



Weekly Australian Climate, Water and Agricultural Update

No. 33/2021

26 August 2021

Summary of key issues

- During the week ending 25 August 2021, high pressure systems and weak frontal activity across southern Australia resulted in little rainfall across much of the continent. Weak frontal systems brought rainfall to western Tasmania, parts of southern Victoria and the southwest of Western Australia. An east coast low-pressure system produced isolated heavy rainfall in south-eastern Australia ([see Section 1.1](#)).
- The dry conditions across most of Australia's cropping regions would have allowed growers to access fields to apply urea and spray for pests and diseases. Most cropping regions would benefit from some rainfall in the coming weeks to maintain the current high yield prospects in many regions.
- A negative Indian Ocean Dipole event has persisted throughout August and is expected to continue into spring. The event was officially declared by the Bureau of Meteorology last month, following eight weeks of negative index values. The Southern Annular Mode has rapidly shifted from negative to positive values over the past week and is likely to influence the Australian climate over the coming week ([see Section 1.2](#)).
- The outlook for September 2021 indicates that there is a 75% chance of rainfall totals between 10 and 100 millimetres across parts of eastern, south-western and far southern Australia. Rainfall totals in excess of 100 millimetres are expected across isolated parts of Victoria and the west coast of Tasmania ([see Section 1.3](#)).
- The outlook for September to November suggests there is a 75% chance of rainfall totals between 50 and 200 millimetres across much of New South Wales and Victoria, eastern Queensland, the south of South Australia, the south of Western Australia, large parts of the Northern Territory and eastern Tasmania. Rainfall totals in excess of 300 millimetres are likely across parts of alpine and coastal regions of New South Wales and Victoria and western Tasmania.
- High pressure systems are likely to bring clear skies and dry conditions across much of Australia over the next eight days. Parts of southern Australia are expected to receive rainfall from cold fronts moving off the Southern Ocean, and moist onshore flow is likely to bring rainfall to tropical north Queensland. The dry conditions across most cropping regions are expected to allow for continued unimpeded access for crop management activities. Most regions have average to above-average soil moisture levels, which will support ongoing crop development. ([see Section 1.4](#)).
- Water storage in the Murray–Darling Basin (MDB) increased by 224 gigalitres (GL) between 17 August 2021 and 25 August 2021. The current volume of water held in storage is 20,119 GL, which represents 79% of total capacity. This is 46% or 6,300 GL more than at the same time last year.
- Allocation prices in the Victorian Murray below the Barmah Choke increased from \$117 per ML on 13 August 2021 to \$124 per ML on 20 August 2021. Prices are lower in the Goulburn–Broken, Murrumbidgee, and regions above the Barmah choke due to the binding of the Goulburn intervalley trade limit, Murrumbidgee export limit, and Barmah choke trade constraint.

1. Climate

1.1. Rainfall this week

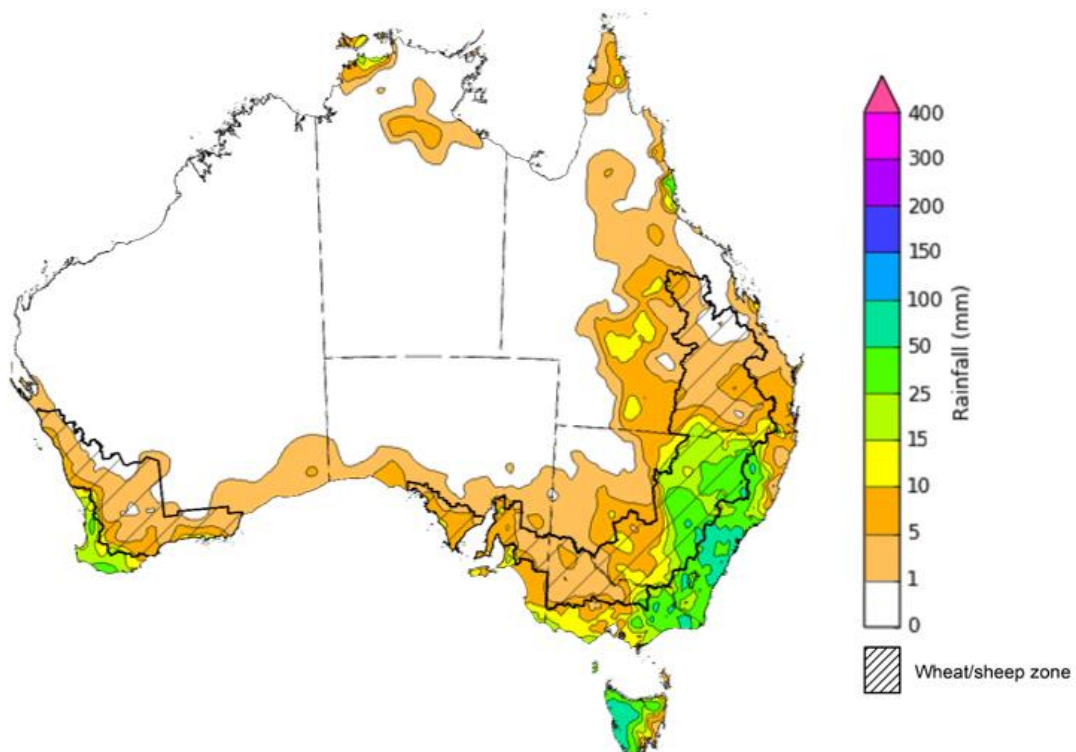
During the week ending 25 August 2021, high pressure systems and weak frontal activity across southern Australia resulted in little rainfall across much of the continent. Weak frontal systems brought rainfall to western Tasmania, parts of southern Victoria and the southwest of Western Australia. An east coast low-pressure system produced isolated heavy rainfall in south-eastern Australia.

Rainfall totals of between 10 and 50 millimetres were recorded across much of eastern New South Wales, southern and eastern Victoria, the far southwest of Western Australia, much of Tasmania and isolated areas of Queensland. Rainfall totals in excess of 50 millimetres were recorded across parts of eastern New South Wales and Victoria, and western Tasmania.

In cropping regions, rainfall totals of between 15 and 50 millimetres were recorded across most of central and northern New South Wales. Lower weekly rainfall totals of between 5 and 15 millimetres were recorded across the remainder of New South Wales and parts of southern Queensland and South Australia. Little to no rainfall was recorded in remaining cropping regions in Queensland and South Australia as well as most cropping regions in Victoria and Western Australia.

