

Australian crop report

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

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The next issue of Australian crop report is scheduled to be released on Tuesday 18 February 2020.

In the next issue:

2019-20 winter crop area estimates and production estimates updated

2019-20 summer crop area and production forecasts updated

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National overview

Australian winter crop production was adversely affected by seasonal conditions in early spring that were more unfavourable than expected in most cropping regions, particularly in Western Australia and southern New South Wales. Rainfall was below average and daytime temperatures above average in most cropping regions. The unfavourable seasonal conditions reduced crop prospects in most cropping regions but the changes in Western Australia and southern New South Wales were the most significant in reducing national production prospects. In contrast, yields in most southern cropping regions in South Australia and Victoria are expected to be average to above average where timely spring rainfall fell.

Harvest is underway in many regions but rainfall in early November slowed progress in southern New South Wales, Victoria and South Australia. According to the latest rainfall outlook, issued by the Bureau of Meteorology on 21 November 2019, December rainfall is likely to be below average in most cropping regions.

Winter crop production is forecast to fall by 3% in 2019–20 to 29.4 million tonnes, which is a downward revision of 13% from the forecast ABARES published in September. Forecast production is around 27% below the 10-year average to 2018–19 and is set to fall for the third consecutive year since record high production was achieved in 2016–17. Winter crop production in Victoria is expected to account for around 24% of national production, compared to an average of 16% over the 10-years to 2018–19.

For the major winter crops, **wheat** production is forecast to decrease by 8% to around 15.9 million tonnes, 35% below the 10-year average to 2018–19. **Barley** production is forecast to increase by 4% to around 8.7 million tonnes, 3% below the 10-year average to 2018–19. **Canola** production is forecast to fall by 4% to around 2.1 million tonnes, 35% below the 10-year average to 2018–19.

Amongst other crops, **chickpea** production is forecast to rise by 2% to 289,000 tonnes and **oats** production is forecast to rise by 5% to 935,000 tonnes.

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	45,673
2012-13	kt	11,123	6,886	2,156	6,470	11,244	37,936
2013-14	kt	9,773	6,774	1,516	7,221	16,511	41,881
2014-15	kt	10,445	5,117	1,464	7,439	14,662	39,198
2015-16	kt	11,624	3,568	2,104	6,104	14,206	37,687
2016-17	kt	15,510	9,511	3,159	10,656	17,737	56,675
2017-18	kt	7,743	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	3,616	7,184	678	6,279	11,550	29,405
% change 2018–19 to 2019–20		26	92	-5	19	-35	-3

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

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.

Sources: ABARES; ABS

Area planted to winter crops is estimated to have increased to just under 18.1 million hectares, partly because a smaller area of crops intended for grains and oilseeds production was cut for hay this year than last year. The crops planted for grains and oilseeds production that were cut for hay this year were in response to high fodder prices and unfavourable conditions in September in regions with low levels of soil moisture at the beginning of spring.

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	3,126	3,081	657	3,467	7,693	18,048
% change 2018–19 to 2019–20		5	6	-8	4	-4	0

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

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. Area based on planted crop that is harvested, fed off or failed. Sources: ABARES; ABS

Area planted to **summer crops** is forecast to fall by 49% in 2019–20 to around 535,000 hectares, driven by significant expected falls in area planted to grain sorghum and cotton. This reflects very low levels of soil moisture and an unfavourable outlook for seasonal conditions during summer in Queensland and northern New South Wales.

The latest three-month rainfall outlook (December to February), issued by the Bureau of Meteorology on 21 November 2019, indicates summer rainfall is likely to be very much below average in most parts of Queensland and northern New South Wales. As a result, summer crop production is forecast to decline by 52% to around 1.2 million tonnes.

Area planted to **grain sorghum** is forecast to fall by 51% in 2019–20 to 241,000 hectares. Early planting was minimal and late planting would require significant rainfall, which is unlikely given the latest three-month season outlook issued by the Bureau of Meteorology. Production is forecast to more than halve to 398,000 tonnes, the lowest on record. The average yield is assumed to fall by 36% from 2018–19.

Area planted to **cotton** is forecast to fall by 76% to 82,000 hectares because water levels in dams servicing cotton growing regions are extremely low and soil moisture levels are insufficient to enable planting of dryland cotton. The planted area is expected to be the lowest since 2007–08 when it was 63,000 hectares. Production is forecast to decline by 63% to around 177,000 tonnes of lint and 251,000 tonnes of cottonseed. The average yield is forecast to rise from last season because almost all planting this season is expected to be irrigated.

