** is forecast to fall by 75% to 15,100 hectares in 2018–19 reflecting low water allocations in southern New South Wales.

Table 3 Summer crop area and production, Australia, 2008–09 to 2018–19

Year	New South Wales		Queensland		Australia	
	'000 ha	kt	'000 ha	kt	'000 ha	kt
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	686	2,250	1,412	5,506
2013–14	568	2,317	559	1,469	1,139	3,846
2014–15	435	2,044	696	2,134	1,149	4,263
2015–16	412	1,656	624	1,821	1,054	3,562
2016–17	662	2,286	566	1,280	1,247	3,667
2017–18 s	614	2,262	711	1,814	1,335	4,103
2018–19 f	475	1,532	612	1,537	1,098	3,098
% change 2017–18 to 2018–19	–23	–32	–14	–15	–18	–24

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

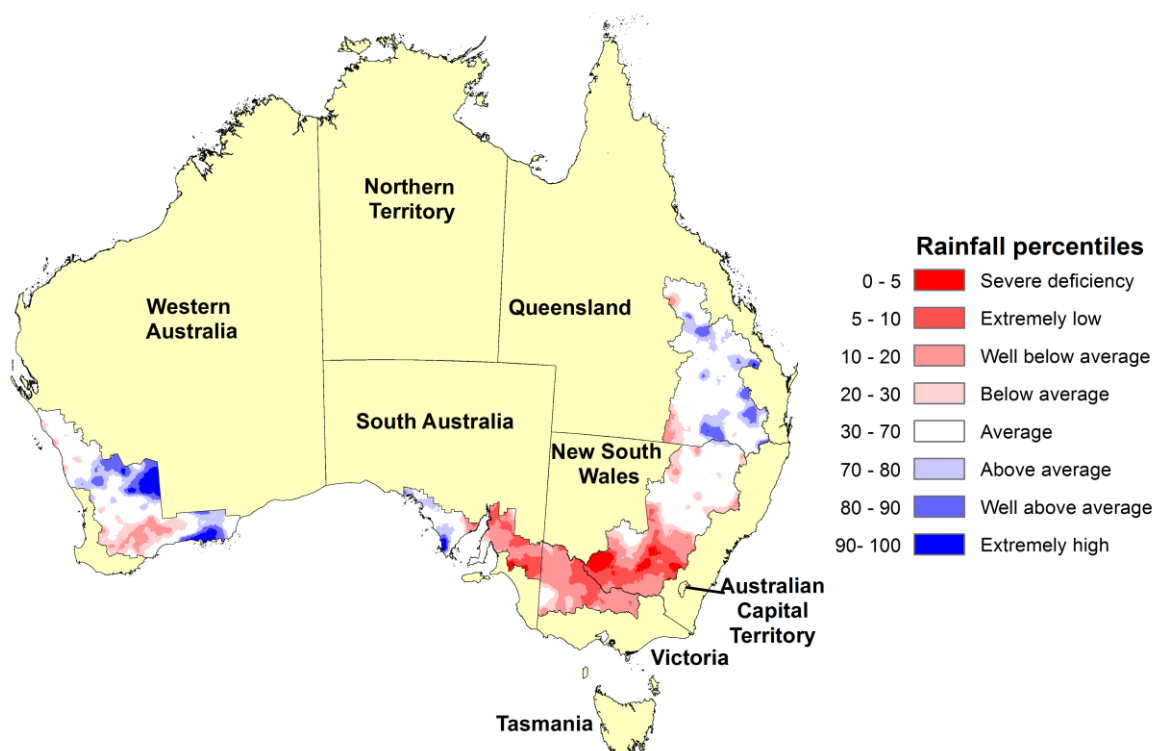
Note: State production includes cottonseed, grain sorghum, corn (maize), mung beans, rice, peanuts, soybeans and sunflowers. Total for Australia also includes navy beans, and small areas and volumes of summer crops in other states. Due to a change in scope by the ABS of its agricultural data collections, crop production is shown for establishments with an estimated value of agricultural operations (EVAO) of \$5,000 or more until 2014–15, and an EVAO of \$40,000 or more from 2015–16.

Climatic and agronomic conditions

Rainfall from August to October 2018 was generally extremely low to well below average across most cropping regions in southern New South Wales, Victoria, and eastern South Australia (Map 1). Over the same period, rainfall in cropping regions in northern New South Wales, Queensland, western South Australia and Western Australian was generally average to above average, which was largely the result of above average rainfall during October.

Maximum daytime temperatures during spring have been generally above average in most cropping regions and numerous lowest on record minimum temperature were recorded in southern Australia in September.

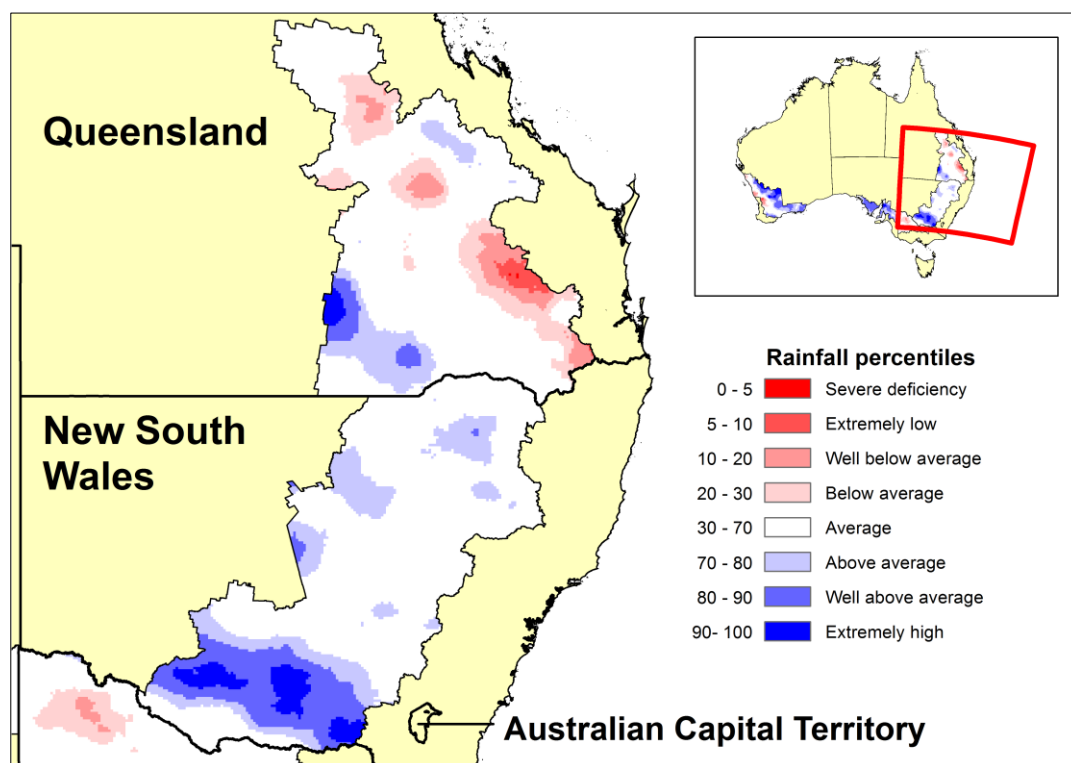
Map 1 Australian rainfall percentiles, 1 August to 31 October 2018



Note: Rainfall percentages are displayed for wheat–sheep zone only. Rainfall for August to October 2018 relative to the long-term record and ranked in percentiles. This analysis ranks rainfall for the selected period compared with the historical average (1900 to present) recorded for that period.