The dry conditions across most of Australia's cropping regions would have allowed growers to access fields to apply urea and spray for pests and diseases. Most cropping regions would benefit from some rainfall in the coming weeks to maintain the current high yield prospects in many regions.

Rainfall for the week ending 25 August 2021



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Note: The rainfall analyses and associated maps utilise data contained in the Bureau of Meteorology climate database, the Australian Data Archive for Meteorology (ADAM). The analyses are initially produced automatically from real-time data with limited quality control. They are intended to provide a general overview of rainfall across Australia as quickly as possible after the observations are received. For further information go to <http://www.bom.gov.au/climate/rainfall/>

1.2. Climate Drivers

Throughout winter the climate drivers with the largest potential impact on Australia's climate patterns are the El Niño–Southern Oscillation (ENSO), the Indian Ocean Dipole (IOD) and the Southern Annular Mode (SAM). These climate drivers will likely influence the outlook for Australia's winter cropping season.

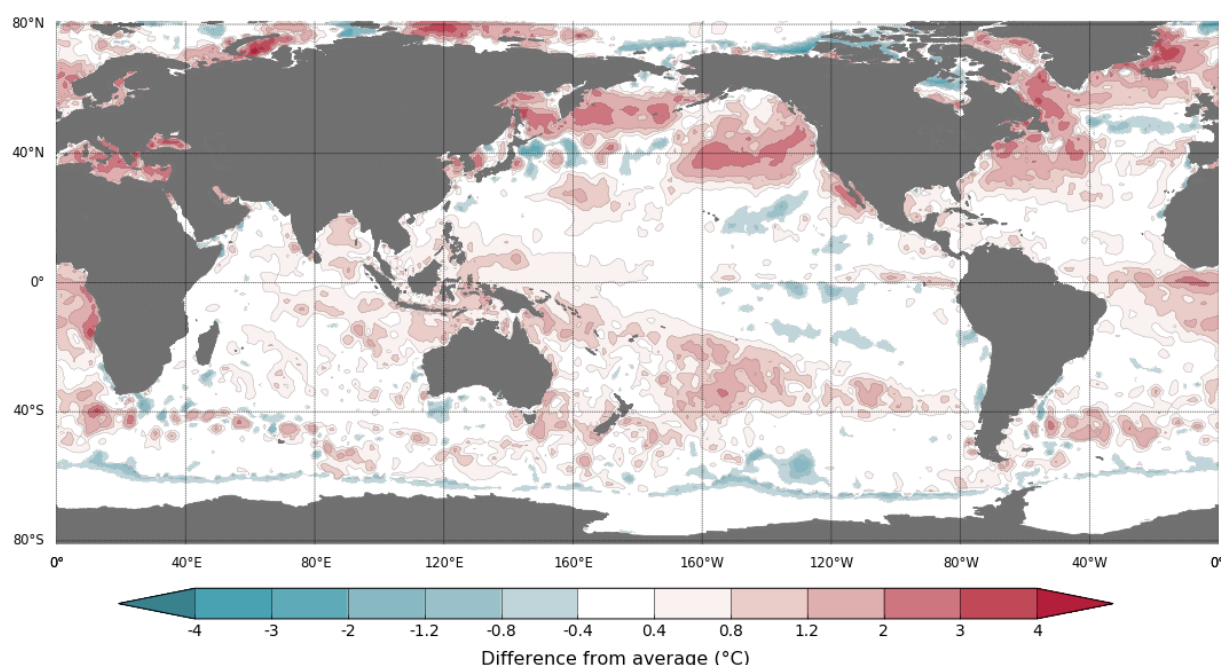
A negative IOD event has persisted throughout August and is expected to continue into Spring. The event was officially declared by the Bureau of Meteorology last month, following eight weeks of negative index values. The SAM has rapidly shifted from negative to positive values over the past week and is likely to influence the Australian climate over the coming week. A positive SAM typically brings decreased rainfall for much of Victoria, the west of Western Australia and Tasmania.

Oceanic and atmospheric indicators show ENSO conditions remain neutral, reducing its influence on Australia's climate. International climate models surveyed by the Bureau of Meteorology agree that ENSO conditions are likely to remain neutral throughout September. Three of the seven models, however, expect the development of a La Niña event in late spring. Only one model expects a La Niña event in December.

Sea surface temperature anomalies have been close to average across the tropical Pacific Ocean over the previous week. Warm anomalies in the western Pacific have strengthened slightly, while warm anomalies near the Maritime Continent and along the east coast of Australia have remained largely unchanged. Neutral Pacific equatorial sea surface temperatures are associated with neutral ENSO conditions.

Warm sea surface temperature anomalies have weakened slightly near Western Australia and Indonesia. Meanwhile, sea surface temperatures in the western Indian Ocean largely remained neutral over the past week. The continuation of warm anomalies in the eastern Indian Ocean and the ocean surrounding Australia reflect the ongoing negative IOD event.

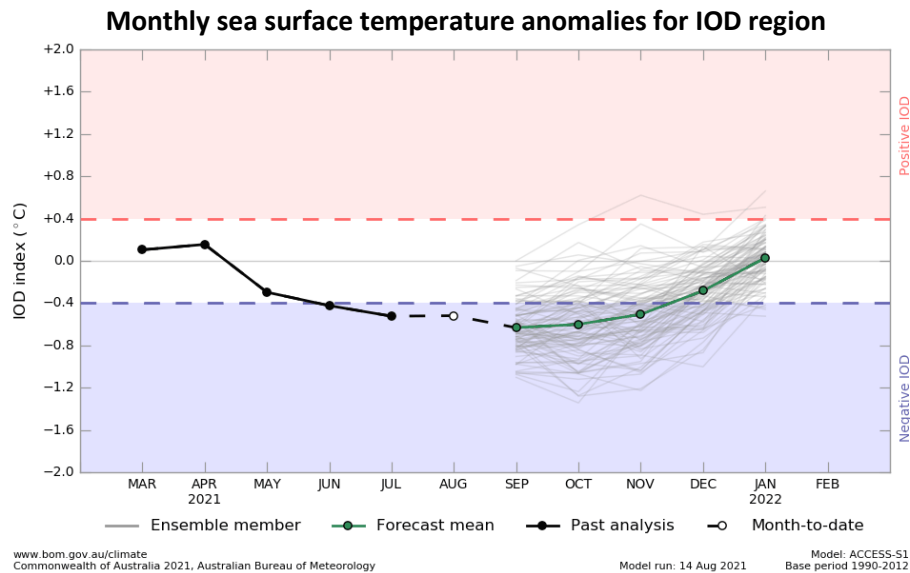
Difference from average sea surface temperature observations 9 August to 15 August 2021



