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The next issue of *Australian crop report* is scheduled to be released on Tuesday 3 December 2019.

In the next issue:

2019–20 winter crop area estimates and production forecasts updated

2019–20 summer crop area and production forecasts updated

Acknowledgements

This report was prepared by Amelia Brown, Benjamin K Agbenyegah, Charley Xia, Chris Mornement and Matthew Miller.

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National overview

Prospects for Australian winter crop production in 2019–20 deteriorated over winter because of unfavourable growing conditions in some regions, particularly in New South Wales and Queensland.

Crop prospects vary considerably between the states. In Victoria, most crops are in good to very good condition at the beginning of spring as a result of generally favourable growing conditions over winter. Timely winter rainfall in Western Australia boosted yield prospects to around average for most crops in the state after a late break to the season. Crop prospects in South Australia are mixed but sufficient winter rainfall fell in most major southern growing regions and the Mid-North for crops in these regions to be in reasonable condition at the beginning of spring. However, crop prospects are generally below average in most northern cropping regions in South Australia. Seasonal conditions were very unfavourable in most cropping regions in New South Wales and Queensland and winter crop production in these states is forecast to be very much below average.

As in every season, early spring rainfall will be important to final crop outcomes. According to the latest seasonal outlook, issued by the Bureau of Meteorology on 29 August 2019, September rainfall is likely to be above average in Western Australia and below average in most other cropping regions. October rainfall is likely to be below average in most cropping regions.

Winter crop production is forecast to rise by 11% in 2019–20 to 33.9 million tonnes, which is a downward revision of 7% from the forecast ABARES published in June. Forecast production is around 16% below the 10-year average to 2018–19.

Wheat production is forecast to increase by 10% to around 19.1 million tonnes, 22% below the 10-year average to 2018–19. **Barley** production is forecast to increase by 14% to around 9.5 million tonnes, 6% above the 10-year average to 2018–19. **Canola** production is forecast to increase by 6% to around 2.3 million tonnes, 29% below the 10-year average to 2018–19.

Total **area planted** to winter crops is estimated to have increased by 6% in 2019–20 to around 19.1 million hectares. This reflects the large amount of crop area that was taken out of grain production in 2018–19 and cut for hay.

Table 1 Winter crop production, Australia, 2009–10 to 2019–20

Year	Unit	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia
2009–10	kt	7787	5,889	1,617	7,035	12,943	35,343
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	kt	7,744	7,612	1,438	7,022	14,510	38,396
2018–19 **s**	kt	2,880	3,733	714	5,286	17,729	30,433
2019–20 **f**	kt	5,103	6,925	732	6,604	14,404	33,866
% change 2018–19 to 2019–20		77	86	2	25	-19	11

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.

Table 2 Winter crop area, Australia, 2009–10 to 2019–20

Year	Unit	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia
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	'000 ha	5,489	3,509	1,302	3,645	7,898	21,861
2018–19 **s**	'000 ha	2,971	2,903	715	3,326	8,050	17,987
2019–20 **f**	'000 ha	3,668	3,301	732	3,612	7,804	19,141
% change 2018–19 to 2019–20		23	14	2	9	-3	6

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. Area based on planted crop that is harvested, fed off or failed.

Area planted to **summer crops** is forecast to fall by 28% in 2019–20 to around 758,000 hectares. This reflects low levels of soil moisture and an outlook for unfavourable seasonal conditions during spring in Queensland and northern New South Wales.

Area planted to **grain sorghum** is forecast to decline by 21% in 2019–20 to 391,000 hectares, which is 30% below the 10-year average to 2018–19. This forecast fall is due to low soil moisture levels in southern Queensland, which are expected to fall further during spring. However, this is partially offset by improved soil moisture levels and favourable seasonal conditions forecast for spring in some parts of central Queensland. Additionally, falling cotton prices are likely to result in a shift from dry land cotton to grain sorghum. Production is forecast to fall by 22% to 992,000 tonnes. Yields are assumed to average slightly lower than in 2018–19.

Area planted to **cotton** is forecast to fall by 58% to 145,000 hectares because dams servicing cotton growing regions have significantly less water than last year. Area forecast to be planted to cotton is the lowest since 2007–08, when 63,000 hectares was planted. Production is forecast to decline by 39% to around 294,000 tonnes of lint and 416,000 tonnes of cottonseed. Lint yields are forecast to average higher because almost all planting is expected to be irrigated.

Area planted to **rice** is forecast to remain largely unchanged at low levels in response to low water allocations.

Table 3 Summer crop area and production, Australia, 2009–10 to 2019–20

Year	New South Wales		Queensland		Australia	
	'000 ha	kt	'000 ha	kt	'000 ha	kt
2009–10	381	1405	514	1342	903	2764
2010–11	713	2514	790	1901	1514	4446
2011–12	757	3064	783	2379	1556	5488
2012–13	711	3205	686	2250	1411	5506
2013–14	568	2317	559	1469	1139	3846
2014–15	435	2044	696	2134	1149	4263
2015–16	412	1656	624	1821	1054	3562
2016–17	662	2286	566	1280	1247	3667
2017–18	614	2239	649	1648	1283	3984
2018–19 **s**	425	1019	617	1493	1056	2593
2019–20 **f**	230	730	514	1270	758	2076
% change 2018–19 to 2019–20	-46	-28	-17	-15	-28	-20

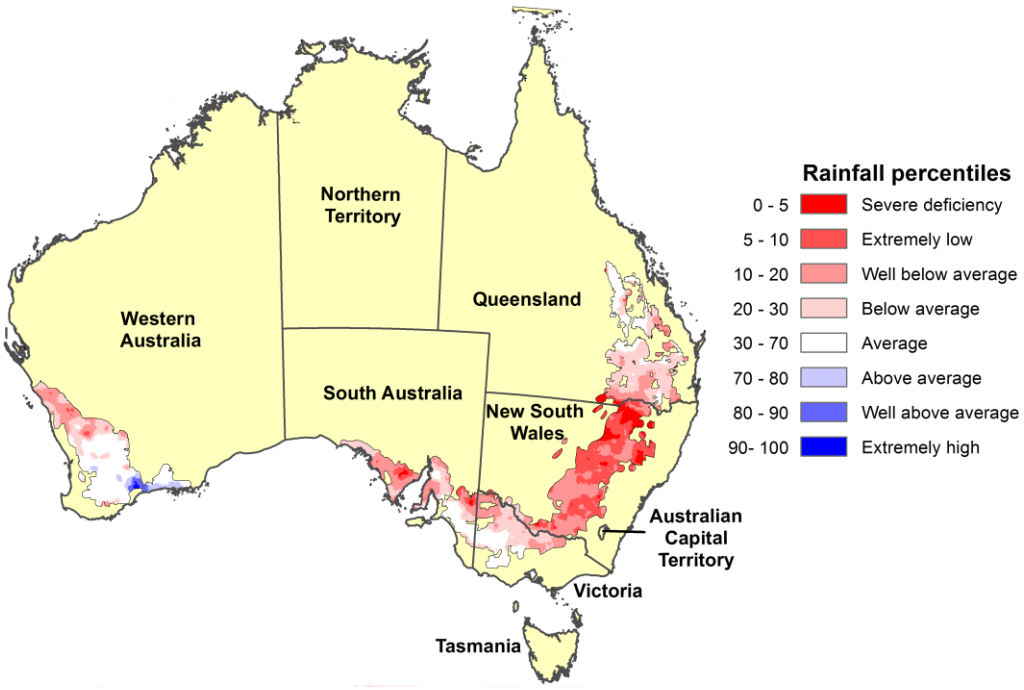
f ABARES forecast. **s** ABARES estimate.