Area planted to rice is forecast to remain low at around 5,000 hectares in response to low water allocations and high water prices.

kt 2764 4446
2764 4446
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3847
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3666
3952
2593
1243
52

Table 3 Summer cr	p area and	production,	Australia,	2009–10 to 2019–20
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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.

Sources: ABARES; ABS

Climatic and agronomic conditions

Rainfall from August to October 2019 was generally extremely low to well below average across most cropping regions in New South Wales, southern Queensland, northern Victoria, northeastern cropping regions in South Australia and northern cropping regions in Western Australia **(Map 1)**. Over the same period, rainfall in northern cropping regions in Queensland, western South Australia and southern Western Australian was generally below average to average, which was largely the result of below average rainfall during October.

Maximum daytime temperatures during late winter and spring were generally above average in most cropping regions. In contrast, there were numerous frost events and lowest minimum temperatures on record in southern Australia in September.



Map 1 Australian rainfall percentiles, 1 August to 31 October 2019

Note: Rainfall percentages are displayed for wheat-sheep zone only. Rainfall for August to October 2019 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 26 November 2019, was around average in most summer cropping regions in northern New South Wales but below average in almost all summer cropping regions in Queensland **(Map 2)**.



Map 2 Australian rainfall percentiles, 1 to 25 November 2019

Note: Rainfall percentages are displayed for summer cropping regions only. Rainfall for 1 to 26 November 2019 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 25 November 2019.

The modelled root zone soil moisture for November 2019 indicates stored soil moisture levels are extremely low in summer cropping regions. **(Map 3).**



Map 3 Modelled root zone soil moisture, as at 25 November 2019

Note: Root zone soil moisture is displayed for summer cropping regions only. Source: Bureau of Meteorology

Due to the extremely low levels of root zone soil moisture, planting and yield prospects for dryland summer crops will be almost entirely 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 21 November 2019, rainfall in summer cropping regions in New South Wales and Queensland is likely to be below average **(Map 4)**.

The outlook for maximum and minimum temperatures for summer 2019–20, indicates higher than average daytime and night-time temperatures are likely in cropping regions in New South Wales and Queensland.



Map 4 Rainfall outlook, December 2019 to February 2020

Note: Rainfall outlook is displayed for sorghum producing shires 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 2019, the forecast indicated a generally below average outlook for the 2019–20 sorghum crop (**Map 5**).



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

Note: Probability of exceeding the long-term sorghum yield, given SOI phase was "consistently negative" " 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 <u>Grains Research & Development Corporation</u> (GRDC) for more detail.

The QAAFI estimates of the probability of exceeding the long-term grain sorghum yield is based on rainfall information up to the end of October and does not incorporate significant rainfall deficiencies in November. As such ABARES has undertaken an analysis to determine the chance of achieving 290 millimetres of water availability **(Map 6)**. This analysis is based on available soil moisture as at 25 November 2019 and estimates of rainfall totals for December to February derived from the Bureau of Meteorology's latest rainfall outlook. The probability of achieving 290 millimetres of water availability provides a good indication of the prospects for grain sorghum production.

At the end of November 2019, the chance of achieving 290 millimetres of water availability was low in summer cropping regions. The highest chance (25%) is in the northern and eastern part of the Queensland summer cropping region and some eastern parts 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 lower than 25%.

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 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.

Crop conditions and production forecasts, by state

New South Wales

Less than half of average rainfall fell in New South Wales from January to October 2019, the lowest for the first 10 months of the year since 1940. While spring rainfall was forecast at the beginning of spring to be below average, conditions that eventuated in many cropping regions were worse than expected.

The prolonged period of well below average rainfall had a significant impact on crop production in New South Wales.

Winter crop production in New South Wales is forecast to be 3.6 million tonnes in 2019–20, around 65% below the 10-year average to 2018–19. Many crops intended for grain and oilseed production were cut for hay during spring in response to high fodder prices and uncertainty about enough spring rainfall falling to keep crops viable.