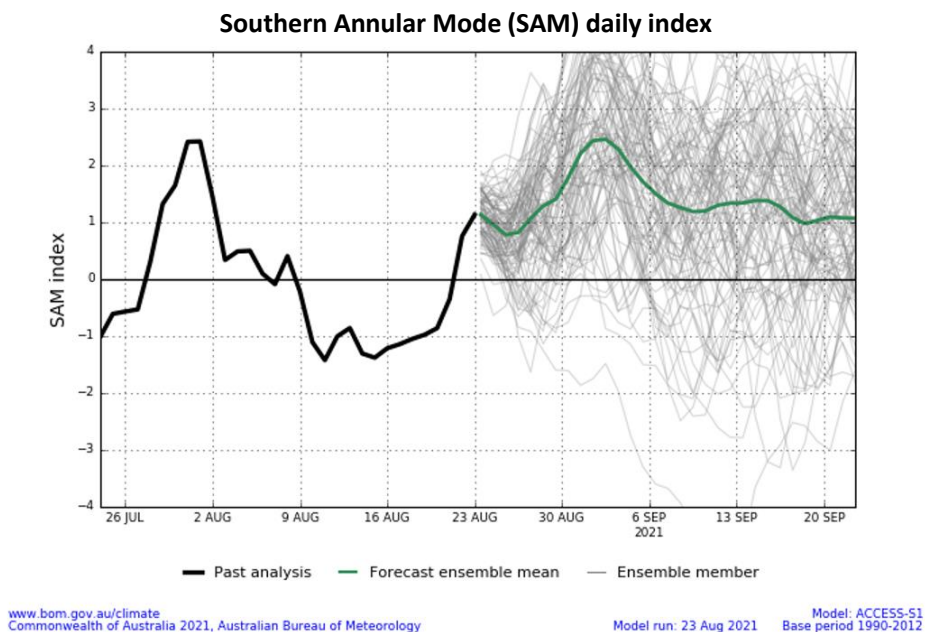
Data: BOM SST
Climatology baseline: 1961 to 1990
© Commonwealth of Australia 2021, Australian Bureau of Meteorology

Weekly average: 15 August 2021
Created: 16/08/2021
<http://www.bom.gov.au/climate>

As at 15 August, the Indian Ocean Dipole (IOD) weekly value was -0.37°C , although it has largely remained below the negative threshold (-0.4°C). A negative IOD event increases the chance of above average rainfall for southern and eastern Australia and the far north during winter and spring and is typically associated with an early onset of northern rainfall. It also increases the chances of below average maximum temperatures in southern Australia, while increasing the chances of above average minimum and maximum temperatures in northern Australia.



The Southern Annular Mode (SAM) is currently positive. The SAM refers to the north-south shift of the band of rain-bearing westerly winds and weather systems in the Southern Ocean compared to the usual position. When SAM is positive during winter, the band of westerly winds is further south than normal. A negative SAM in winter is associated with increased rainfall for northern New South Wales, southern Queensland and southern parts of South Australia and Western Australia. It is also associated with decreased rainfall for much of Victoria, the west of Western Australia and Tasmania.



1.3. National Climate Outlook

These climate outlooks are generated by ACCESS–S (Australian Community Climate Earth-System Simulator–Seasonal). ACCESS–S is the Bureau of Meteorology's dynamical (physics-based) weather and climate model used for monthly, seasonal and longer-lead climate outlooks.

For further information, go to <http://www.bom.gov.au/climate/ahead/about/>

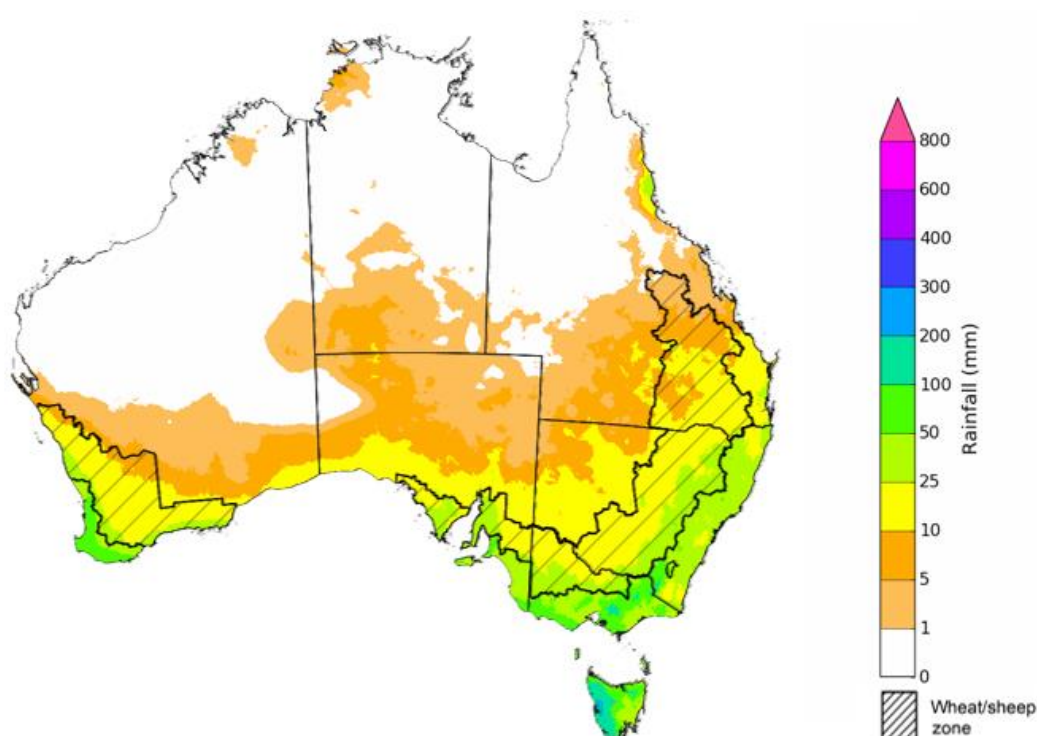
The Bureau of Meteorology's latest rainfall outlook indicated wetter than average conditions are expected for much of Australia during September. The wetter than average conditions expected for most cropping regions reaffirms the positive production outlook for Australia's 2021 winter cropping season. The ACCESS-S climate model suggests there is close to a 60% chance of exceeding average September rainfall totals across much of Australia.