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. Area based on planted crop that is harvested, fed off or failed.

Climatic and agronomic conditions

During August 2019, rainfall was generally average in central and southern cropping regions in Western Australia, southern cropping regions in Victoria, south-eastern South Australia, and northern cropping regions in Queensland (**Map 1)**. Rainfall was well below average to below average across New South Wales and remaining areas in Victoria, South Australia, Queensland and Western Australia.

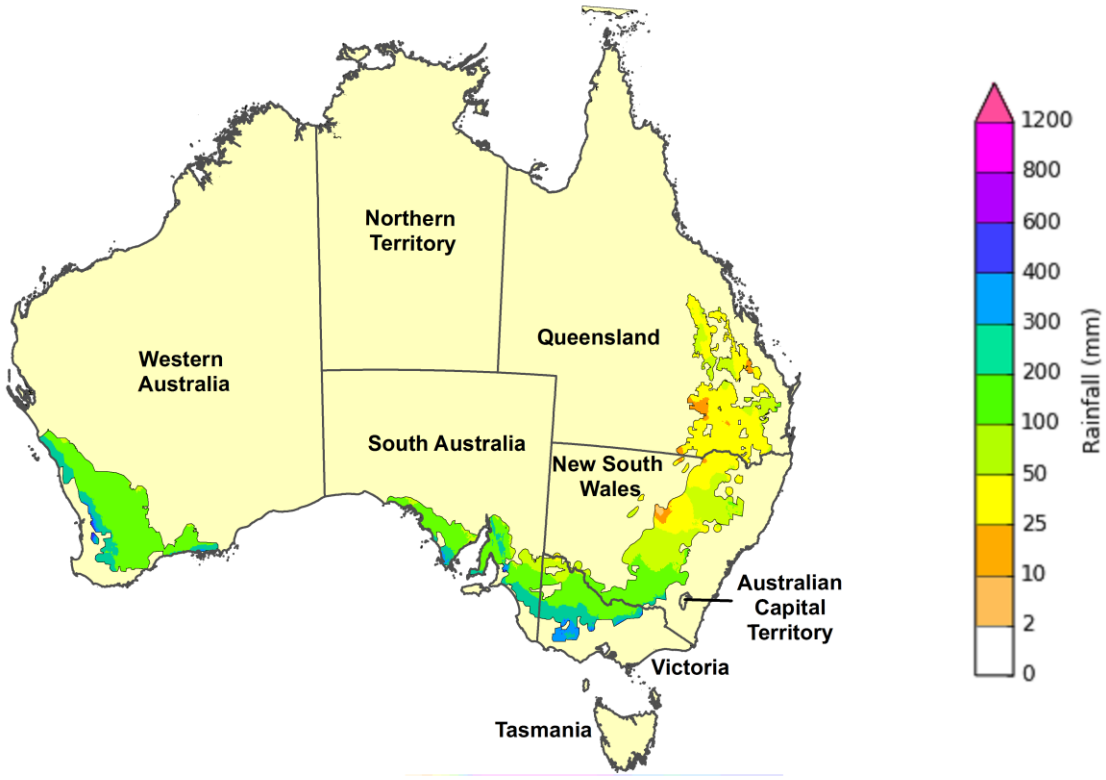
Map 1 Australian rainfall percentiles, 1 to 31 August 2019



Note: Rainfall percentiles are displayed for cropping regions only.
Source: Bureau of Meteorology

During late autumn and winter (May to August), rainfall totals in most southern cropping regions in Queensland and central and northern cropping regions in New South Wales were up to 150 millimetres lower than average, with vast areas recording between 25 and 50 millimetres over the past four months (**Map 2**). In contrast rainfall totals in large parts of southern cropping regions in Victoria were up to 100 millimetres higher than average. Rainfall totals of between 100 and 200 millimetres in parts of southern New South Wales, South Australia, Western Australia and the remainder of Victoria were average or slightly below average.