Source: Bureau of Meteorology

November rainfall, as at 27 November 2018, was around average in summer cropping regions in Queensland and New South Wales (Map 2).

Map 2 Australian rainfall percentiles, 1 to 27 November 2018

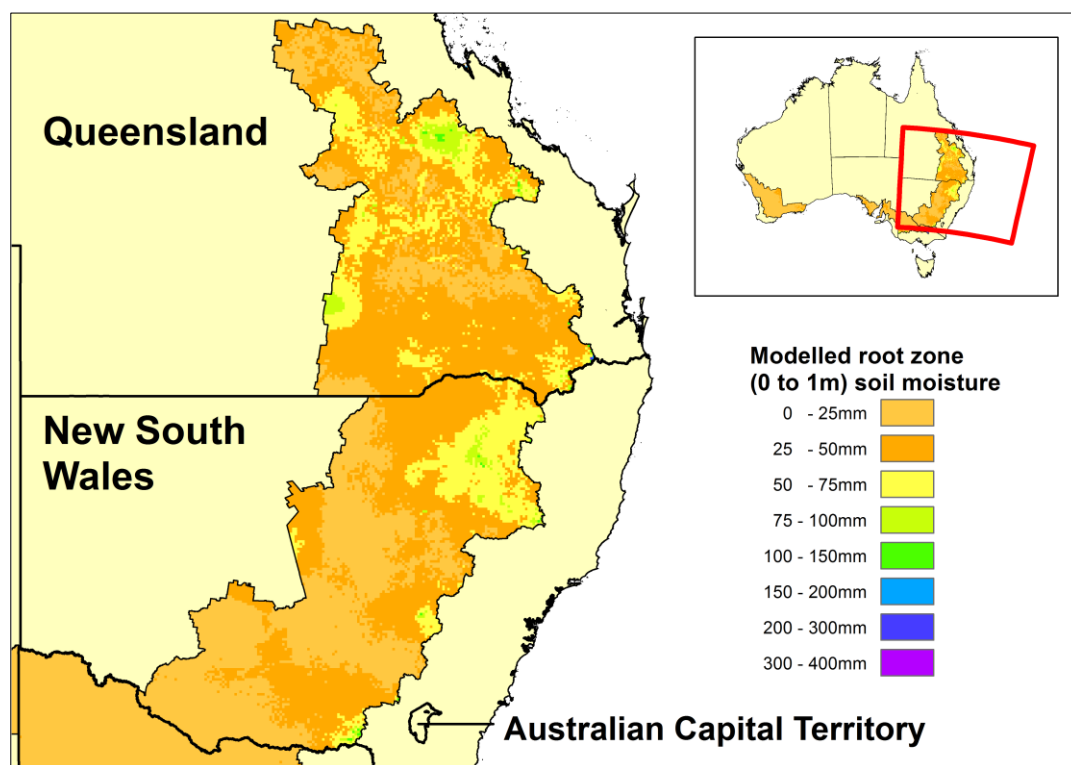
Note: Rainfall percentages are displayed for summer cropping regions only. Rainfall for 1 to 27 November 2018 relative to the long-term record and ranked in percentiles. This analysis ranks rainfall for the selected period compared with the historical average (1900 to present) recorded for that period.

Source: Bureau of Meteorology

Map 3 shows modelled root zone (0 to ~1 metres) soil moisture in millimetres for cropping zones in New South Wales and Queensland as at 22 November 2018.

The modelled root zone soil moisture for November 2018 indicates stored soil moisture levels are highly variable in summer cropping regions. In north-eastern cropping regions in New South Wales and parts of northern and western cropping regions in Queensland, soil water levels range from 50 to 100 millimetres. For other cropping regions in northern New South Wales and Queensland soil water levels mostly range from 0 to 50 millimetres (Map 3).

Map 3 Modelled root zone soil moisture, as at 22 November 2018



Note: Root zone soil moisture is displayed for summer cropping regions only.

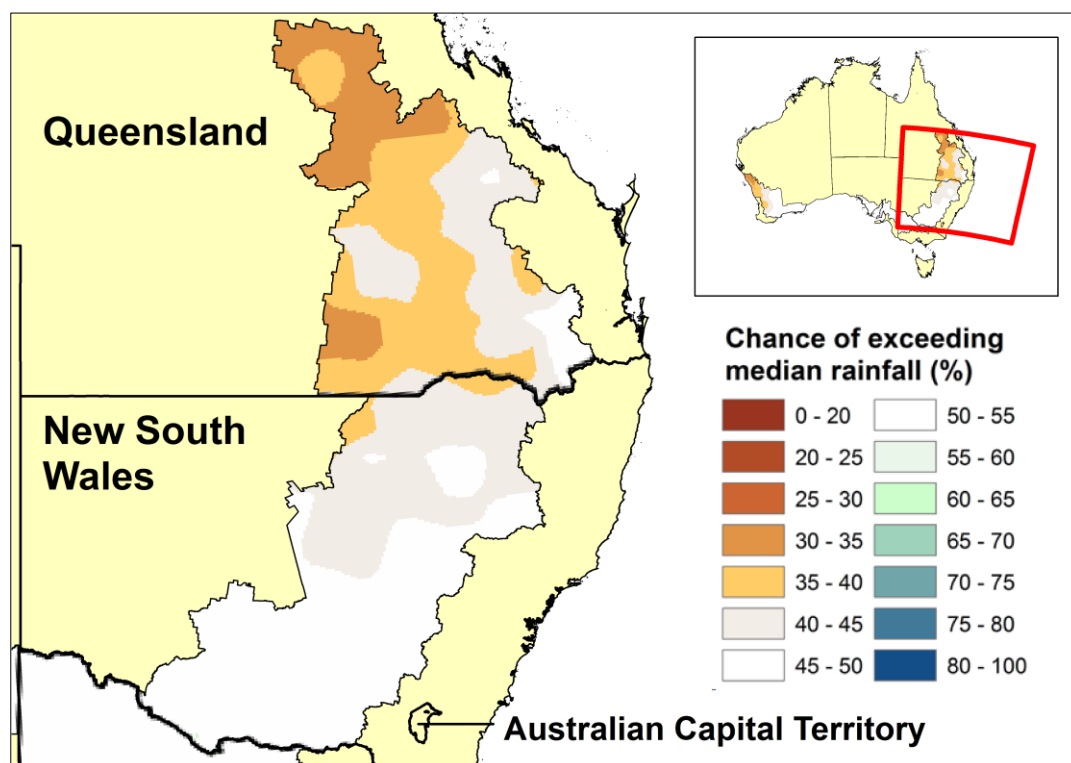
Source: Bureau of Meteorology

Prospects for dryland summer crops in areas of low root zone soil moisture will be highly dependent on in crop rainfall during the remainder of the growing season.