The outlook for September 2021 indicates that there is a 75% chance of rainfall totals between 10 and 100 millimetres across parts of eastern, south-western and far southern Australia. Rainfall totals in excess of 100 millimetres are expected across isolated parts of Victoria and the west coast of Tasmania.

Across cropping regions there is a 75% chance of rainfall totals of between 5 and 10 millimetres in parts of northern and south-western Queensland. There is a 75% chance of rainfall totals between 10 and 50 millimetres for New South Wales, south-east Queensland, Victoria, South Australia and much of Western Australia.

The expected rainfall will add to the average to above average soil moisture levels across most cropping regions. Entering spring, high levels of plant available water will support crops through flowering and grain filling, providing a positive outlook for yield potentials.

Rainfall totals that have a 75% chance of occurring September 2021



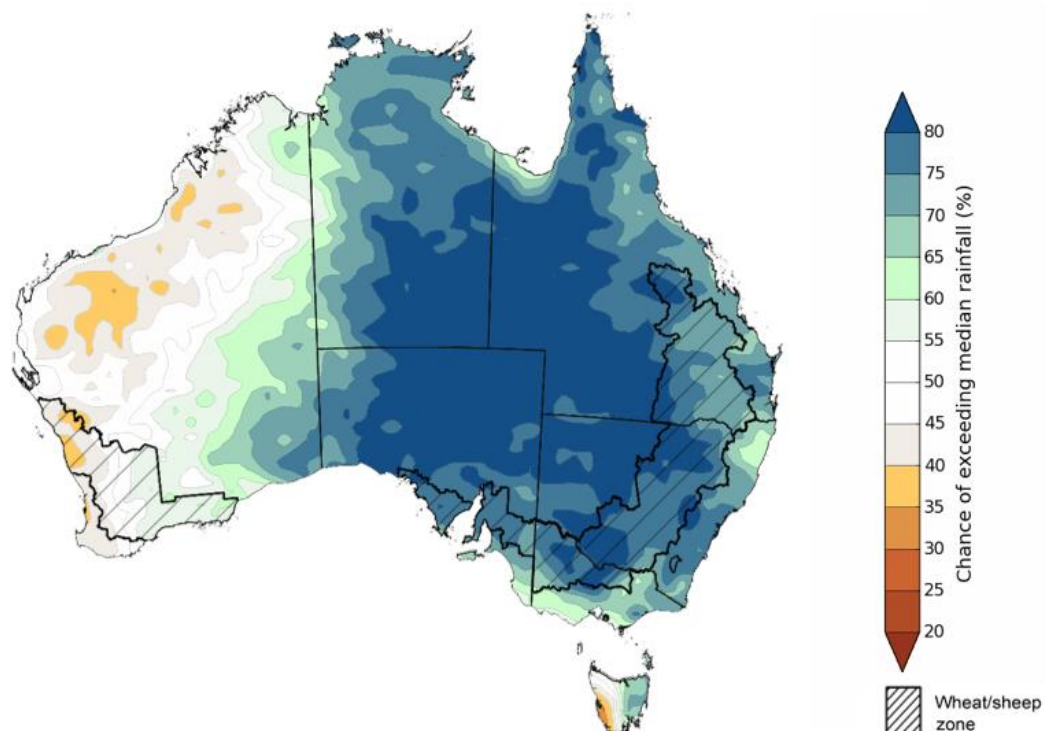
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Issued: 19/08/2021

The rainfall outlook for September to November suggests there is a greater than 75% chance of exceeding average rainfall across much of New South Wales, Queensland, Victoria, South Australia and the Northern Territory. There is no strong tendency toward above or average rainfall across the much of Western Australia and parts of Tasmania (Bureau of Meteorology 'National Climate Outlook', 19 August 2021).

Bureau of Meteorology rainfall outlooks for September to November have greater than 55% past accuracy across most of Australia. Outlook accuracy is greater than 65% New South Wales, Queensland, South Australia and Tasmania, as well as much of Victoria and the Northern Territory. On the other hand, there is low past accuracy in western and central Western Australia and isolated areas of south-eastern New South Wales and Victoria.

Chance of exceeding the median rainfall September to November 2021



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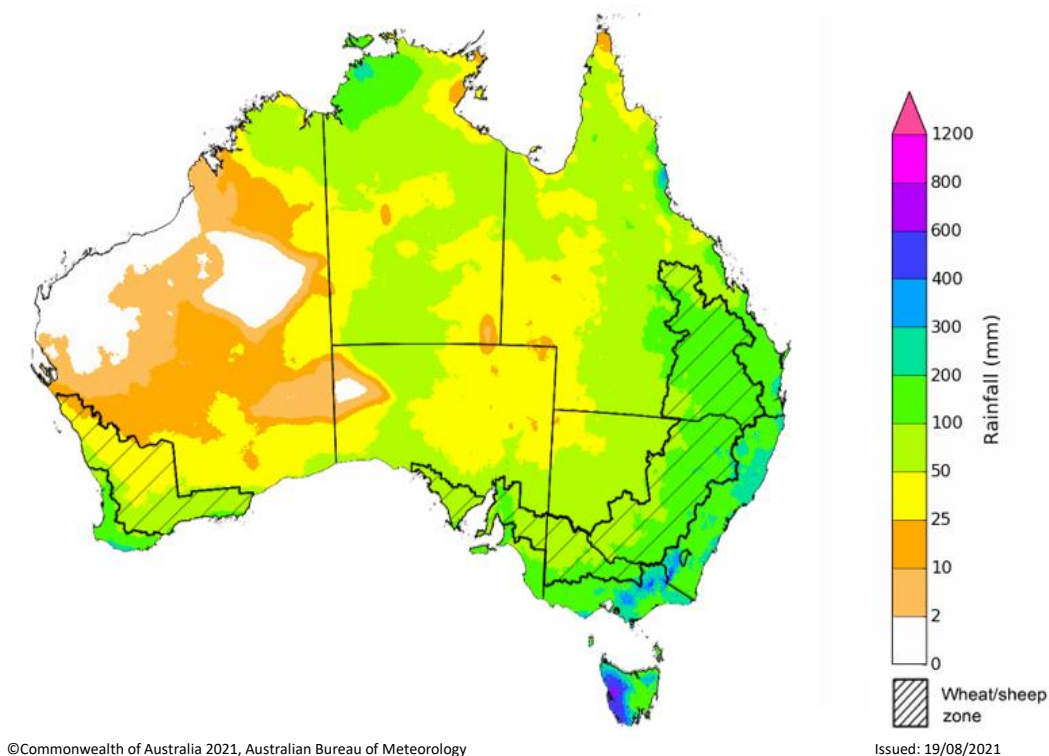
Issued: 19/08/2021