Map 2 Australian rainfall totals, 1 May to 31 August 2019

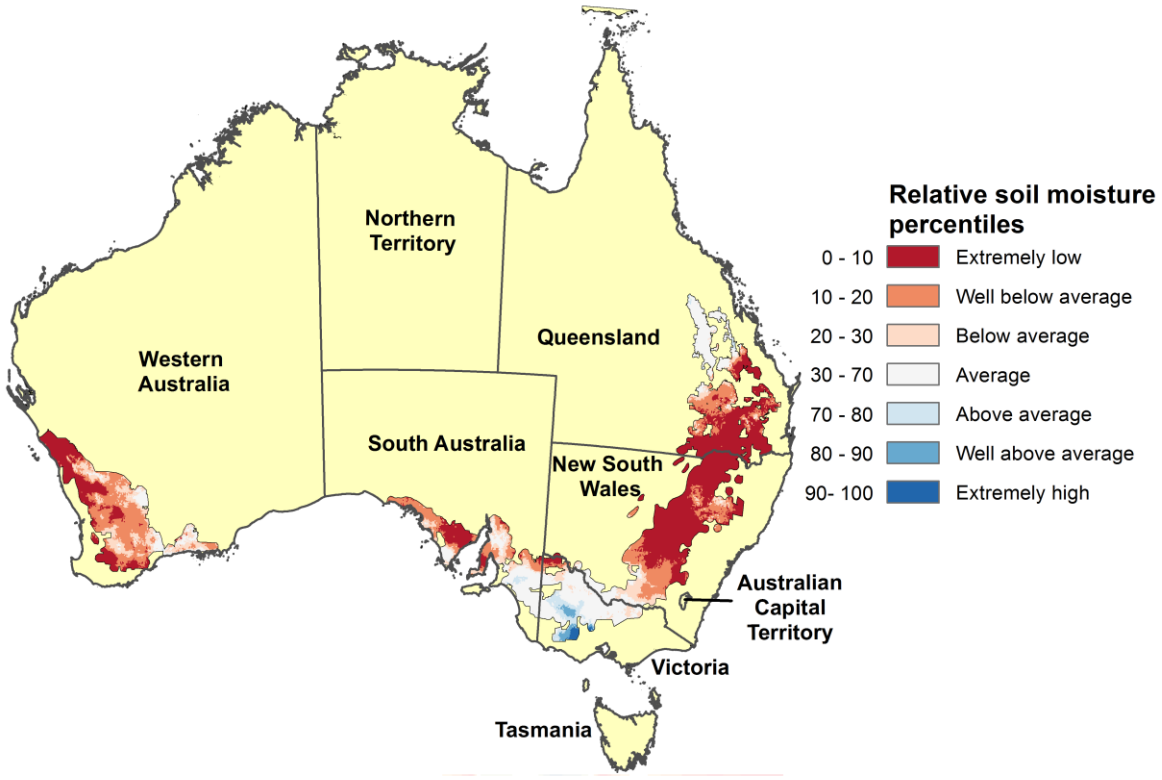


Note: Rainfall totals are displayed for cropping regions only.
Source: Bureau of Meteorology

Map 3 shows the relative levels of modelled root zone (0 to ~1 metres) soil moisture for cropping zones across Australia in August 2019. Soil moisture estimates are relative to the historical long-term average (1911 to 2015) and presented in percentiles.

Relative root zone soil moisture in August 2019 (**Map 3**) was extremely low to well below average in most cropping areas in New South Wales and Queensland and northern cropping regions in South Australia and Western Australia. In contrast, root zone soil moisture was average to above average in most cropping regions in Victoria, eastern South Australia and central Queensland. In the remaining parts of South Australia and Western Australia and central Queensland, root zone soil moisture was below average.

Map 3 Root zone soil moisture, August 2019



Note: Relative root zone soil moisture is displayed for winter crop growing regions only. The extremely high band indicates where the estimated soil moisture level for August 2019 fell into the wettest 10 per cent of estimated soil moisture levels on that day each year between 1910 and 2015. The extremely low band indicates where the estimated soil moisture levels for August 2019 fell into the driest 10 per cent of estimated soil moisture levels on that day between 1910 and 2015.
Source: Bureau of Meteorology.

According to the latest three-month rainfall outlook (September to November), issued by the Bureau of Meteorology on 29 August 2019, there is no strong tendency towards higher or lower than average spring rainfall in most cropping regions in Western Australia. In other states the chance of exceeding median rainfall is quite low. However, this does not mean large areas of eastern Australia will not receive any rainfall during spring.

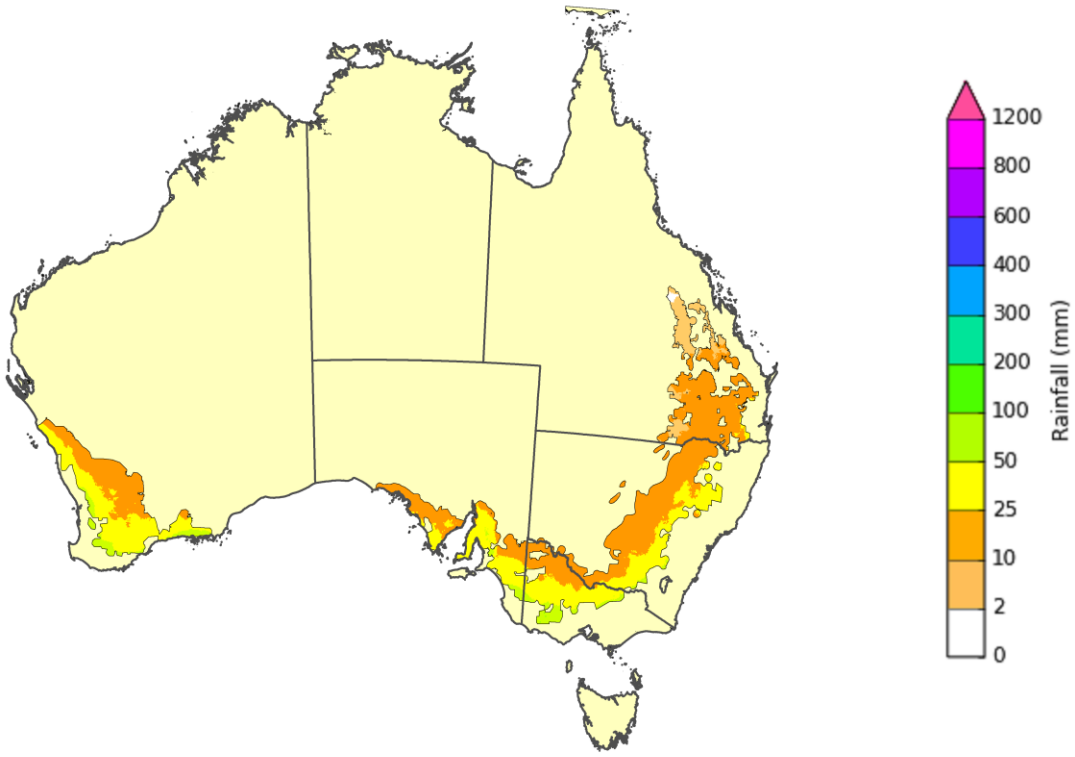
It is highly likely there will be enough early spring rainfall to sustain crops through to harvest in regions where crops were in a strong position at the start of spring. There is a 75% chance of receiving between 25 and 100 millimetres in most southern cropping regions in Victoria and South Australia between September and October 2019 (**Map 4**). There is a similar probability of receiving between 25 and 100 millimetres in south eastern cropping regions in New South Wales and in southern and western cropping regions in Western Australia.

In most cropping regions in Queensland and New South Wales, and some cropping regions in Victoria, South Australia and Western Australia, there is a 75% chance of receiving between 2 and 25 millimetres. In regions with low levels of soil moisture, low early spring rainfall totals are unlikely to be sufficient to sustain crop production through to harvest.

The outlook for temperatures during spring indicates hotter than average daytime temperatures are likely across all winter cropping regions. Night-time temperatures are likely to be hotter

than average in cropping regions in central and northern New South Wales, Queensland and Western Australia.