According to the latest three-month rainfall outlook (December to February), issued by the Bureau of Meteorology on 29 November 2018, there is no strong tendency toward either above or below average summer rainfall in cropping regions in New South Wales. Summer rainfall in Queensland is more likely to be below average than above average (Map 4).

The outlook for maximum and minimum temperatures for summer 2018–19, indicates hotter than average daytime and night-time temperatures are likely in cropping regions in New South Wales and Queensland.

Map 4 Rainfall outlook, December 2018 to February 2019



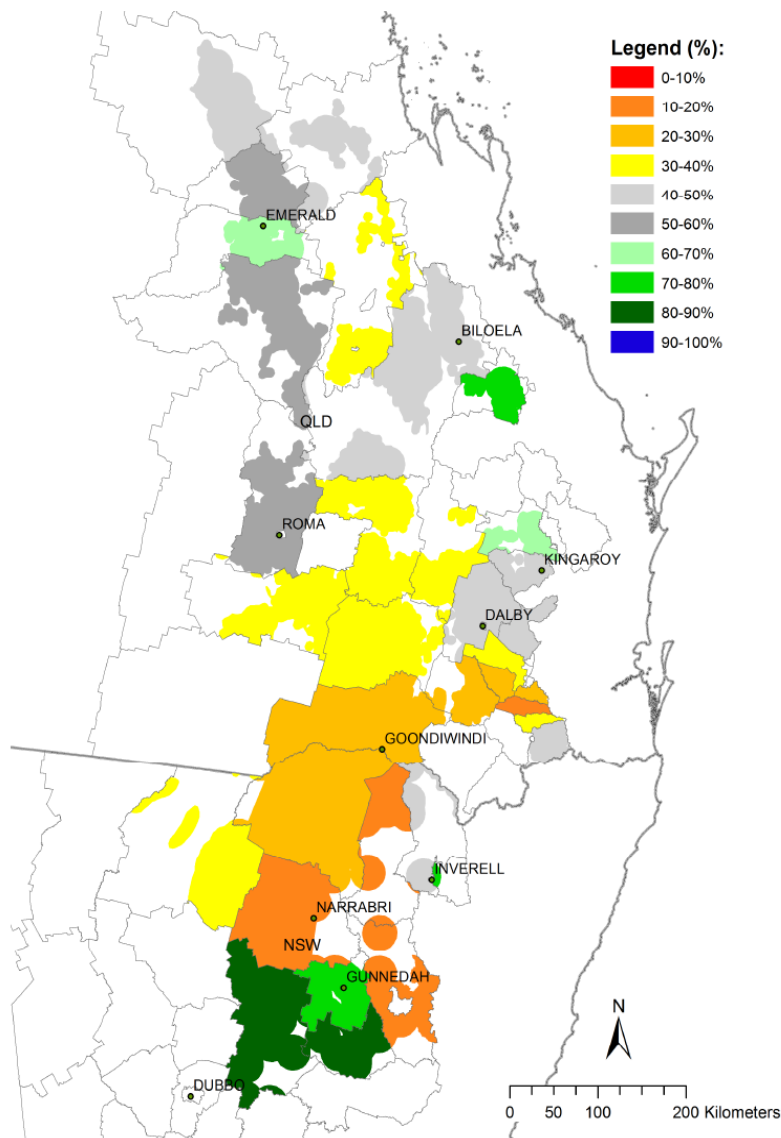
Note: Rainfall outlook is displayed for summer cropping regions only.

The map shows the likelihood of exceeding the 1990–2012 median rainfall. Median rainfall is defined as the 50th percentile calculated from the 1990–2012 reference period.

Source: Bureau of Meteorology

Map 5 shows the shire-scale forecast of grain sorghum yields obtained from the University of Queensland's Queensland Alliance for Agriculture and Food Innovation (QAAFI). These forecasts are based on soil moisture conditions and the seasonal outlook, including the most recent trend in the Southern Oscillation Index (SOI). It is important to note that final sorghum crop yield is affected more by in-crop rainfall and temperatures during crop growth than by the soil moisture at the time of sowing.

At the beginning of November 2018, the forecast indicated a generally below average outlook for the 2018–19 sorghum crop (Map 5). Areas in central and eastern Queensland are showing between 50% and 80% chance of exceeding the median shire sorghum yield, while southern sorghum growing areas of New South Wales showed between 70% and 80% chance of exceeding the median shire sorghum yield. Remaining areas in Queensland and northern New South Wales showed between 10% and 40% chance of exceeding the long-term median shire sorghum yield. However, the forecast was made early in the growing season and a wide range of possible yields exist.