Wheat production is forecast to be 2.3 million tonnes in 2019–20, 67% below the 10-year average to 2018–19. The average wheat yield is forecast to be 1.2 tonnes per hectare, which is 42% below the 10-year average to 2018–19. Crops across New South Wales achieved below average yields and most crops that made it through to harvest in central and northern New South Wales achieved well below average yields. Area planted to wheat is estimated to have increased from the very low area planted in 2018–19 but was still 41% below the 10-year average to 2018–19.

Barley production is forecast to be 725,000 tonnes in 2019–20, 57% below the 10-year average to 2018–19. The average barley yield is forecast to be 1.25 tonnes per hectare, which is 38% below the 10-year average to 2018–19. Area planted to barley is estimated to be 580,000 hectares, 28% below the 10-year average to 2018–19.

Canola production is forecast to reach 225,000 tonnes in 2019–20. The average yield is forecast to be well below average at 0.9 tonnes per hectare. Area planted to canola is estimated to be 250,000 hectares with the majority of this in southern New South Wales. A significant number of canola crops were cut for hay in early spring as the risk of crops failing before harvest rose.

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	1,900	1.20	2,280	6	27
Barley	580	1.25	725	-3	15
Canola	250	0.90	225	32	48

Table 4 Winter crop forecasts, New South Wales, 2019–20

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed. Percent change are relative to last year.

Sources: ABARES

Summer crop prospects in northern New South Wales are currently extremely poor. Soil moisture levels are extremely low following the prolonged period of well below average rainfall

and the outlook for seasonal conditions during summer is unfavourable. Additionally, supplies of irrigation water are low.

According to the latest three-month rainfall outlook (December to February), issued by the Bureau of Meteorology on 21 November 2019, summer rainfall is likely to be below average in summer cropping regions of New South Wales and daytime temperatures very likely to be above average.

Area planted to **summer crops** in New South Wales is forecast to be the lowest on record at 166,000 hectares. It would take significant summer rainfall for the summer crop outlook in New South Wales to improve. However, this not likely given the latest three-month season outlook issued by the Bureau of Meteorology.

Area planted to **grain sorghum** is forecast to be very much below the 10-year average at 40,000 hectares. Production, at 76,000 tonnes, is also expected to be well below average. The large area of fallow land available because of the poor winter cropping season in northern New South Wales and high grain sorghum prices would provide a strong incentive to plant grain sorghum if there is significant rainfall during the planting window. However, significant rainfall over summer appears unlikely.

Area planted to **cotton** is forecast to fall by 77% to 52,000 hectares in 2019–20 because of the low water levels in irrigation dams serving New South Wales cotton growing regions. Cotton production is forecast to fall by 64% to 114,000 tonnes of cotton lint and around 162,000 tonnes of cottonseed. The average yield is forecast to increase by 55% because most cotton planted is expected to be irrigated.

Area planted to **rice** is forecast to remain largely unchanged at 3,400 hectares, in response to high water prices and low availability of irrigation water.

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	Kt	%	%
Grain sorghum	40	1.90	76	-64	-72
Cotton lint	52	2.20	114	-77	-64
Cottonseed	52	3.11	162	-77	-64
Rice	3	13.50	46	-15	-15

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

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. Percent change are relative to last year. Sources: ABARES

Queensland

Harvesting of **winter crops** in Queensland is now largely complete. Winter crop production in 2019–20 is estimated to have fallen by 5% to around 678,000 tonnes, the third consecutive year of falling winter crop production in Queensland since record high production was achieved in 2016-17. If the forecast for 2019–20 is realised, this will be the lowest production since 1994–95, when 312,000 tonnes was produced. Around 10% of area planted to wheat and barley for grain production was cut for hay in response to high fodder prices and unfavourable seasonal conditions increasing the risk of grain production.

Seasonal conditions in southern Queensland and parts of central Queensland in September and October were generally poor. Rainfall was well below average in most cropping regions outside of small parts of the south east and central Queensland.

Wheat production is estimated to have increased by 5% in 2019–20 to 420,000 tonnes. Area planted to wheat is estimated to have remained at 400,000 hectares. The average yield is estimated to have risen by 5% to 1.05 tonnes per hectare. The average yield increased because almost all crops harvested were grown in central Queensland, which received well above average rainfall in July 2019.

Barley production is estimated to have fallen by 37% in 2019–20 to 60,000 tonnes. Area planted to barley is estimated to have fallen by 36% to 45,000 hectares due to lower than average rainfall in southern Queensland, where most barley is grown in the state.