Map 4 Rainfall totals that have a 75% chance of occurring, September to October 2019



Note: Rainfall outlook is displayed for cropping regions only.
Source: Bureau of Meteorology

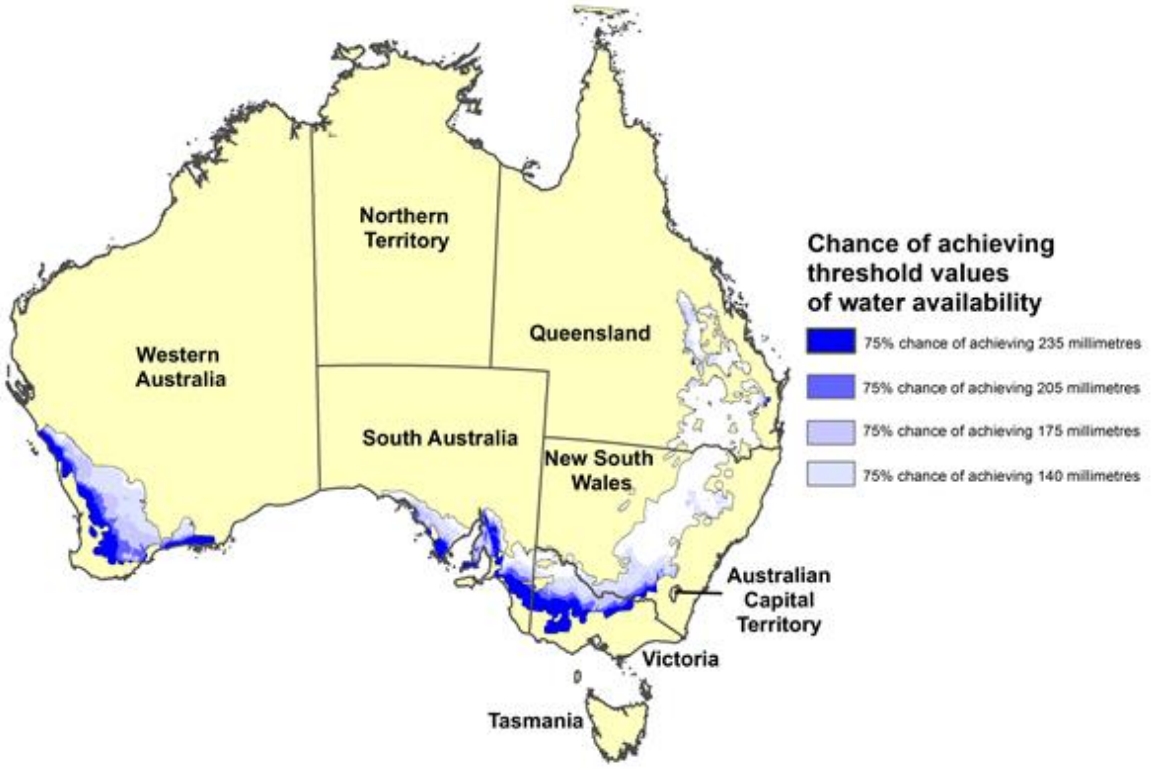
Map 5 shows modelled water availability levels that have a 75% chance of occurring by the end of October 2019. Water available for crop growth comes from water stored at sowing time and in-crop rainfall. On average, the total water requirement to achieve the national 5-year average wheat yield of 2.0 tonnes/ha is 235 millimetres, based on a conversion rate of 16kg of wheat per millimetre of water. The total water requirement to achieve 1.5 tonnes/ha, 1.0 tonnes/ha and 0.5 tonnes/ha based on this same conversion rate have been estimated to be 205, 175 and 140 millimetres, respectively.

ABARES estimated the winter cropping areas likely to achieve 235, 205, 175 and 140 millimetres of water availability. These indicative estimates is based on modelled plant available soil moisture as at 30 April 2019, recorded rainfall totals as at 31 August 2019 and an estimate of rainfall totals with a 75% chance of falling for September and October derived from the Bureau of Meteorology latest rainfall outlook released on 29 August 2019.

The crop yield associated with a specific level of water availability varies across regions with variations in soil characteristics. The indicative estimates presented above, abstract from this complexity by assuming a conversion rate of 16kg of wheat per millimetre of water and a standard soil evaporation loss factor of 110 millimetres. As a result the implications of the analysed threshold values of water availability may be quite different across regions. Additionally, in some seasons the responsiveness of crop growth to water availability will be better than average (around 22kg/mm) and in other years it will be worse (around 6kg/mm) as

responsiveness depends on factors such as temperature, humidity, soil nutrition and the timing of rainfall.

Map 5 Modelled water availability levels that have a 75% chance of occurring by the end of October 2019



Note: Modelled water availability is displayed for cropping regions only.
Source: ABARES & Bureau of Meteorology

At the end of August 2019, there was a 75% chance of achieving at least 235 millimetres of water availability by the end of October 2019 in cropping region in southern Victoria, central and southern South Australia and western and southern Western Australia. Across part of southern New South Wales and much of the remainder of Victoria, South Australia and Western Australia there is a 75% chance of achieving between 140 and 205 millimetres of water availability by the end of October 2019.

Table 4 Rainfall in major cropping districts, median and actual, June 2019 to August 2019

District	**District no.**	June median mm	June 2019 mm	July median mm	July 2019 mm	August median mm	August 2019 mm
New South Wales							
NW Plains (W)	52	33	6	29	8	19	1
NW Plains (E)	53	36	11	35	12	30	1
NW Slopes (N)	54	38	15	41	9	37	2
NW Slopes (S)	55	43	14	41	16	40	5
N Tablelands (N)	56	43	22	44	10	42	6
CW Plains (S)	50	37	17	36	12	30	7

District	**District no.**	June median mm	June 2019 mm	July median mm	July 2019 mm	August median mm	August 2019 mm
CW Plains (N)	51	33	5	28	6	23	2
CW Slopes (N)	64	39	11	44	9	35	7
CW Slopes (S)	65	47	25	50	13	45	12
C Tablelands (N)	62	41	15	45	7	44	9
C Tablelands (S)	63	53	39	56	19	58	17
Riverina (W)	75	32	21	30	26	32	9
Riverina (E)	74	44	32	40	35	43	13
SW Slopes (N)	73	57	41	59	27	61	20
SW Slopes (S)	72	92	70	102	84	114	54
Victoria							
N Mallee	76	26	24	28	26	30	12
S Mallee	77	33	43	33	35	36	20
N Wimmera	78	42	62	42	44	43	34
S Wimmera	79	58	71	64	64	65	47
Lower North	80	40	40	40	43	39	20
Upper North	81	54	57	55	44	52	29
Lower North East	82	107	88	113	97	118	63
North Central	88	80	101	83	66	85	67
Western Plains	89	57	78	60	67	67	61
West Coast	90	85	93	90	108	93	76
Queensland							
Central Highlands	35	27	21	16	14	12	7
Maranoa	43	25	8	22	6	19	3
W Darling Downs	42	27	17	28	3	19	3
E Darling Downs	41	29	20	31	2	24	2
Moreton S Coast	40	37	44	36	11	28	5
South Australia							
Upper South East	25B	50	52	53	46	56	44
Murray Mallee	25A	31	41	30	30	35	19
Murray River	24	28	28	26	19	30	17
East Central	23	73	71	76	55	74	58
Yorke Peninsula	22A	53	48	57	37	54	30
Lower North	21	43	49	43	25	47	29
Upper North	19	26	32	26	9	26	9
Western Agricultural	18	30	25	29	10	28	14
Western Australia							
North Coast	8	70	104	65	39	48	20
Central Coast	9	142	172	141	85	113	71