Map 5 Probability of exceeding long-term median grain sorghum yield

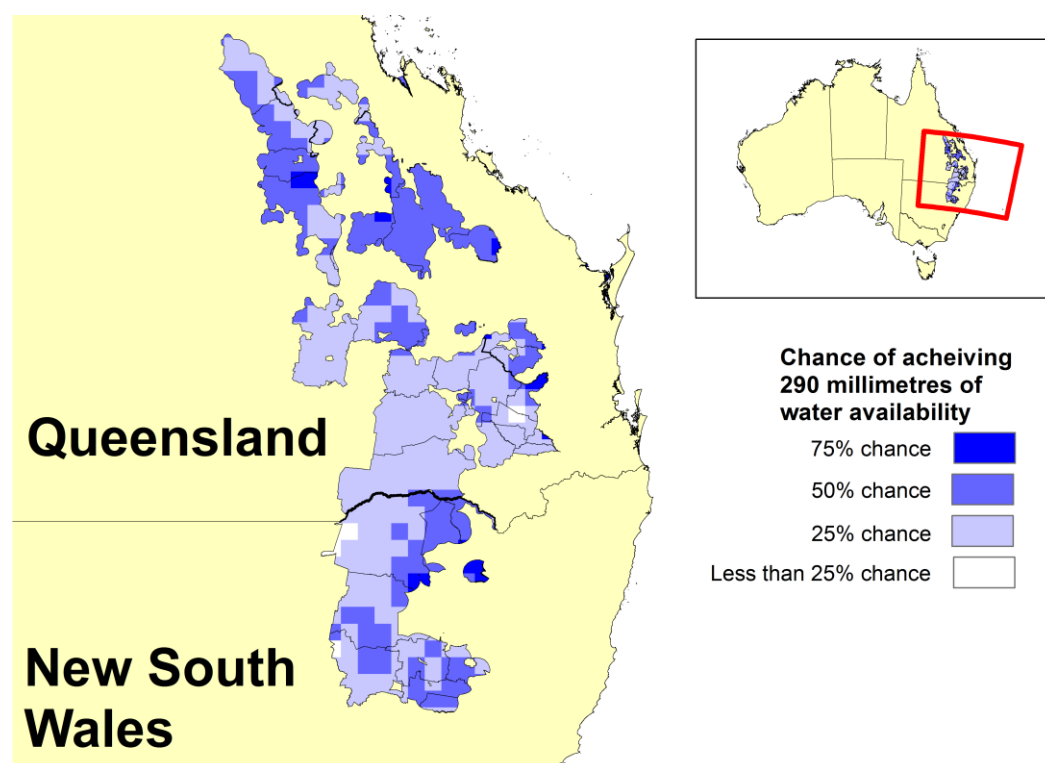
Note: Probability of exceeding the long-term sorghum yield, given SOI phase was "rapidly rising" at the end of October.
Source: Queensland Alliance for Agriculture and Food Innovation

The water available for crop growth can come from water stored in the soil during the fallow or from in-crop rain. On average, the total water requirement to achieve the national 5-year average sorghum yield of 2.85 tonnes/ha is 290 millimetres, based on a conversion rate of 15kg of grain sorghum per millimetre of water. See recent analysis published by the [Grains Research & Development Corporation](#) (GRDC) for more detail.

The probability of exceeding the long-term grain sorghum yield obtained from QAAFI is based on rainfall information up to the end of October and does not incorporate significant rainfall events in November. As such ABARES has undertaken an analysis to determine the chance of achieving 290 millimetres of water availability. This analysis is based on available soil moisture as at 22 November 2018 and estimates of rainfall totals for December to February derived from the Bureau of Meteorology latest rainfall outlook to determine the impact of November rainfall on the prospects of grain sorghum production (Map 6).

At the end of November 2018, the chance of achieving 290 millimetres of water availability was highest (50 to 75%) in the northern part of the Queensland summer cropping region and the eastern part of the New South Wales summer cropping region. In other summer cropping regions in northern New South Wales and Queensland, the chance of achieving 290 millimetres of water availability are 25% or lower.

Map 6 Chance of achieving 290 millimetres of water availability



Note: Chance of achieving 290 millimetres of water availability is displayed for sorghum producing shires only.
Source: ABARES & Bureau of Meteorology

It is important to note that the crop yield associated with a specific level of water availability varies across regions with variations in soil characteristics. The analysis presented in (Map 6) assumes a simple conversion rate of 15kg of grain sorghum per millimetre of water across the entire analysis area (the QAFFI analysis presented in Map 5 does account for regional variations in soil characteristics). As a result the implications of 290 millimetres of water being available may be quite different across regions. Additionally, in some seasons the responsiveness of crop growth to water availability will be better than average (around 28kg/mm) and in other years it will be worse (around 6kg/mm) as responsiveness depends on factors such as temperature, humidity and the timing of rainfall.

Table 4 Rainfall in major cropping districts, median and actual, August to October 2018

District	District no.	August median mm	August 2018 mm	September median mm	September 2018 mm	October median mm	October 2018 mm
New South Wales							
NW Plains (W)	52	19	19	21	7	33	51
NW Plains (E)	53	30	31	29	12	40	68

District	District no.	August median mm	August 2018 mm	September median mm	September 2018 mm	October median mm	October 2018 mm
NW Slopes (N)	54	37	40	36	26	54	67
NW Slopes (S)	55	41	29	41	34	54	63
N Tablelands (N)	56	42	32	46	46	69	88
CW Plains (S)	50	30	12	27	11	30	32
CW Plains (N)	51	23	17	21	9	28	42
CW Slopes (N)	64	36	31	34	31	44	41
CW Slopes (S)	65	45	27	39	21	42	46
C Tablelands (N)	62	45	35	40	40	48	57
C Tablelands (S)	63	59	39	53	43	65	65
Riverina (W)	75	32	8	25	5	26	29
Riverina (E)	74	43	16	35	14	38	24
SW Slopes (N)	73	62	29	51	25	48	22
SW Slopes (S)	72	114	84	95	47	95	48
Victoria							
N Mallee	76	30	20	24	3	25	18
S Mallee	77	36	31	33	5	29	19
N Wimmera	78	43	57	40	7	34	27
S Wimmera	79	65	79	56	15	45	32
Lower North	80	40	26	34	7	33	24
Upper North	81	53	44	47	12	43	27
Lower North East	82	118	113	94	41	95	36
North Central	88	85	80	72	24	70	40
Western Plains	89	67	71	63	23	58	25
West Coast	90	93	107	81	40	68	33
Queensland							
Central Highlands	35	13	9	13	5	38	72
Maranoa	43	20	25	16	7	37	60
W Darling Downs	42	20	32	22	8	46	86
E Darling Downs	41	24	19	30	15	54	101
Moreton S Coast	40	29	17	34	22	66	169
South Australia							
Upper South East	25B	57	68	48	13	38	22
Murray Mallee	25A	35	30	30	4	28	13
Murray River	24	30	29	27	6	23	8
East Central	23	75	88	62	23	48	20
Yorke Peninsula	22A	54	87	40	15	31	17
Lower North	21	47	46	39	13	28	12
Upper North	19	27	24	21	6	20	10

District	District no.	August median mm	August 2018 mm	September median mm	September 2018 mm	October median mm	October 2018 mm
Western Agricultural	18	28	55	19	5	19	28
Western Australia							
North Coast	8	48	63	28	8	15	18
Central Coast	9	113	162	69	27	41	43
Northern Central	10	43	61	25	6	17	34
South Central	10A	52	62	38	9	27	29
South East	12	16	23	10	4	12	40

Note: Median rainfall is calculated over the period 1900 to August 2018. Australian rainfall districts are shown in Map 7 of the Australian crop report.

Source: Bureau of Meteorology monthly district rainfall reports

Map 7 Rainfall districts, Australia



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

At the start of spring many crops in the north-west cropping region of New South Wales had failed and many crops in the central west cropping region needed favourable seasonal conditions in early spring to avert failure. However, rainfall during September was below average and temperatures above average. Additionally, frost events in late August and September damaged some crops in southern cropping regions and high fodder prices provided a strong incentive for producers to cut frost affected crops for hay, particularly canola.