Production of **chickpeas** is estimated to have declined by 11% in 2019–20 to 170,000 tonnes. Area planted to chickpeas is estimated to have fallen by 15% to 170,000 hectares in response to lower prices and weaker import demand from India. Yields are estimated to have increased because almost all chickpeas are grown in central Queensland where seasonal conditions improved from last season.

Сгор	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	400	1.05	420	0	5
Barley	45	1.33	60	-36	-37
Chickpeas	170	1.00	170	-15	-11

Table 6 Winter crop forecasts, Queensland, 2019–20

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed. Percent change are relative to last year.

Sources: ABARES

Prospects for summer crop production in Queensland are poor because of the long period of below average rainfall in most cropping regions and an unfavourable outlook for seasonal conditions over summer. Average winter rainfall improved soil moisture levels north of Emerald to facilitate some planting of summer crops. But even in this region, above average rainfall is needed between now and February 2020 to support further summer crop planting, which is unlikely given the latest three-month season outlook issued by the Bureau of Meteorology. Additionally, low water levels in dams servicing cotton producers will constrain planting of irrigated cotton. As a result, for most summer crops, area planted is forecast to fall from 2018– 19 levels.

Area planted to **summer crops** in Queensland is forecast to fall by 42% in 2019–20 to around 356,000 hectares. This is due to a significant forecast fall in area planted to irrigated cotton and grain sorghum. Summer crop production is forecast to more than halve to 684,000 tonnes.

Area planted to **grain sorghum** is forecast to fall by 48% in 2019–20 to 200,000 hectares, the lowest on record. Grain sorghum production is forecast to fall by 68% in 2019–20 to 320,000 tonnes largely because of the forecast fall in planted area. Additionally, the average yield is forecast to fall by 38% to 1.6 tonnes per hectare because of the unfavourable seasonal conditions expected over summer.

Area planted to **cotton** is forecast to fall by 74% to 30,000 hectares in 2019–20, which is expected to be mainly comprised of irrigated cotton. Cotton production is forecast to decline by 61% to 63,000 tonnes of cotton lint and around 89,000 tonnes of cottonseed in 2019–20. The average yield is forecast to increase by 50% as a result of the expected dominance of irrigated cotton in planted area.

Area planted to **rice** is forecast to remain largely unchanged at 1,200 hectares due to milling capacity constraints. Production is forecast to be around 8,000 tonnes and with the low level of rice production in New South Wales, Queensland production is expected to comprise around 15% of national production.

Crop	Area	Yield	Production	Area change	Prod. Change
	'000 ha	t/ha	kt	%	%
Grain sorghum	200	1.60	320	-48	-68
Cotton lint	30	2.10	63	-74	-61
Cottonseed	30	2.97	89	-74	-61

Table 7 Summer crop forecasts, Queensland, 2019–20

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. Percent change are relative to last year. Sources: ABARES

Victoria

Seasonal conditions were mixed in Victoria during spring after winter conditions were generally favourable. Timely rainfall and average daytime temperatures in September supported grain formation in most parts of the southern Mallee, the Wimmera, the North Central and the Western districts. Rainfall was below average and daytime temperatures above average in October for these cropping regions. However, average night time temperatures and sufficient levels of soil moisture supported prospects for average to above average yields. In contrast, soil moisture levels were low at the beginning of spring in the northern Mallee and the north eastern parts of the Victorian cropping region, and yield prospects were adversely affected by below average rainfall and above average temperatures during spring.

High fodder prices and frosts in September caused some cereal crops intended for grain production to be cut for hay, especially in the northern Mallee and the north eastern parts of the Victorian cropping region. Rainfall and cool conditions in early November have delayed harvesting in most cropping regions, and has the potential to boost yields in late finishing districts.

According to the latest rainfall outlook issued by the Bureau of Meteorology on 21 November 2019, December rainfall is likely to be below average in Victoria.

Winter crop production in Victoria is forecast to increase by 92% in 2019–20 from low levels in 2018–19 to around 7.2 million tonnes, which is 12% above the 10-year average to 2018–19. Planted area is estimated to have increased by 6%, after fewer crops intended for grains and oilseeds production were cut for hay compared to last year.