District	**District no.**	June median mm	June 2019 mm	July median mm	July 2019 mm	August median mm	August 2019 mm
Northern Central	10	53	77	50	35	43	21
South Central	10A	56	66	59	38	52	38
South East	12	19	24	18	8	16	12

Note: Median rainfall is calculated over the period 1900 to May 2019. Australian rainfall districts are shown in **Map 6** of the Australian crop report.
Source: Bureau of Meteorology monthly district rainfall reports

Map 6 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

Area planted to winter crops in central and northern New South Wales was well below average reflecting the prolonged hotter and drier than average conditions leading into the planting window. Winter rainfall was generally below to very much below average in all cropping regions in New South Wales, and in some northern cropping regions, was the lowest on record. After a promising start to the winter crop season in southern New South Wales, winter rainfall was generally below average and soil moisture levels fell significantly. The low levels of soil moisture mean early spring rainfall will be critical for grain development in regions that still had viable crops at the start of spring.

According to the latest three-month rainfall outlook (September to November), issued by the Bureau of Meteorology on 31 August 2019, spring rainfall is likely to be below average in cropping regions in New South Wales.

The unfavourable outlook for seasonal conditions during spring mean crop prospects in regions where winter crops have little soil moisture will likely deteriorate further.

Winter crop production is forecast to rise to 5.1 million tonnes in 2019–20, an increase of 77% from the previous season but around 51% below the 10-year average to 2018–19.

Area planted to winter crops in New South Wales is estimated to be 3.7 million hectares in 2019–20. Although this is an increase from the very low planted area in 2018–19, it is well below average, which reflects prolonged drier and hotter than average seasonal conditions in major cropping regions. Area planted in central and northern New South Wales is very low. Additionally, some winter crops with adequate biomass in southern cropping regions are likely to be cut for hay, reflecting current high hay prices and the risk of grain yields falling significantly during a hotter and drier than average spring.

Wheat production is forecast to be 3.2 million tonnes in 2019–20. The average wheat yield is forecast to be below average at 1.45 tonnes per hectare. Although crops in some parts of southern New South Wales currently have the potential to achieve average yields, most crops in central and northern New South Wales will yield well below average if these make it through to harvest. Area planted to wheat is estimated to have increased from the very low area planted in 2018–19 but is 32% below the 10-year average to 2018–19.

Barley production is forecast to be 1.1 million tonnes in 2019–20, 33% below the 10-year average to 2018–19. The average barley yield is forecast to be 1.6 tonnes per hectare, which is below average. Area planted to barley is estimated to be 700,000 hectares, 14% below the 10-year average to 2018–19.

C**anola** production is forecast to reach 370,000 tonnes in 2019–20. The average yield is forecast to be well below average at 1 tonne per hectare as a result of below average winter rainfall. Area planted to canola is estimated to be 370,000 hectares with the majority of area planted in southern New South Wales. Some canola crops will be cut for hay as growers mitigate the risk of crops failing because of unfavourable seasonal conditions during spring.

Table 5 Winter crop forecasts, New South Wales, 2019–20

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	2,200	1.45	3,190	22	77
Barley	700	1.60	1,120	17	78
Canola	370	1.00	370	95	143

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed.

Area planted to **summer crops** in New South Wales is forecast to be the lowest on record at around 230,000 hectares. This is because prolonged hotter and drier than average seasonal conditions have reduced soil moisture levels in summer cropping regions in New South Wales to close to zero and supplies of irrigation water are very low. It would take a significant rainfall event for the summer crop outlook in New South Wales to improve.

Area planted to **grain sorghum** is forecast to be very much below average at around 50,000 hectares. Significant spring and early summer rainfall will be required for grain sorghum planting to occur but the rainfall outlook for spring is not favourable. The large area of fallow land available because of the poor winter cropping season in northern New South Wales and high demand for feed grain will provide a strong incentive to plant grain sorghum if there is a significant rainfall event during the planting window.

Area planted to **cotton** is forecast to fall by 56% to 100,000 hectares in 2019–20. This is due to reduced water levels in irrigation dams serving New South Wales cotton growing regions. Cotton production is forecast to fall by 35% to 208,000 tonnes of cotton lint and around 294,000 tonnes of cottonseed in 2019–20. The average yield is forecast to increase by 47% because all cotton planted is expected to be irrigated.

Area planted to **rice** is forecast to remain largely unchanged at low levels in response to ongoing low supplies of irrigation water.

Table 6 Summer crop forecasts, New South Wales, 2019–20

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Grain sorghum	50	2.80	140	–55	–49
Cotton lint	100	2.08	208	–56	–35
Cottonseed	100	2.94	294	–56	–35
Rice	5	10.37	52	25	–4

Note: Yields are based on area planted, except cotton which is based on area harvested. Area based on planted crop that is harvested, fed off or failed.

Queensland

Winter rainfall in most cropping regions in Queensland was very much below average. Seasonal conditions in the southern cropping regions were hotter and drier than average and reduced soil moisture to below average levels. However, average winter rainfall fell north of Emerald in central Queensland.

According to the latest three-month rainfall outlook (September to November), issued by the Bureau of Meteorology on 30 August 2019, spring rainfall is likely to be very much below

average in most cropping regions in Queensland. These unfavourable seasonal conditions are expected to further reduce soil moisture levels in cropping regions.

Winter crop production in Queensland is forecast to rise by 2% in 2019–20 to 732,000 tonnes, driven by expected higher yields in some parts of central Queensland. Forecast production is 60% lower than the 10-year average to 2018–19 of 1.8 million tonnes.

Area planted to winter crops in Queensland is estimated to have risen slightly in 2019–20 to around 732,000 hectares, mainly due to an increase in area planted to wheat in some parts of central Queensland, where most winter crop production is expected to occur in Queensland this season.

Wheat production is expected to rise by 15% in 2019–20 to 460,000 tonnes. The average yield is forecast to be largely unchanged from 2018–19 with improved yields in some parts of central Queensland expected to be offset by lower yields in southern Queensland. Area planted to wheat is forecast to increase by 15% in 2019–20 to around 460,000 hectares.

Barley production is expected to decline by 24% in 2019–20 to 72,000 tonnes, largely driven by an estimated fall in planted area. Area planted to barley is estimated to have fallen by 21% in 2019–20 to 55,000 hectares due to lower than average rainfall in southern Queensland, where most barley is grown in Queensland.

Chickpea production is forecast to fall by 11% in 2019–20 to 170,000 tonnes, driven by an estimated fall in planted area. Area planted to chickpeas is estimated to have fallen by 15% to 170,000 hectares in response to weaker import demand from India and lower prices. The average yield is forecast to rise because almost all chickpeas are grown in central Queensland where yields are expected to increase.