October and November rainfall boosted crop prospects in the south-east cropping region and yields in this region are forecast to be close to average. However, this rainfall was too late to benefit crops in most other regions. November rainfall has interrupted harvest but to date has not adversely affected crop quality.

Winter crop production is forecast to decrease by 57% in 2018–19 to around 3.1 million tonnes. Forecast production is the lowest since 1994–95.

Wheat production is forecast to decrease by 56% in 2018–19 to just below 2 million tonnes. Forecast production is the lowest since 1994–95. The average yield is forecast to decrease by 24% to 1.1 tonnes per hectare and area planted is estimated to have fallen by 42% to 1.8 million hectares.

Barley production is forecast to fall by 40% in 2018–19 to just over 700,000 tonnes. The average yield is forecast to be 1.18 tonnes per hectare, 42% below the 10-year average to 2017–18. Area planted is estimated to have fallen by 24% to 600,000 hectares.

Canola production is forecast to fall by 75% in 2018–19 to around 150,000 tonnes. Well below average rainfall and severe frost events in late August and September resulted in large areas being cut for silage and hay. It is estimated that more than half of the area planted to canola was abandoned, grazed or cut for hay.

Table 5 Winter crop forecasts, New South Wales, 2018–19

Crop	Area '000 ha	Yield t/ha	Production kt	Area change %	Prod. change %
Wheat	1,800	1.10	1,980	-42	-56
Barley	600	1.18	708	-24	-40
Canola	190	0.80	152	-71	-75

Note: Yields are based on area planted.

In 2018–19 area planted to **summer crops** in New South Wales is forecast to fall by 23% to around 475,000 hectares, largely reflecting falls in the area planted to cotton and rice. Summer crop production in New South Wales is forecast at just over 1.5 million tonnes.

According to the latest three-month rainfall outlook (December to February), issued by the Bureau of Meteorology on 29 November 2018, there is no strong tendency toward either higher

or lower than average summer rainfall in most summer cropping regions in New South Wales. Given this, ABARES has assumed summer rainfall will be around average.

In 2018–19 area planted to **grain sorghum** is forecast to increase by 20% to around 180,000 hectares. October and November rainfall increased soil moisture levels across northern New South Wales and was timely for sowing of some crops. However, because soil moisture levels were very low in many regions, further rainfall during the planting window will be critical for planting intentions to be fully realised, particularly in the north-west cropping region.

Grain sorghum production is forecast to increase by 26% in 2018–19 to around 540,000 tonnes. At this stage, prospects for grain sorghum yields are better in the north-eastern summer cropping region, where most grain sorghum is being planted in New South Wales this season. Elsewhere, given the Bureau of Meteorology forecasts for December to February rainfall and low soil moisture at the end of November, prospects are not currently high of yields being average or above. The state average grain sorghum yield is forecast to be higher than the very poor yielding 2017–18 crop but 4% below the five year average to 2017–18.

Area planted to **cotton** is forecast to fall by around 44% to 174,000 hectares in 2018–19, comprised of 140,000 hectares of irrigated area and 34,000 hectares of dryland area. This forecast fall is driven by dam and soil moisture levels being very low because of below average rainfall in 2018. Cotton production in New South Wales is forecast to decline by 43% in 2018–19 to 371,000 tonnes of cotton lint and around 525,000 tonnes of cottonseed.

Area planted to **rice** is forecast to fall by 75% to 15,000 hectares in 2018–19 reflecting low water allocations in the Murray Valley and the Murrumbidgee Irrigation Area. Rice production is forecast to be 156,000 tonnes.

Table 6 Summer crop forecasts, New South Wales, 2018–19

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Grain sorghum	180	3.00	540	20	26
Cotton lint	174	2.13	371	-44	-43
Cottonseed	174	3.02	525	-44	-43
Rice	15	10.38	156	-75	-75

Note: Yields are based on area planted, except cotton which is based on area harvested.

Queensland

Winter crops in Queensland were generally in poor condition at the start of spring. Seasonal conditions in Queensland during September were generally unfavourable but did not damage winter crop prospects significantly because of the advanced stage of crop development. Good rainfall fell in October, with between 50–200mm falling in most cropping regions. However, this rainfall was generally too late to benefit winter crops.

Harvesting of **winter crops** in Queensland is now largely complete. Total winter crop production in 2018–19 is expected to have fallen by 45% to around 800,000 tonnes. Forecast production is similar to production in 2002–03, which was also a drought year.

The decline in production in 2018–19 reflects falls in yields and planted area. Area planted to winter crops for grain and pulse production declined significantly because of low soil moisture

levels during the planting window and some crops initially planted for grain production were cut for hay.

Wheat production is estimated to have fallen by 37% to 430,000 tonnes. The area planted to wheat is estimated to have fallen by 34% to 405,000 hectares and the average yield is estimated to have fallen by 5% to 1.06 tonnes per hectare.

Chickpea production is estimated to have fallen by 62% in 2018–19 to 245,000 tonnes. This mostly reflects a fall in planted area in response to a decline in expected returns from growing chickpeas. Chickpeas in central Queensland and the northern Darling Downs generally fared better than elsewhere, with crops being able to access deeper stored soil moisture. However, the state average yield is estimated to have been only 1.1 tonnes per hectare, 19% below the 10 year average to 2017–18.

Table 7 Winter crop forecasts, Queensland, 2018–19

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	405	1.06	430	-34	-37
Barley	70	1.35	95	-20	-22
Chickpeas	220	1.11	245	-62	-62

Note: Yields are based on area planted.

Area planted to **summer crops** in Queensland is forecast to fall by 14% in 2018–19 to around 612,000 hectares. This reflects a large forecast fall in area planted to irrigated cotton because of low dam levels. Summer crop production is forecast to fall by 15% to 1.5 million tonnes.

Good rainfall events in October and November raised soil moisture levels in most summer cropping regions in Queensland, but from very low levels. Follow up rainfall over summer will be critical to realising planting intentions and forecast yields. In its latest three-month rainfall outlook (December to February 2018), issued on 29 November 2018, the Bureau of Meteorology forecast the chance of summer rainfall exceeding the median at between 30% and 45% in Queensland's cropping region. Given this, ABARES has assumed rainfall will be below average.

Area planted to **grain sorghum** is forecast to rise by 3% in 2018–19 to 390,000 hectares, slightly below the ten-year average to 2017–18. Prices for feed are currently very high and growers have a strong incentive to plant significant area. As a result, it is possible that the planted area could far exceed this forecast if there is sufficient rainfall in early summer to further lift soil moisture levels.