Wheat production is forecast to increase by 85% in 2019–20 to 3.6 million tonnes reflecting an expected significant increase in the average yield. Yield prospects are forecast to be average to above average in most cropping regions outside of the northern Mallee and the north eastern parts of the Victorian cropping region.

Barley production is forecast to increase by 109% in 2019–20 to around 2.3 million tonnes, which is 24% above the 10-year average to 2018–19. The forecast increase is largely driven by an expected 101% increase in the average yield. There has been a high level of screenings in early deliveries of barley from regions adversely affected by a finish with below average rainfall.

Canola production is forecast to increase by 107% in 2019–20 to around 620,000 tonnes after many canola crops intended for oilseed production were cut for hay last year. Planted area is forecast to increase by 28% and the average yield is forecast to increase by 61%.

Сгор	Area	Yield	Production	Area change	Prod. Change
	'000 ha	t/ha	kt	%	%
Wheat	1,450	2.48	3,600	4	85
Barley	800	2.88	2,300	4	109
Canola	385	1.61	620	28	107

Table 8 Winter crop forecasts, Victoria, 2019–20

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed. Percent change are relative to last year.

Sources: ABARES

South Australia

Seasonal conditions were mixed during spring in South Australia. Crop prospects in most northern cropping regions were adversely affected by below average rainfall and above average temperatures during spring. However, while spring rainfall was below average in parts of the upper Eyre Peninsula, the southern Mallee and the mid-North, it was timely, and benefitted yield prospects in these regions. Average rainfall in September and the timeliness of rainfall in October supported average yield prospects in most southern cropping regions including lower Eyre Peninsula, lower Yorke Peninsula and the South East.

Fires in Yorke Peninsula in late November will delay harvest and reduce production in the region. However, the affected region is a small proportion of total planted area in South Australia and the fires will not reduce state level production significantly.

According to the latest three-month seasonal outlook (December to February), issued by the Bureau of Meteorology on 21 November 2019, December rainfall is likely to be below average in South Australia.

Winter crop production in South Australia is forecast to increase by 19% in 2019–20 to around 6.3 million tonnes. However, production in 2018–19 was very low and forecast production in 2019–20 is still 15% below the 10-year average to 2018–19. The 2019–20 forecast reflects an estimated 4% increase in planted area to around 3.5 million hectares and expected yield improvements in key growing regions. High fodder prices and frosts in September resulted in some crops intended for grain production being cut for hay, especially in parts of the northern Mallee and the upper North.

Wheat production is forecast to increase by 19% in 2019–20 to around 3.5 million tonnes, reflecting a 13% increase in the average yield and an estimated 5% increase in planted area.

Barley production is forecast to increase by 21% to just under 1.9 million tonnes. The average yield is forecast to increase by 17% and planted area is estimated to have increased by 3%.

Canola production is forecast to increase by 15% to around 300,000 tonnes, which largely reflects an estimated 10% increase in planted area. Canola in early deliveries from regions adversely affected by below average spring rainfall has had below average oil content.

Crop	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	1,950	1.79	3,500	5	19
Barley	845	2.19	1,850	3	21
Canola	220	1.36	300	10	15

Table 9 Winter crop forecasts, South Australia, 2019–20

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed. Percent change are relative to last year.

Sources: ABARES

Western Australia

Winter crop prospects in Western Australia appeared reasonable at the beginning of spring but deteriorated quickly. After below average winter rainfall and a late break to the season, crops needed average September rainfall to reach average yields, which was the initial rainfall outlook issued by the Bureau of Meteorology at the end of winter. However the initial outlook was revised and below average spring rainfall fell in most cropping regions, accompanied by well above average temperatures. Heat stress and low moisture adversely affected most winter crops in the state, especially in northern cropping regions such as Geraldton. Frost events during spring in the southern cropping areas reduced yield prospects for some wheat, barley and canola crops.

Winter crop production is forecast to fall by 35% in 2019–20 to 11.6 million tonnes. This reflects a 4% decrease in planted area to around 7.7 million hectares and expected falls in yields in all growing regions. Unfavourable seasonal conditions in the Geraldton region are pushing regional production towards its lowest total in a decade. Frost events in Albany and Esperance resulted in some wheat and canola crops being cut for hay.

Wheat production is forecast to fall by 41% in 2019–20 to around 6.0 million tonnes, reflecting a forecast 37% fall in the average yield. Area planted to wheat is estimated to have fallen by 6% to 4.4 million hectares.