The outlook for September to November suggests there is a 75% chance of rainfall totals between 50 and 200 millimetres across much of New South Wales and Victoria, eastern Queensland, the south of South Australia, the south of Western Australia, large parts of the Northern Territory and eastern Tasmania. Rainfall totals in excess of 300 millimetres are likely across parts of alpine and coastal regions of New South Wales and Victoria and western Tasmania.

Across cropping regions, there is a 75% chance of receiving between 50 and 200 millimetres in New South Wales, Queensland, Victoria, South Australia and southern parts of Western Australia. Totals of less than 50 millimetres are expected across much of the northern cropping areas of Western Australia.

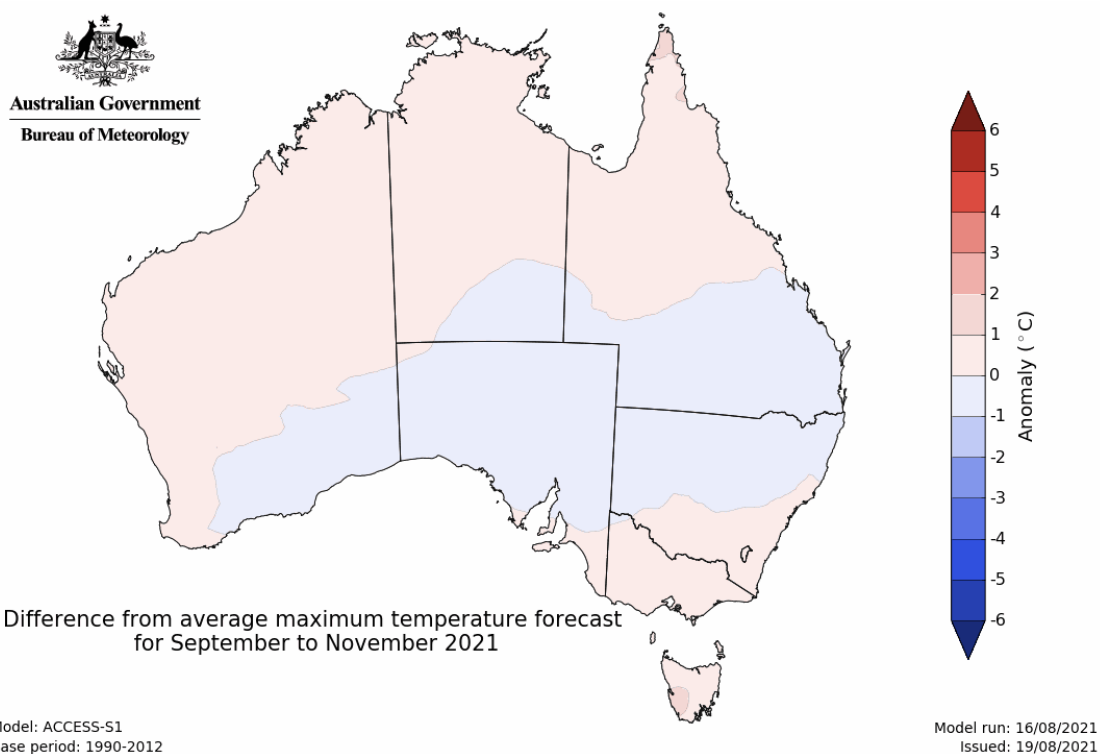
These rainfall totals are slightly below average for this three-month period across some Western Australian cropping regions, and slightly above average for cropping regions of New South Wales, Queensland and Victoria. Average to above average soil moisture levels across most cropping regions, and the probability of close to average in-season rainfall in September to November, will assist crops through critical development stages and improve yield potentials for winter crops and allow for the planting of summer crops in spring.