Grain sorghum production is forecast to fall by 3% in 2018–19 to around 980,000 tonnes. Prospects for grain sorghum yields vary widely across cropping regions. Based on current soil moisture levels and Bureau of Meteorology rainfall scenarios, the chance of exceeding the five-year average yield is around 50% or better in most of the northern cropping region in Central Queensland. However, it is only around 25% in the Darling Downs (see Map 6). The state average yield is forecast to be below average because the Darling Downs typically accounts for the majority of grain sorghum area in Queensland.

In 2018–19 area planted to **cotton** is forecast to fall by 44% to 106,000 hectares, comprised of 80,000 hectares of irrigated area and 26,000 hectares of dryland area. Production is forecast to fall by 39% to 210,000 tonnes of cotton lint and 297,000 tonnes of cottonseed.

Table 8 Summer crop forecasts, Queensland, 2018–19

Crop	Area '000 ha	Yield t/ha	Production kt	Area change %	Prod. Change %
Grain sorghum	390	2.51	980	3	-3
Cotton lint	106	1.98	210	-44	-39
Cottonseed	106	2.80	297	-44	-39

Note: Yields are based on area planted, except cotton which is based on area harvested.

Victoria

Production prospects in all major cropping regions in Victoria were adversely affected by unfavourable seasonal conditions during spring. Victorian winter crop prospects deteriorated in September due to lower than average September rainfall and significant frost events. September rainfall was in the 10th percentile in most cropping regions and minimum temperatures were the lowest on record in most cropping regions.

Above average temperatures and insufficient rainfall in October reduced yields in most cropping regions. However, timely rainfall benefitted crop prospects in the southern Wimmera and the south west. Harvest is currently underway in Victoria but rainfall has hampered progress in some regions. According to the latest rainfall outlook issued by the Bureau of Meteorology on 29 November 2018, there is no strong tendency toward either higher or lower than average December rainfall in Victoria.

Winter crop production in Victoria is forecast to decrease by 51% in 2018–19 to 3.7 million tonnes, the lowest since 2015–16. Planted area is estimated to have fallen by 12% because significant area planted to wheat and canola for grains and oilseed production was cut for hay.

Wheat production is forecast to decrease by 51% in 2018–19 to around 2 million tonnes. The average yield is forecast to fall by 46% to 1.4 tonnes per hectare.

In 2018–19 **barley** production is forecast to fall by 48% to 1.1 million tonnes due to a 46% decline in average yields.

Canola production is forecast to decrease by 63% in 2018–19 to 275,000 tonnes, the lowest since 2008–09. This is due to a 45% fall in the average yield and a 33% fall in planted area.

Table 9 Winter crop forecasts, Victoria, 2018–19

Crop	Area '000 ha	Yield t/ha	Production kt	Area change %	Prod. Change %
Wheat	1,400	1.39	1,950	-10	-51
Barley	770	1.43	1,100	-4	-48
Canola	300	0.92	275	-33	-63

Note: Yields are based on area planted.

South Australia

Seasonal conditions were unfavourable in cropping regions in South Australia during spring. Winter crop prospects deteriorated in September because of lower than average September rainfall and significant frost events. September rainfall in most cropping regions was in the 10th percentile. The lowest average minimum temperatures on record for September occurred

in many parts of the eastern Eyre Peninsula, the upper Yorke Peninsula, the mid to upper north, the Murray lands and the upper south east, which resulted in significant frost events.

Rainfall was below average and temperature above average during October in most eastern cropping regions, which decreased soil moisture levels and hampered grain development. Timely October rainfall benefitted crops in some other cropping regions, especially Eyre Peninsula, Yorke Peninsula and the south east. November rainfall has slowed harvest but is not expected to result in significant degradation of crop quality. According to the latest rainfall outlook issued by the Bureau of Meteorology on 29 November 2018, above average December rainfall is likely in western cropping regions.

Winter crop production in South Australia is forecast to decrease by 25% in 2018–19 to around 5.2 million tonnes, the lowest since 2008–09.

Winter crop area in South Australia is estimated to have fallen by around 5%, largely because some area planted to cereal crops for grain production was cut for hay. The main regions in which this occurred were in the upper Eyre Peninsula, upper Yorke Peninsula, lower to mid north, southern Mallee and upper south east.

Wheat production is forecast to fall by 30% in 2018–19 to 2.9 million tonnes. Forecast production is the lowest since 2008–09. The expected fall in production is largely due to lower yields in northern cropping regions, which drove a 25% decline in the state wide average yield.

Barley production is forecast to decrease by 15% in 2018–19 to 1.5 million tonnes. Area is estimated to have increased by 3%, even after some area planted for grain production was cut for hay.

Canola production is forecast to fall by 22% in 2018–19 to 250,000 tonnes, largely due to a 20% decline in planted area. Less area was planted at the beginning of the season and some of this was cut for hay.

Table 10 Winter crop forecasts, South Australia, 2018–19

Crop	Area '000 ha	Yield t/ha	Production kt	Area change %	Prod. change %
Wheat	1,850	1.55	2,868	-6	-30
Barley	820	1.87	1,535	3	-15
Canola	200	1.25	250	-20	-22

Note: Yields are based on area planted.

Western Australia

Winter crop prospects in Western Australia fell slightly during spring. In early spring lower than average September rainfall and frost events in some regions adversely affected crops. September rainfall in Western Australia was the third lowest on record and in many cropping regions was in the 10th percentile. Rainfall in October was above average and timely, which boosted crop prospects almost back to where they were at the start of spring. October temperatures were close to the long-term average, which benefitted late developing crops and aided grain fill.

According to the latest rainfall outlook issued by the Bureau of Meteorology on 29 November 2018, there is no strong tendency toward either higher or lower than average December rainfall in Western Australia.

Winter crop production in Western Australia is forecast to increase by 11% to 16.3 million tonnes in 2018–19.

Wheat production is forecast to increase by 22% to 9.7 million tonnes in 2018–19, largely because of an expected 35% increase in the average yield. Forecast production is similar to 2016–17, when spring frosts were also a factor in some regions.

Barley production is forecast to increase by 4% to 3.8 million tonnes in 2018–19, which reflects a small increase in plated area. The average yield is forecast to be the same as in 2017–18, which was the second highest on record.

Canola production is forecast to decrease by 21% to 1.6 million tonnes in 2018–19. This reflects a 13% fall in planted area and an expected 10% decrease in the average yield because of unfavourable planting and early growing conditions.

Table 11 Winter crop forecasts, Western Australia, 2018–19

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	4,500	2.15	9,680	-10	22
Barley	1,450	2.65	3,840	4	4
Canola	1,200	1.30	1,560	-13	-21
Lupins	380	1.58	600	9	36

Note: Yields are based on area planted.