Barley production is forecast to fall by 25% in 2019–20 to 3.7 million tonnes, largely reflecting a forecast 34% 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. Barley yields across the state held up a lot better than wheat over spring due to a lot of barley being grown in the southern cropping regions, where seasonal conditions were slightly more favourable.

Canola production is forecast to fall by 35% in 2019–20 to 950,000 tonnes. The late break to the season and higher than average temperatures caused yields to be below average. Additionally, planted area is estimated to have fallen by 22% to 940,000 hectares.

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

Сгор	Area	Yield	Production	Area change	Prod. change
	'000 ha	t/ha	kt	%	%
Wheat	4,400	1.36	6,000	-6	-41
Barley	1,650	2.24	3,700	14	-25
Canola	940	1.01	950	-22	-35
Lupins	350	1.00	350	-8	-42

Note: Yields are based on area planted. Area based on planted crop that is harvested, fed off or failed. Percent change are relative to last year.

Sources: ABARES

Statistical tables

Сгор		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	10110	20941	17298	15852
Barley	4124	3719	3930	9254	8310	8672
Canola	3171	1893	1798	3893	2180	2099
Chickpeas	1075	303	268	998	282	289
Faba beans	313	178	196	416	217	322
Field peas	291	179	236	317	152	257
Lentils	418	303	240	543	323	338
Lupins	612	500	520	714	693	532
Oats	874	680	673	1227	888	935
Triticale	55	66	72	87	89	105

Table 11 Winter crop production and area, Australia, 2017–18 to 2019–20

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; ABS; Pulse Australia

Сгор		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	241	1255	1278	398		
Cottonseed a	526	343	82	1497	686	251		
Cotton lint a	526	343	82	1058	485	177		
Rice	61	5	5	635	61	54		
Corn (maize)	53	55	52	387	392	361		
Soybeans	32	26	25	29	42	41		
Sunflower	14	19	19	15	23	24		

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

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; ABS; Cotton Australia.

Winter crops	New South	n Wales	Victo	ria	Queens	land	South Au	stralia	Western A	ustralia	Tasm	ania
	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
Wheat												
2019–20 f	1,900	2,280	1,450	3,600	400	420	1,950	3,500	4,400	6,000	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	580	725	800	2,300	45	60	845	1,850	1,650	3,700	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	250	225	385	620	2	1	220	300	940	950	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	190	171	100	175	35	18	65	95	280	470	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

Table 13 Production, major crops, Australian states, 2017–18 to 2019–20

continued ...

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ABARES

Summer crops	New South	Wales	Victo	ria	Queens	land	South Aus	tralia	Western Au	ıstralia	Tasma	inia
	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												
2019–20 f	40	76	0	0	200	320	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	52	162	0	0	30	89	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	3	46	0	0	1	8	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

Table 13 Production, major crops, Australian states, 2017–18 to 2019–20 (continued)

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; ABS

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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						
Chickpeas												
2019–20 f	25	20	50	75	170	170	15	17	8	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	41	34	55	60	0	0	105	125	35	38	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	6	5	110	140	0	0	110	175	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	91	90	34	37	0	0	45	55	350	350	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

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

continued ...

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ABARES

Summer crops	New Sout	n Wales	1	Victoria	Que	ensland	South A	ustralia	Western A	ustralia	Та	smania
	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.
	'000 ha	kt	'000 ha	kt	'000 ha	kt	'000 ha	kt	'000 ha	kt	'000 ha	kt
Corn (maize)												
2019–20 f	15	135	5	50	30	159	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	17	1	1	7	10	0	0	0	0	0	0
Five-year average to 2018–19	16	23	1	1	7	10	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	9	0	0	4	5	0	0	0	2	0	0
Five-year average to 2018–19	10	12	0	0	7	6	0	0	2	3	0	0

Table 14 Production, other crops, Australian states, 2017–18 to 2019–20 (continued)

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

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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; ABS; Pulse Australia