Table 7 Winter crop forecasts, Queensland, 2019–20

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	460	1.00	460	15	15
Barley	55	1.31	72	–21	–24
Chickpeas	170	1.00	170	–15	–11

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed.

Area planted to **summer crops** in Queensland is forecast to fall by 17% in 2019–20 to around 514,000 hectares. This is largely due to a significant fall in area planted to cotton and grain sorghum.

Area planted to **grain sorghum** is forecast to fall by 12% to 340,000 hectares in 2019–20. This is well below the 10-year average to 2018–19 of 389,000 hectares. This forecast fall is due to low soil moisture levels in southern Queensland, which are expected to fall further during spring However, this is partially offset by improved soil moisture levels and favourable seasonal conditions forecast for spring in some parts of central Queensland. Additionally, falling cotton prices are likely to result in a shift from dry land cotton to grain sorghum. Production is forecast to fall by 15% to 850,000 tonnes in 2019–20. The average yield is assumed 4% lower.

Area planted to **cotton** is forecast to fall by 61% to 45,000 hectares in 2019–20 and is expected to comprise mainly of irrigated cotton. Cotton production is forecast to fall by 47% to 86,000

tonnes of cotton lint and around 122,000 tonnes of cottonseed. The average yield is forecast to rise by 36%, reflecting total planted area being irrigated.

Table 8 Summer crop forecasts, Queensland, 2019–20

Crop	Area	Yield	Production	Area change	Prod. Change
	'000 ha	t/ha	kt	%	%
Grain sorghum	340	2.50	850	–12	–15
Cotton lint	45	1.91	86	–61	–47
Cottonseed	45	2.71	122	–61	–47

Note: Yields are based on area planted, except cotton which is based on area harvested. Area based on planted crop that is harvested, fed off or failed.

Victoria

Seasonal conditions were generally favourable for crop development during winter in Victoria. Rainfall in most cropping regions was sufficient to put most cereal and canola crops in good to very good condition at the beginning of spring. Soil moisture levels in most parts of the Wimmera, North Central and Western districts at the beginning of spring were at, or above, average, which is expected to support grain formation in these regions. The major exception to these favourable seasonal conditions was in the northern Mallee where winter rainfall was below average and soil moisture levels fell to be below average at the beginning of spring.

According to the latest three-month seasonal outlook (September to November), issued by the Bureau of Meteorology on 30 August 2019, rainfall in September and October is unlikely to exceed median and temperatures are likely to be warmer than average in September and around average in October.

The seasonal conditions that are most likely over spring will lower soil moisture levels in September and adversely affect yield prospects in regions where soil moisture was below average at the beginning of spring, particularly in the northern Mallee. Cropping regions with soil moisture levels at or above average at the beginning of spring will be in better condition and benefit most from timely rainfall and average temperatures in October.

Winter crop production in Victoria is forecast to increase by 86% in 2019–20 to around 6.9 million tonnes. This mostly reflects an expected increase in yields, driven by favourable seasonal conditions over most of the season. This forecast production increase also partly reflects a 14% increase in area planted after significant area was taken out of grain production and cut for hay in 2018–19. Some winter crops in regions with low soil moisture levels are likely to be cut for hay this year, given currently high hay prices and prospects of below average rainfall in September. However, this practice is not expected to be as widespread in 2019–20 as it was last year.

Wheat production is forecast to increase by 85% in 2019–20 to 3.6 million tonnes reflecting an expected increase in the average yield. Yield prospects are forecast to be average to above average in most cropping regions, with the exception of the northern Mallee, and be a significant improvement on last year. The production increase also reflects an estimated 14% increase in area planted to wheat to around 1.6 million hectares.

Barley production is forecast to increase by 91% in 2019–20 to around 2.1 million tonnes, with a significant increase in the average yield from last season expected.

Canola production is forecast to increase by 107% in 2019–20 to around 620,000 tonnes after significant areas of canola were cut for hay last year. Area intended for oilseed production is forecast to increase by 33% and the average yield is forecast to increase by 55%.

Table 9 Winter crop forecasts, Victoria, 2019–20

Crop	Area	Yield	Production	Area change	Prod. Change
	'000 ha	t/ha	kt	%	%
Wheat	1,600	2.25	3,600	14	85
Barley	850	2.47	2,100	10	91
Canola	400	1.55	620	33	107

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed.

South Australia

Winter rainfall in South Australia's major cropping regions was average to below average. However, winter rainfall was timely and benefitted crop development in most regions. Soil moisture levels at the beginning of spring were below average in most northern cropping regions and mostly average in the lower Eyre Peninsula, the Mid-North, the lower Murraylands and the South East.

According to the latest three-month seasonal outlook (September to November), issued by the Bureau of Meteorology on 30 August 2019, rainfall in September and October is unlikely to exceed median and temperatures are likely to be warmer than average in September and average in October.

The seasonal conditions that are most likely over spring will hamper grain development, especially in the northern Mallee, the Upper-North and the northern Eyre Peninsula. Crops in regions with average or better soil moisture levels at the beginning of spring will be in better condition and benefit most from timely rainfall and average temperatures in October.

Winter crop production in South Australia is forecast to increase by 25% in 2019–20 to around 6.6 million tonnes from the low level of production in 2018–19. This forecast reflects an estimated 9% increase in planted area to around 3.6 million hectares and expected yield improvements in key growing regions. Yields are forecast to be around average in the lower Eyre Peninsula, the Mid-North, the lower Murray lands and the South East, and below average in most northern cropping regions.

Wheat production is forecast to increase by 27% in 2019–20 to around 3.8 million tonnes, which reflects an estimated increase in planted area and expected increases in yields in important growing regions. However, the average yield is forecast to be 14% below the 10-year average to 2018–19 because of less favourable prospects in northern cropping regions.

Barley production is forecast to increase by 24% to around 1.9 million tonnes, which largely reflects expected increases in yields, which reflects sufficient levels of soil moisture in key southern regions. Planted area is estimated to have increased by 5%.

Canola production is forecast to increase by 15% to around 300,000 tonnes, which largely reflects an estimated 10% increase in planted area. Canola crops in most regions were generally in good condition at the beginning of spring and the average yield is forecast to be close to the 10-year average to 2018–19. This reflects yield prospects in the lower Eyre Peninsula, the Mid-North and the South East.

Table 10 Winter crop forecasts, South Australia, 2019–20

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	2,050	1.83	3,750	11	27
Barley	860	2.21	1,900	5	24
Canola	220	1.36	300	10	15

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed.