Statistical tables

Table 12 Winter crop production and area, Australia, 2016–17 to 2018–19

Crop	Area			Production		
	2016–17	2017–18 s	2018–19 f	2016–17	2017–18 s	2018–19 f
	'000 ha	'000 ha	'000 ha	kt	kt	kt
Wheat	12,191	12,237	9,964	31,819	21,244	16,956
Barley	4,834	3,878	3,719	13,506	8,928	7,312
Canola	2,681	2,729	1,893	4,313	3,669	2,241
Chickpeas	1,069	1,116	307	2,004	1,148	330
Faba beans	233	220	171	484	330	214
Field peas	230	222	179	415	289	194
Lentils	276	353	303	680	485	343
Lupins	515	518	500	1,031	631	710
Oats	1,028	742	634	2,266	1,119	888
Triticale	62	77	60	150	114	81

f ABARES forecast. s ABARES estimate.

Notes: 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 Northern Territory and Australian Capital Territory in Australian totals.

Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

Table 13 Summer crop production and area, Australia, 2016–17 to 2018–19

Crop	Area			Production		
	2016–17	2017–18 s	2018–19 f	2016–17	2017–18 s	2018–19 f
	'000 ha	'000 ha	'000 ha	kt	kt	kt
Grain sorghum	368	531	572	994	1,439	1,524
Cottonseed a	557	500	280	1,260	1,414	822
Cotton lint a	557	500	280	891	1,000	581
Rice	82	60	15	807	630	156
Corn (maize)	68	57	56	436	392	392
Soybeans	17	37	31	31	63	54
Sunflower	16	17	21	17	31	27

a Cotton area is estimated harvested area. f ABARES forecast. s ABARES estimate.

Notes: 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 Northern Territory and Australian Capital Territory in Australian totals.

Sources: ABARES; Australian Bureau of Statistics; Cotton Australia.

Table 14 Production, major crops, Australian states, 2016–17 to 2018–19

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												
2018–19 f	1,800	1,980	1,400	1,950	405	430	1,850	2,868	4,500	9,680	9	48
2017–18 s	3,100	4,495	1,550	4,000	610	683	1,970	4,090	5,000	7,945	7	30
2016–17	3,248	9,819	1,454	4,665	622	1,502	2,178	6,133	4,678	9,645	10	56
Five-year average to 2017–18	3,143	6,892	1,475	3,301	647	1,105	1,978	4,552	4,889	8,980	9	45
Barley												
2018–19 f	600	708	770	1,100	70	95	820	1,535	1,450	3,840	9	34
2017–18 s	790	1,185	800	2,100	88	120	795	1,800	1,400	3,705	5	17
2016–17	1,056	2,832	946	3,083	149	436	981	3,002	1,694	4,120	8	33
Five-year average to 2017–18	882	1,980	885	1,940	121	272	839	2,071	1,409	3,564	6	22
Canola												
2018–19 f	190	152	300	275	1	1	200	250	1,200	1,560	2	3
2017–18 s	650	618	450	750	2	1	250	320	1,376	1,978	1	1
2016–17	786	1,248	327	633	0	0	218	382	1,349	2,048	1	3
Five-year average to 2017–18	675	948	395	588	1	1	246	333	1,305	1,754	1	2
Oats												
2018–19 f	200	140	130	140	39	21	47	80	215	500	3	7
2017–18 s	280	252	120	270	24	8	45	105	270	478	3	6
2016–17	327	496	162	493	47	56	86	179	403	1,036	3	5
Five-year average to 2017–18	303	353	132	268	39	21	61	112	293	667	3	7

continued ...

Table 14 Production, major crops, Australian states, 2016–17 to 2018–19 (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												
2018–19 f	180	540	1	2	390	980	0	0	1	2	0	0
2017–18 s	150	430	0	0	380	1,007	0	0	1	2	0	0
2016–17	117	387	0	1	250	604	0	0	1	2	0	0
Five-year average to 2017–18	156	485	0	1	379	1,053	0	0	1	3	0	0
Cottonseed a												
2018–19 f	174	525	0	0	106	297	0	0	0	0	0	0
2017–18 s	310	927	0	0	190	487	0	0	0	0	0	0
2016–17	370	814	0	0	187	446	0	0	0	0	0	0
Five-year average to 2017–18	245	721	0	0	139	392	0	0	0	0	0	0
Rice												
2018–19 f	15	156	0	0	0	0	0	0	0	0	0	0
2017–18 s	60	630	0	0	0	0	0	0	0	0	0	0
2016–17	82	806	0	0	0	1	0	0	0	0	0	0
Five-year average to 2017–18	62	640	0	2	1	2	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 Production, other crops, Australian states, 2016–17 to 2018–19

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
Chickpeas												
2018–19 f	19	16	35	32	220	245	25	25	8	12	0	0
2017–18 s	450	407	55	60	575	638	30	35	6	8	0	0
2016–17	480	792	16	28	550	1,150	19	27	4	7	0	0
Five-year average to 2017–18	351	444	32	39	352	531	20	22	4	6	0	0
Field peas												
2018–19 f	39	35	50	35	0	0	70	80	20	44	0	0
2017–18 s	52	52	60	70	0	0	90	125	20	42	0	0
2016–17	50	85	49	100	0	0	100	175	31	55	0	0
Five-year average to 2017–18	50	66	53	65	0	0	105	139	26	39	0	0
Lentils												
2018–19 f	7	5	125	115	0	0	160	210	11	13	0	0
2017–18 s	22	29	150	200	0	0	175	250	6	6	0	0
2016–17	5	10	110	200	0	0	160	470	0	0	0	0
Five-year average to 2017–18	6	9	106	126	0	0	128	232	2	2	0	0
Lupins												
2018–19 f	50	50	30	25	0	0	40	35	380	600	0	0
2017–18 s	75	75	35	40	0	0	58	75	350	441	0	0
2016–17	51	66	33	60	0	0	70	100	361	805	0	0
Five-year average to 2017–18	67	75	35	37	0	0	63	76	315	509	0	0

continued ...