Rainfall totals that have a 75% chance of occurring September to November 2021

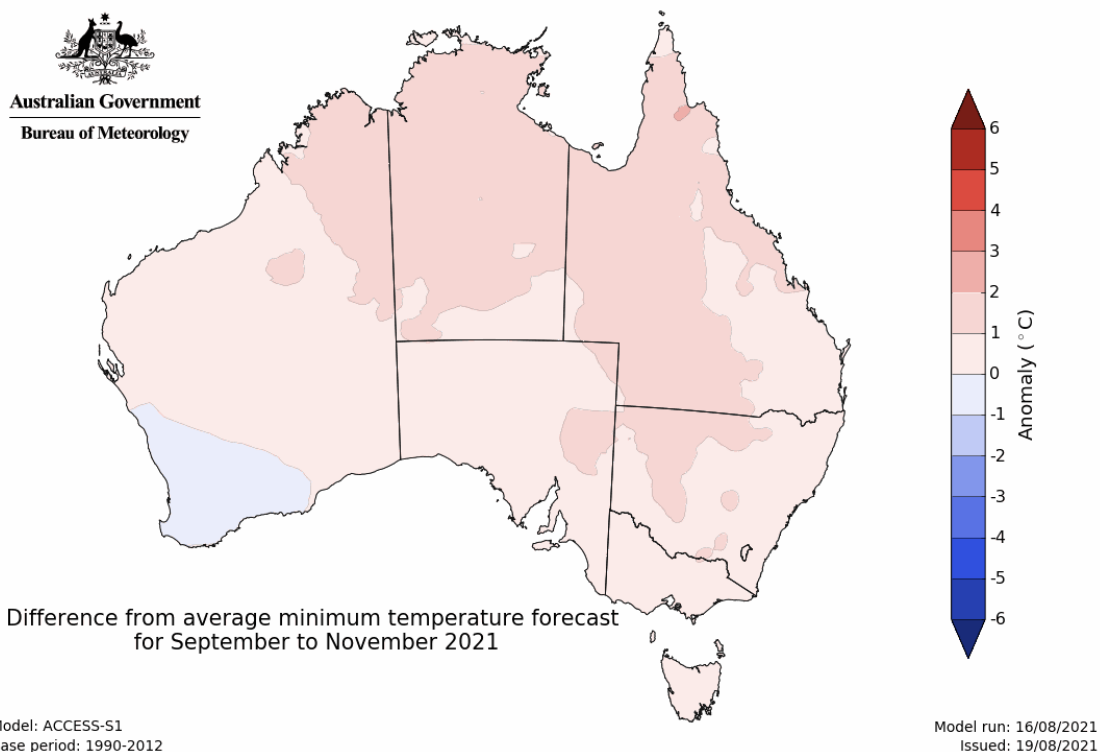


The temperature outlook for September to November 2021 indicates that maximum temperatures across most of Australia are likely to be close to the 1990-2012 average (-1°C to 1°C). Minimum temperatures are expected to be slightly above average for much of Queensland and the Northern Territory, as well as parts of New South Wales, South Australia and Western Australia (Bureau of Meteorology 'National Climate Outlook', 19 August 2021).

Predicted maximum temperature anomaly for September to November 2021



Predicted minimum temperature anomaly for September to November 2021



1.4. Rainfall forecast for the next eight days

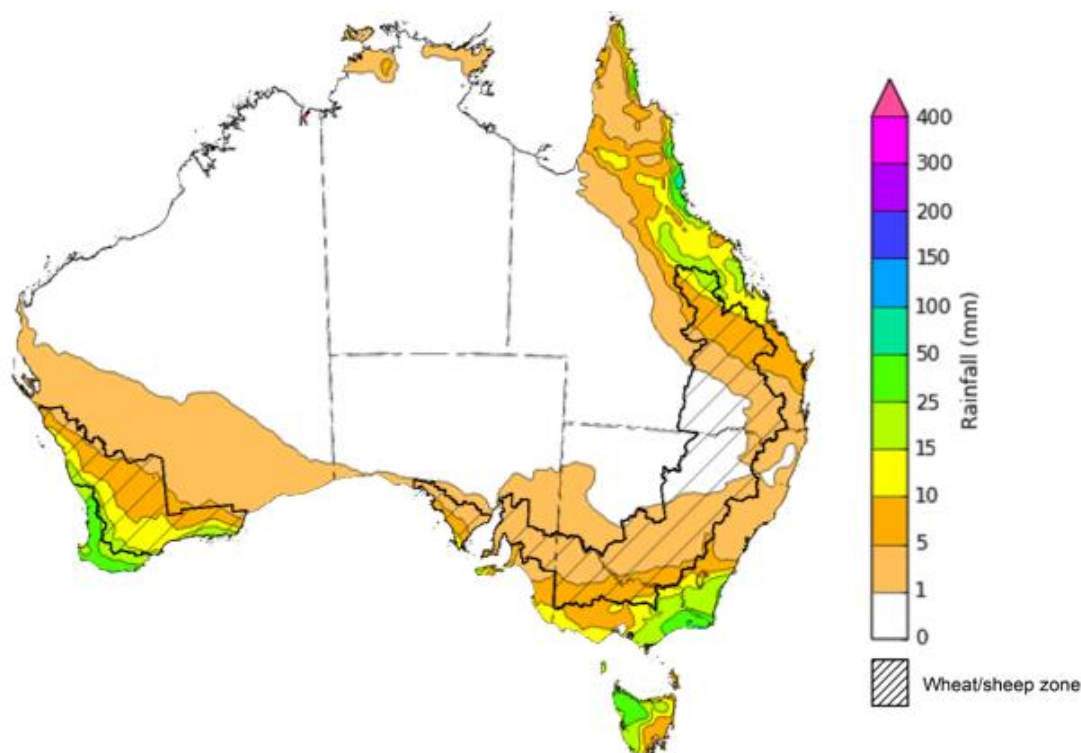
High pressure systems are likely to bring clear skies and dry conditions across much of Australia over the next eight days. Parts of southern Australia are expected to receive rainfall from cold fronts moving off the Southern Ocean, and moist onshore flow is likely to bring rainfall to tropical north Queensland.

Rainfall totals of between 10 and 50 millimetres are forecast for parts of far south-east New South Wales, southern and eastern Victoria, north-east Queensland, the south-west of Western Australia and eastern Tasmania. Rainfall in excess of 50 millimetres is expected in north-eastern Queensland, parts of south-west Western Australia and western Tasmania.

In Australian cropping regions, rainfall totals of between 5 and 15 millimetres are expected in parts of southern Victoria, northern Queensland and much of Western Australia. Little to no rainfall is forecast for much of New South Wales, remaining areas in Queensland, northern Victoria and much of South Australia during the next 8-days.

The dry conditions across most cropping regions are expected to allow for continued unimpeded access for crop management activities. Most regions have average to above-average soil moisture levels, which will support ongoing crop development. If the expected falls across Western Australia eventuate as forecast, they will support the current high yield prospects in that state.