Сгор	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 s
	kt	kt	kt	kt	kt	kt
Wheat						
Production	25303	23743	22275	31819	20941	17298
Apparent domestic use	6785	7154	7233	7805	8685	8920
– seed	619	564	610	612	508	506
– other a	6165	6590	6623	7193	8177	8414
Exports b	18612	16587	16116	22636	13820	8986
Imports b	20	22	25	25	28	327
Canola						
Production	3832	3540	2775	4313	3893	2180
Apparent domestic use a	969	915	1088	972	900	980
Exports	2863	2626	1857	3458	2489	1519
Pulses						
Production						
– lupins	626	549	652	1031	714	693
– field peas	342	290	205	415	317	152
– chickpeas	629	555	875	2004	998	282
Apparent domestic use a						
– lupins	286	306	398	637	258	485
– field peas	175	124	72	148	189	72
– chickpeas	0	1	1	1	1	0
Exports						
– lupins	340	243	254	395	456	208
– field peas	169	168	134	268	130	82
– chickpeas	629	663	1145	2293	724	355

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; ABS; Pulse Australia

Сгор	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 s
	kt	kt	kt	kt	kt	kt
Barley						
Production	9,174	8,646	8,992	13,506	9,254	8,310
Apparent domestic use	3,187	3,243	3,271	3,314	4,282	3,371
– seed	184	185	180	169	167	177
– other a	3,003	3,058	3,091	3,145	4,115	3,194
Export	6,957	5,932	6,342	9,873	6,496	5,096
– feed barley	3,944	3,070	4,351	6,364	3,641	1,912
– malting barley	2,273	2,149	1,394	2,826	2,084	2,348
– malt (grain equivalent)	740	713	596	683	771	835
Oats						
Production	1,255	1,198	1,300	2,266	1,227	888
Apparent domestic use	1,001	960	1,074	1,708	1,075	554
– seed	41	39	49	42	33	32
– other a	960	920	1,024	1,666	1,042	521
Export	253	238	226	558	152	334
Triticale						
Production	126	143	127	150	87	89
Apparent domestic use	126	143	127	150	87	89
– seed	4	4	3	3	3	4
– other a	122	139	124	147	84	86
Export	0	0	1	0	0	0
Grain sorghum						
Production	1,282	2,210	1,791	994	1,255	1,278
Apparent domestic use b	1,083	885	572	878	717	808
– seed	3	4	3	2	3	3
– other a	1,080	881	569	875	714	805
Export b	1,146	397	1,638	913	277	441
Corn (maize)						
Production	390	495	400	436	387	392
Apparent domestic use b	250	422	343	371	329	293
– seed	1	1	1	1	1	1
– other a	249	421	342	370	328	292
Export b	106	60	64	63	68	73

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; ABS; UN Commodity Trade Statistics Database (UN Comtrade)

Table 17 Grain, oilseed and pulse prices, first quarter 2018 to third quarter 2019

Сгор	2018	2018	2018	2018	2019	2019	2019
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	A\$/t						
Wheat							
Domestic: feed, del. Sydney	266	334	406	445	428	386	365
International: US no. 2 hard red winter, fob Gulf a	303	322	332	331	327	311	303
Barley							
Domestic: 2 row feed, del. Sydney	274	324	389	428	381	368	363
Export: feed b	269	299	336	353	345	344	365
Export: malting b	283	304	346	365	371	424	324
International: feed, fob Rouen a	259	277	320	330	300	273	256
Grain sorghum							
Domestic: feed, del. Sydney	320	366	388	410	373	367	335
Export b	380	333	362	584	401	440	420
Oats							
Domestic: feed, del. Sydney	180	275	351	390	390	391	390
International: CME oats nearby contract	225	216	233	275	269	288	273
Corn (maize)							
Domestic: feed, del. Sydney	387	400	428	447	445	445	446
International: US no. 2 yellow corn, fob Gulf a	210	230	217	228	237	250	249
Oilseeds							
Domestic: canola, del. Melbourne	504	525	567	629	605	562	569
International: Europe rapeseed, cif Hamburg	542	544	588	596	588	590	615
International: US no. 2 soybeans, fob Gulf a	496	511	444	462	490	483	498
Pulses							
Domestic: lupins, del. Kwinana	292	323	330	363	374	388	396
Domestic: chickpeas, del. Melbourne	598	645	736	789	802	694	646
Domestic: field peas, del. Melbourne	305	378	429	516	620	542	505
Export: chickpeas b	821	737	764	835	896	833	750
Export: field peas b	400	425	494	546	683	689	658

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; ABS; CME Group; Farm Weekly; International Grains Council; The Land; The Weekly Times; US Department of Agriculture