Table 15 Production, other crops, Australian states, 2016–17 to 2018–19 (continued)

Summer 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
Corn (maize)												
2018–19 f	22	209	1	6	31	165	0	0	2	12	0	0
2017–18 s	20	178	1	7	35	195	0	0	2	12	0	0
2016–17	23	203	8	69	35	146	0	1	2	17	0	1
Five-year average to 2017–18	21	201	4	47	31	165	0	0	1	9	0	0
Soybeans												
2018–19 f	22	39	1	1	9	14	0	0	0	0	0	0
2017–18 s	24	40	1	1	13	22	0	0	0	0	0	0
2016–17	11	22	1	1	5	8	0	0	0	0	0	0
Five-year average to 2017–18	16	28	0	1	7	12	0	0	0	0	0	0
Sunflower												
2018–19 f	12	18	0	0	8	9	0	0	0	0	0	0
2017–18 s	10	21	0	0	7	10	0	0	0	0	0	0
2016–17	8	10	0	0	5	4	0	0	3	3	0	0
Five-year average to 2017–18	10	15	0	0	7	7	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 Supply and disposal of wheat, canola and pulses, Australia, 2012–13 to 2017–18

Crop	2012–13 kt	2013–14 kt	2014–15 kt	2015–16 kt	2016–17 kt	2017–18s kt
Wheat						
Production	22,855	25,303	23,743	22,275	31,819	21,244
Apparent domestic use	6,451	6,784	7,154	7,231	7,805	7,607
– seed	631	619	564	610	612	635
– other a	5,820	6,165	6,590	6,621	7,193	6,971
Exports b	18,644	18,612	16,587	16,116	22,636	13,821
Imports b	17	20	22	25	25	28
Canola						
Production	4,142	3,832	3,540	2,775	4,313	3,669
Apparent domestic use a	631	969	915	1,088	972	1,048
Exports	3,512	2,863	2,626	1,857	3,458	2,413
Pulses						
Production						
– lupins	459	626	549	652	1,031	631
– field peas	320	342	290	205	415	289
– chickpeas	813	629	555	875	2,004	1,148
Apparent domestic use a						
– lupins	290	286	306	398	637	274
– field peas	145	175	124	72	148	162
– chickpeas	1	0	1	1	1	1
Exports						
– lupins	169	340	243	254	395	357
– field peas	177	169	168	134	268	129
– chickpeas	853	629	663	1,145	2,293	756

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.

Notes: Production, use, trade and stock data are on a marketing year basis: October–September for wheat; November–October for canola and pulses. 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. Due to a change in scope by the ABS of its agricultural data collections, crop production is shown for establishments with an estimated value of agricultural operations (EVAO) of \$5,000 or more until 2014–15, and an EVAO of \$40,000 or more from 2015–16.

Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

Table 17 Supply and disposal of coarse grains, Australia, 2012–13 to 2017–18

Crop	2012–13 kt	2013–14 kt	2014–15 kt	2015–16 kt	2016–17 kt	2017–18 s kt
Barley						
Production	7,472	9,174	8,646	8,992	13,506	8,928
Apparent domestic use	2,182	2,218	2,714	2,651	3,633	2,830
– seed	172	184	185	180	169	196
– other a	2,011	2,034	2,529	2,471	3,464	2,634
Export	5,289	6,957	5,932	6,342	9,873	6,098
– feed barley	2,972	3,944	3,070	4,351	6,364	3,488
– malting barley	1,512	2,273	2,149	1,394	2,826	1,957
– malt (grain equivalent)	805	740	713	596	683	653
Oats						
Production	1,121	1,255	1,198	1,300	2,266	1,119
Apparent domestic use	884	1,001	960	1,074	1,708	967
– seed	34	41	39	44	36	33
– other a	850	960	920	1,030	1,672	934
Export	237	253	238	226	558	152
Triticale						
Production	171	126	143	127	150	114
Apparent domestic use	171	126	143	127	150	114
– seed	4	4	4	5	4	4
– other a	167	122	139	122	146	109
Export	0	0	0	1	0	0
Grain sorghum						
Production	2,229	1,282	2,210	1,791	994	1,439
Apparent domestic use b	1,060	1,083	885	572	878	739
– seed	3	3	4	3	2	3
– other a	1,056	1,080	881	569	875	737
Export b	1,179	1,146	397	1,638	913	277
Corn (maize)						
Production	506	390	495	400	436	392
Apparent domestic use b	347	401	331	432	337	367
– seed	1	1	1	1	1	1
– other a	346	400	330	431	336	366
Export b	106	106	60	64	63	68

a Calculated as a residual: production plus imports less exports less any observed or assumed change in stocks less seed use. **b** For summer crops, export and apparent domestic use volumes are shown in year of actual export and consumption, which is typically in the year following production. Export data are on a marketing year basis and are not comparable with financial year export figures published elsewhere. **s** ABARES estimate.

Notes: Production, use and export data are on a marketing year basis: November–October for barley, oats and triticale; March–February for grain sorghum and corn (maize). Zero is used to denote nil or less than 500 tonnes. Due to a change in scope by the ABS of its agricultural data collections, crop production is shown for establishments with an estimated value of agricultural operations (EVAO) of \$5,000 or more until 2014–15, and an EVAO of \$40,000 or more from 2015–16.

Sources: ABARES; Australian Bureau of Statistics; UN Commodity Trade Statistics Database (UN Comtrade)

Table 18 Grain, oilseed and pulse prices, fourth quarter 2017 to third quarter 2018

Crop	2017 Q1 A\$/t	2017 Q2 A\$/t	2017 Q3 A\$/t	2017 Q4 A\$/t	2018 Q1 A\$/t	2018 Q2 A\$/t	2018 Q3 A\$/t
Wheat							
Domestic: feed, del. Sydney	209	226	261	262	266	334	406
International: US no. 2 hard red winter, fob Gulf a	268	274	277	283	303	322	332
Barley							
Domestic: 2 row feed, del. Sydney	183	210	243	252	274	324	389
Export: feed b	225	225	235	274	269	299	338
Export: malting b	243	261	244	263	283	304	346
International: feed, fob Rouen a	214	217	222	241	259	277	320
Grain sorghum							
Domestic: feed, del. Sydney	245	265	306	313	320	366	388
Export b	333	331	323	493	380	333	366
Oats							
Domestic: feed, del. Sydney	152	165	190	188	180	275	331
International: CME oats nearby contract	224	221	229	230	225	216	233
Corn (maize)							
Domestic: feed, del. Sydney	360	352	375	382	387	400	421
International: US no. 2 yellow corn, fob Gulf a	213	211	193	195	210	230	217
Oilseeds							
Domestic: canola, del. Melbourne	539	529	523	543	504	525	573
International: Europe rapeseed, cif Hamburg	586	563	539	561	542	544	588
International: US no. 2 soybeans, fob Gulf a	518	481	479	490	497	537	448
Pulses							
Domestic: lupins, del. Kwinana	234	267	296	286	292	323	330
Domestic: chickpeas, del. Melbourne	827	1,034	869	763	598	645	729
Domestic: field peas, del. Melbourne	343	362	318	298	305	378	415
Export: chickpeas b	942	1,024	1,012	957	821	737	763
Export: field peas b	444	458	416	389	400	425	497

a Average of daily offer prices made in US dollars and converted to Australian dollars 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 the period 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; Australian Bureau of Statistics; CME Group; Farm Weekly; International Grains Council; The Land; The Weekly Times; US Department of Agriculture