Total forecast rainfall (mm) for the period 26 August to 2 September 2021



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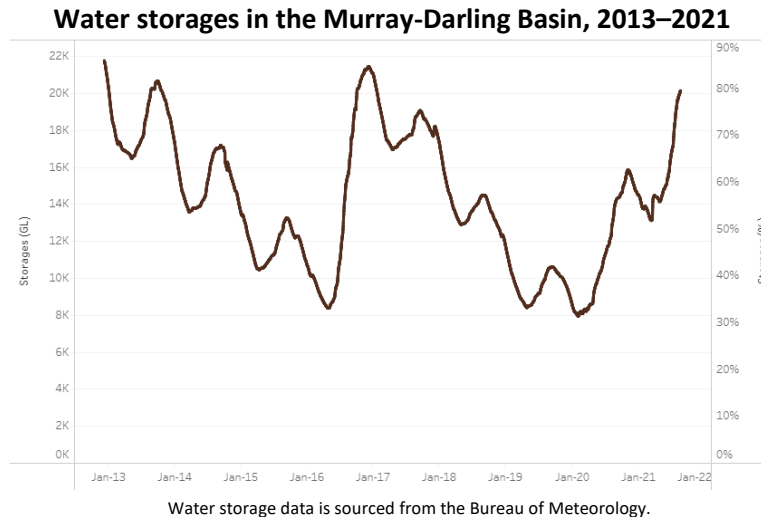
Issued: 26/08/2021

Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

2. Water

2.1. Water markets – current week

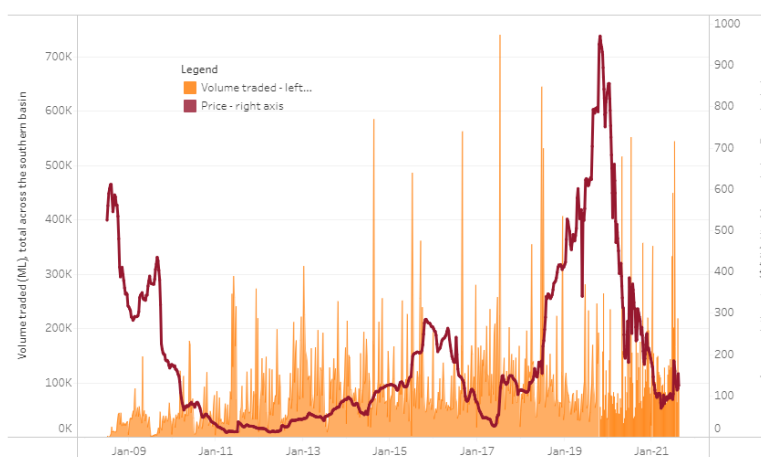
Water storage in the Murray–Darling Basin (MDB) increased by 224 gigalitres (GL) between 17 August 2021 and 25 August 2021. The current volume of water held in storage is 20,119 GL, which represents 79% of total capacity. This is 46% or 6,300 GL more than at the same time last year.



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Region	\$/ML
NSW Murray Above	89
NSW Murrumbidgee	79
VIC Goulburn-Broken	93
VIC Murray Below	124

Surface water trade activity, Southern Murray–Darling Basin



The trades shown reflect estimated market activity and do not encompass all register trades. The price is shown for the VIC Murray below the Barmah choke. Historical prices (before 1 July 2019) are ABARES estimates after removing outliers from BOM water register data. Prices after 1 July 2019 and prior to the 30 October 2019 reflect recorded transaction prices as sourced from Ruralco. Prices after the 30 October 2019 are sourced from Waterflow. Data for volume traded is sourced from the BOM water register. Data shown is current at 19 August 2021.

To access the full, interactive, weekly water dashboard, which contains the latest and historical water storage, water market and water allocation information, please visit