Western Australia

Winter rainfall was below average in most cropping areas in Western Australia. Low levels of soil moisture and a late break to the season set most crops off to a slow start. Average to above average June rainfall increased soil moisture levels and yield prospects in most cropping regions. Rainfall in July and August was below average. Timely rainfall in late August has supported average yield prospects for most cereal crops. Many crops developed at a slower than average rate over winter due to the late start, increasing the risk of heat stress during spring if warmer and drier than average seasonal conditions occur.

According to the latest three-month rainfall outlook (September to November 2019), issued by the Bureau of Meteorology on 29 August 2019, September has a high chance to exceed median rainfall in most of the cropping regions and October is likely to be drier than average. Above average rainfall in September will give cereal crops a strong chance to achieve average to above average yields.

Area planted to **winter crops** is estimated to have fallen by 3% to 7.8 million hectares in 2019–20. Winter crop production is forecast to fall by 19% to 14.4 million tonnes, which is around the 10-year average to 2018–19. Yields are expected to be lower than in 2018–19.

Wheat production is forecast to fall by 21% in 2019–20 to 8.1 million tonnes largely reflecting a forecast 16% fall in the average yield. Area planted to wheat is estimated to have fallen by 5% to 4.5 million hectares. This is due to low levels of soil moisture discouraging planting in some regions, particularly more marginal cropping northern cropping regions.

Barley production is forecast to fall by 14% in 2019–20 to 4.3 million tonnes, largely reflecting a forecast 24% fall in the average yield from the high yield of last year. Area planted to barley is estimated to have risen by 14% to around 1.7 million hectares. Expected higher margins from growing barley relative to production alternatives provided an incentive to increase planted area.

Canola production is forecast to fall by 31% in 2019–20 to 1.0 million tonnes. The late break to the season is expected to result in a fall in yields to below average. Additionally, planted area is estimated to have fallen by 18% to 1.0 million hectares. Low levels of soil moisture during the canola planting window and higher expected returns from growing barley reduced the attractiveness of growing canola for many growers.

Table 11 Winter crop forecasts, Western Australia, 2019–20

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	4,450	1.81	8,050	–5	–21
Barley	1,650	2.58	4,250	14	–14
Canola	990	1.02	1,010	–18	–31
Lupins	350	1.14	400	–8	–33

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed.

Statistical tables

Table 12 Winter crop production and area, Australia, 2017–18 to 2019–20

Crop	Area			Production		
	2017–18	**2018–19 s**	**2019–20 f**	**2017–18**	**2018–19 s**	**2019–20 f**
	'000 ha	'000 ha	'000 ha	kt	kt	kt
Wheat	10919	10159	10770	20941	17298	19102
Barley	4124	3719	4125	9254	8310	9479
Canola	3171	1893	1983	3893	2180	2304
Chickpeas	1075	303	276	998	282	284
Faba beans	313	178	194	416	217	301
Field peas	291	179	220	317	152	255
Lentils	418	303	269	543	323	343
Lupins	612	500	499	714	693	558
Oats	874	680	728	1227	888	1132
Triticale	55	66	72	87	89	105

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. Area based on planted crop that is harvested, fed off or failed.
Sources: ABARES; Australian Bureau of Statistics; Pulse Australia

Table 13 Summer crop production and area, Australia, 2017–18 to 2019–20

Crop	Area			Production		
	2017–18	**2018–19 s**	**2019–20 f**	**2017–18**	**2018–19 s**	**2019–20 f**
	'000 ha	'000 ha	'000 ha	kt	kt	kt
Grain sorghum	462	496	391	1255	1278	992
Cottonseed **a**	526	343	145	1497	686	416
Cotton lint **a**	526	343	145	1058	485	294
Rice	61	5	5	635	61	59
Corn (maize)	53	55	61	387	392	430
Soybeans	32	26	25	51	42	41
Sunflower	14	19	19	26	23	24

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. Area based on planted crop that is harvested, fed off or failed.
Sources: ABARES; Australian Bureau of Statistics; Cotton Australia.

Table 14 Production, major crops, Australian states, 2017–18 to 2019–20

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												
2019–20 **f**	2,200	3,190	1,600	3,600	460	460	2,050	3,750	4,450	8,050	10	52
2018–19 **s**	1,800	1,800	1,400	1,950	400	400	1,850	2,950	4,700	10,150	9	48
2017–18	2,793	4,703	1,447	3,682	639	765	1,976	4,052	4,057	7,699	7	40
Five-year average to 2018–19	2,788	5,975	1,427	2,949	581	994	1,964	4,283	4,618	8,966	9	48
Barley												
2019–20 **f**	700	1,120	850	2,100	55	72	860	1,900	1,650	4,250	10	37
2018–19 **s**	600	630	770	1,100	70	95	820	1,535	1,450	4,916	9	34
2017–18	763	1,305	844	2,110	105	188	876	1,861	1,531	3,775	5	16
Five-year average to 2018–19	854	1,833	864	1,755	117	269	857	2,012	1,473	3,850	6	23
Canola												
2019–20 **f**	370	370	400	620	2	1	220	300	990	1,010	1	3
2018–19 **s**	190	152	300	300	1	1	200	260	1,200	1,464	2	3
2017–18	860	893	542	938	1	0	237	335	1,531	1,724	1	4
Five-year average to 2018–19	621	849	386	543	1	1	224	304	1,314	1,641	1	3
Oats												
2019–20 **f**	220	220	100	175	40	20	65	100	300	610	3	7
2018–19 **s**	200	140	130	140	39	21	48	80	260	500	3	7
2017–18	366	229	97	188	45	12	57	94	306	697	3	6
Five-year average to 2018–19	307	320	133	237	47	26	63	109	300	678	3	6

continued ...

Table 14 Production, major crops, Australian states, 2017–18 to 2019–20 (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
Grain sorghum												
2019–20 **f**	50	140	0	0	340	850	0	0	1	2	0	0
2018–19 **s**	110	275	0	0	385	1,001	0	0	1	2	0	0
2017–18	108	279	0	0	353	974	0	0	1	1	0	0
Five-year average to 2018–19	135	426	0	1	380	1,075	0	0	1	3	0	0
Cottonseed a												
2019–20 **f**	100	294	0	0	45	122	0	0	0	0	0	0
2018–19 **s**	227	454	0	0	117	231	0	0	0	0	0	0
2017–18	351	1,044	0	0	175	453	0	0	0	0	0	0
Five-year average to 2018–19	247	669	0	0	132	347	0	0	0	0	0	0
Rice												
2019–20 **f**	5	52	0	0	0	7	0	0	0	0	0	0
2018–19 **s**	4	54	0	0	1	7	0	0	0	0	0	0
2017–18	60	628	0	0	1	7	0	0	0	0	0	0
Five-year average to 2018–19	48	488	0	1	1	5	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. Area based on planted crop that is harvested, fed off or failed.
Sources: ABARES; Australian Bureau of Statistics

Table 15 Production, other crops, Australian states, 2017–18 to 2019–20

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												
2019–20 **f**	25	25	55	65	170	170	20	17	6	7	0	0
2018–19 **s**	50	35	20	20	200	190	25	25	8	12	0	0
2017–18	450	407	77	78	507	467	34	38	7	8	0	0
Five-year average to 2018–19	317	401	31	36	335	476	22	23	5	7	0	0
Field peas												
2019–20 **f**	35	39	55	56	0	0	100	120	30	40	0	0
2018–19 **s**	39	29	50	35	0	0	70	50	20	38	0	0
2017–18	75	46	84	91	0	0	102	137	31	42	0	0
Five-year average to 2018–19	53	60	58	62	0	0	99	114	26	39	0	0
Lentils												
2019–20 **f**	5	5	110	120	0	0	140	200	14	18	0	0
2018–19 **s**	7	5	125	105	0	0	160	200	11	13	0	0
2017–18	2	1	210	261	0	0	198	274	8	6	0	0
Five-year average to 2018–19	3	4	128	137	0	0	147	249	4	4	0	0
Lupins												
2019–20 **f**	70	68	34	35	0	0	45	55	350	400	0	0
2018–19 **s**	50	38	30	20	0	0	40	35	380	600	0	1
2017–18	95	46	49	52	0	0	66	82	402	532	0	1
Five-year average to 2018–19	69	65	38	38	0	0	61	69	352	555	0	0

continued ...

Table 15 Production, other crops, Australian states, 2017–18 to 2019–20 (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)												
2019–20 **f**	20	180	5	50	34	184	0	0	2	13	0	4
2018–19 **s**	18	162	5	55	30	159	0	0	2	12	0	4
2017–18	20	190	5	60	26	115	0	0	2	18	0	4
Five-year average to 2018–19	20	194	6	61	30	153	0	0	1	12	0	2
Soybeans												
2019–20 **f**	15	25	1	1	9	15	0	0	0	0	0	0
2018–19 **s**	16	27	1	1	9	14	0	0	0	0	0	0
2017–18	24	40	1	1	7	10	0	0	0	0	0	0
Five-year average to 2018–19	16	28	1	1	7	11	0	0	0	0	0	0
Sunflower												
2019–20 **f**	10	14	0	0	9	9	0	0	1	0	0	0
2018–19 **s**	10	14	0	0	8	9	0	0	0	0	0	0
2017–18	10	21	0	0	4	5	0	0	0	0	0	0
Five-year average to 2018–19	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. Area based on planted crop that is harvested, fed off or failed.

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	2017–18 s kt
Wheat						
Production	22855	25303	23743	22275	31819	20941
Apparent domestic use	6451	6785	7154	7231	7805	8685
– seed	631	619	564	610	612	508
– other **a**	5820	6165	6590	6621	7193	8177
Exports **b**	18644	18612	16587	16116	22636	13820
Imports **b**	17	20	22	25	25	28
Canola						
Production	4142	3832	3540	2775	4313	3893
Apparent domestic use **a**	631	969	915	1088	972	900
Exports	3512	2863	2626	1857	3458	2489
Pulses						
Production						
– lupins	459	626	549	652	1031	714
– field peas	320	342	290	205	415	317
– chickpeas	813	629	555	875	2004	998
Apparent domestic use **a**						
– lupins	290	286	306	398	637	258
– field peas	145	175	124	72	148	189
– chickpeas	1	0	1	1	1	1
Exports						
– lupins	169	340	243	254	395	456
– field peas	177	169	168	134	268	130
– chickpeas	853	629	663	1145	2293	724

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. **s** ABARES estimate.
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	7,471	9,174	8,646	8,992	13,506	9,254
Apparent domestic use	3,623	3,187	3,243	3,271	3,314	3,956
– seed	172	184	185	180	169	167
– other **a**	3,451	3,003	3,058	3,091	3,145	3,789
Export	5,289	6,957	5,932	6,342	9,873	6,496
– feed barley	2,972	3,944	3,070	4,351	6,364	3,641
– malting barley	1,512	2,273	2,149	1,394	2,826	2,084
– malt (grain equivalent)	805	740	713	596	683	771
Oats						
Production	1,121	1,255	1,198	1,300	2,266	1,227
Apparent domestic use	884	1,001	960	1,074	1,708	1,075
– seed	34	41	39	44	36	30
– other **a**	850	960	920	1,030	1,672	1,044
Export	237	253	238	226	558	152
Triticale						
Production	171	126	143	127	150	87
Apparent domestic use	171	126	143	127	150	87
– seed	4	4	4	5	4	3
– other **a**	167	122	139	122	146	84
Export	0	0	0	1	0	0
Grain sorghum						
Production	2,229	1,282	2,210	1,791	994	1,255
Apparent domestic use **b**	1,060	1,083	885	572	878	717
– seed	3	3	4	3	2	3
– other **a**	1,056	1,080	881	569	875	714
Export **b**	1,179	1,146	397	1,638	913	277
Corn (maize)						
Production	506	390	495	400	436	387
Apparent domestic use **b**	347	401	331	432	337	369
– seed	1	1	1	1	1	1
– other **a**	346	400	330	431	336	368
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, forth quarter 2017 to second quarter 2019

Crop	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2
	A$/t	A$/t	A$/t	A$/t	A$/t	A$/t	A$/t
Wheat							
Domestic: feed, del. Sydney	262	266	334	406	445	428	386
International: US no. 2 hard red winter, fob Gulf **a**	283	303	322	332	331	327	311
Barley							
Domestic: 2 row feed, del. Sydney	252	274	324	389	427	375	368
Export: feed **b**	274	269	299	336	353	345	344
Export: malting **b**	263	283	304	346	365	371	424
International: feed, fob Rouen **a**	241	259	277	320	330	300	273
Grain sorghum							
Domestic: feed, del. Sydney	313	320	366	388	410	373	367
Export **b**	493	380	333	362	584	401	439
Oats							
Domestic: feed, del. Sydney	188	180	275	351	390	390	391
International: CME oats nearby contract	230	225	216	233	275	269	288
Corn (maize)							
Domestic: feed, del. Sydney	382	387	400	428	447	445	445
International: US no. 2 yellow corn, fob Gulf **a**	195	210	230	217	228	237	250
Oilseeds							
Domestic: canola, del. Melbourne	543	504	525	567	629	605	562
International: Europe rapeseed, cif Hamburg	561	542	544	588	596	588	590
International: US no. 2 soybeans, fob Gulf **a**	490	496	511	444	462	490	483
Pulses							
Domestic: lupins, del. Kwinana	286	292	323	330	363	374	388
Domestic: chickpeas, del. Melbourne	763	598	645	736	789	802	694
Domestic: field peas, del. Melbourne	298	305	378	429	516	620	542
Export: chickpeas **b**	957	821	737	764	835	896	831
Export: field peas **b**	389	400	425	494	546	683	689

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