http://www.agriculture.gov.au/abares/products/weekly_update/weekly-update-260821

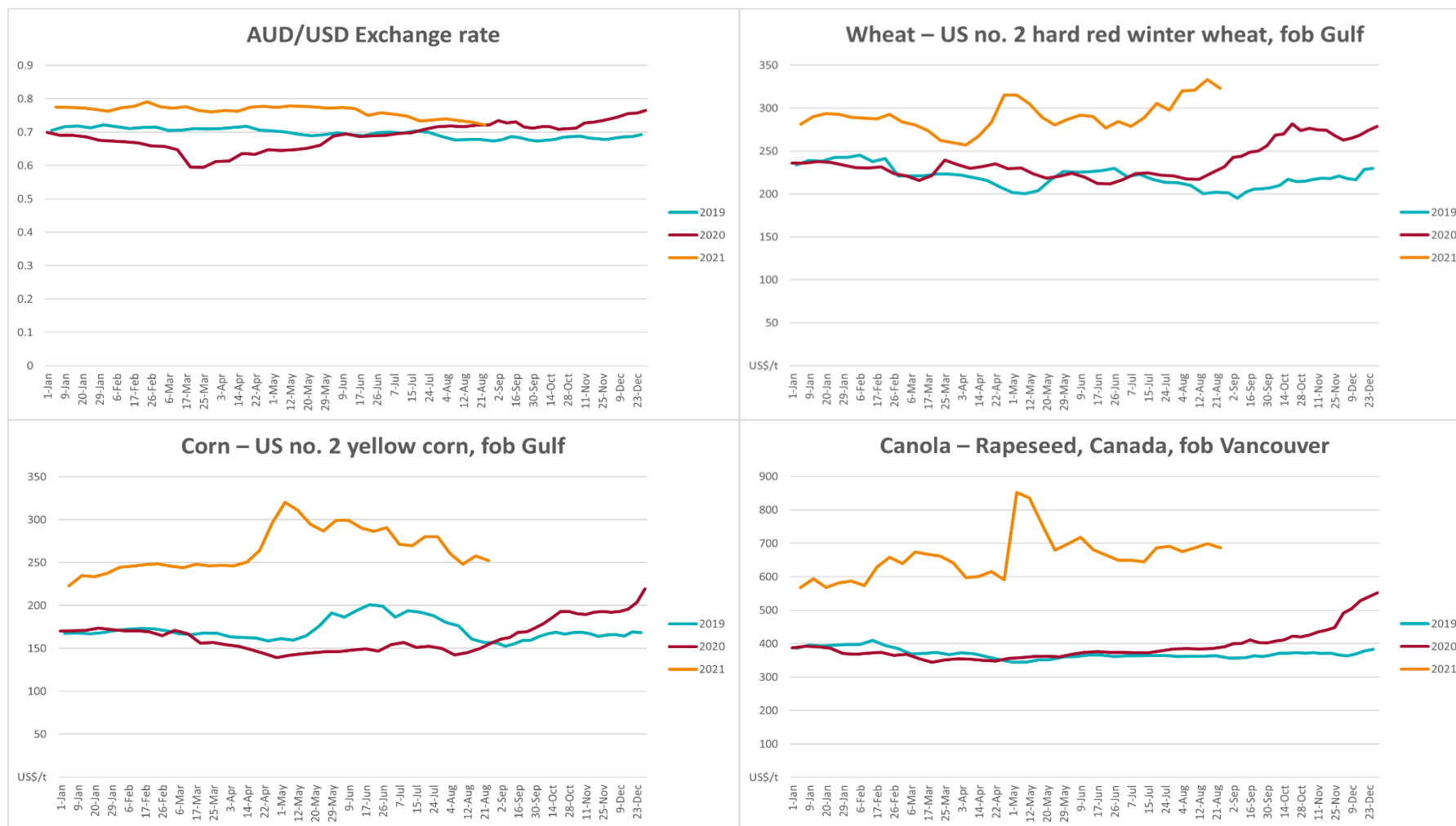
3. Commodities

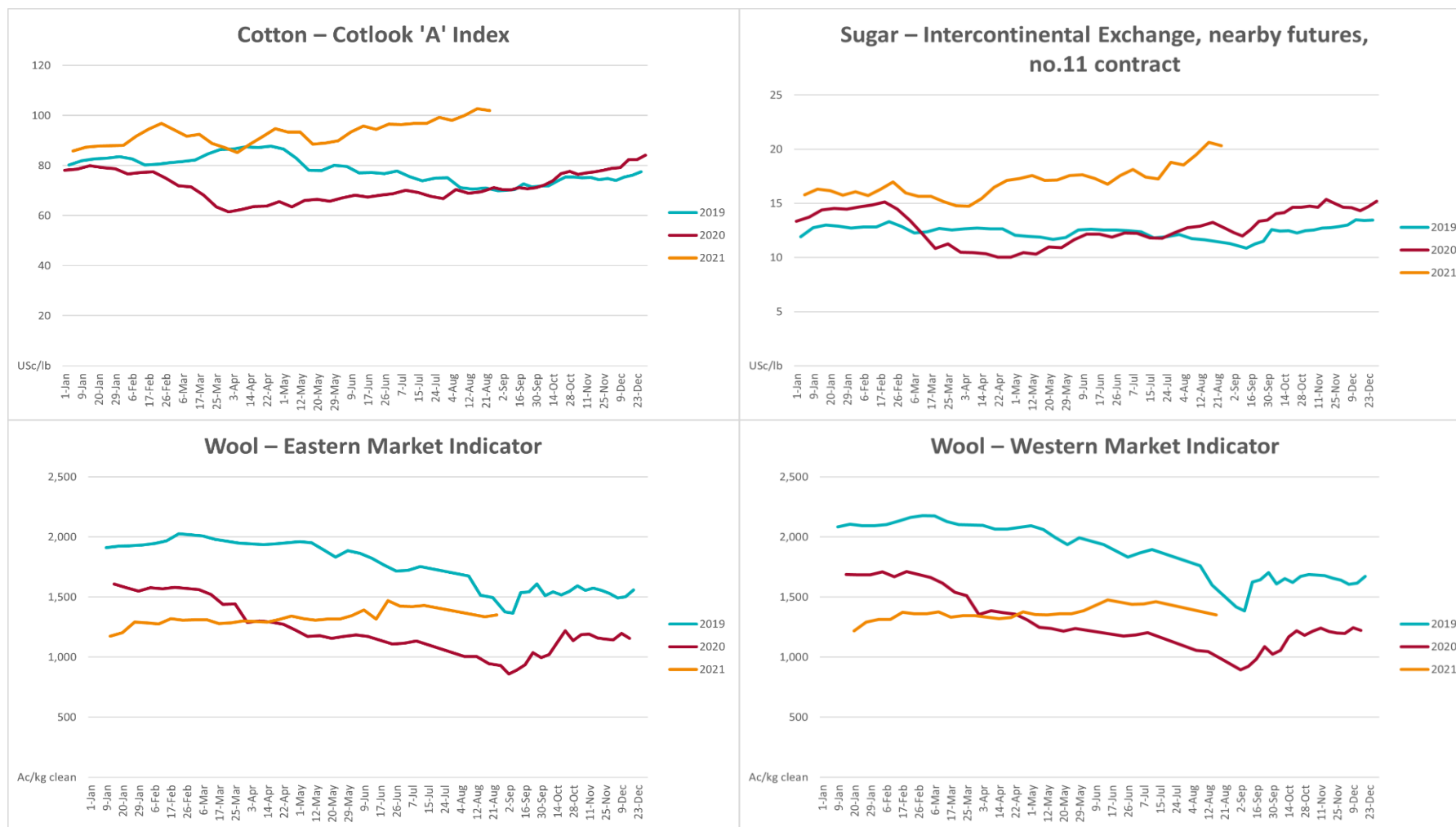
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	25-Aug	A\$/US\$	0.72	0.73	-1%	0.73	-2%
Wheat – US no. 2 hard red winter wheat, fob Gulf	25-Aug	US\$/t	323	333	-3%	243	33%
Corn – US no. 2 yellow corn, fob Gulf	25-Aug	US\$/t	252	258	-2%	161	57%
Canola – Rapeseed, Canada, fob Vancouver	25-Aug	US\$/t	687	699	-2%	399	72%
Cotton – Cotlook 'A' Index	25-Aug	USc/lb	102	103	-1%	70	45%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	25-Aug	USc/lb	20.3	20.6	-2%	12	65%
Wool – Eastern Market Indicator	25-Aug	Ac/kg clean	1,350	1,335	1%	1,139	19%
Wool – Western Market Indicator	18-Aug	Ac/kg clean	1,351	1,462	-8%	1,358	-1%
Selected Australian grain export prices							
Milling Wheat – APW, Port Adelaide, SA	25-Aug	A\$/t	418	409	2%	323	29%
Feed Wheat – ASW, Port Adelaide, SA	25-Aug	A\$/t	410	405	1%	308	33%
Feed Barley – Port Adelaide, SA	25-Aug	A\$/t	344	333	3%	261	32%
Canola – Kwinana, WA	25-Aug	A\$/t	841	846	-1%	634	33%
Grain Sorghum – Brisbane, QLD	25-Aug	A\$/t	363	363	0%	356	2%
Selected domestic livestock indicator prices							
Beef – Eastern Young Cattle Indicator	25-Aug	Ac/kg cwt	1,023	998	2%	760	34%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	25-Aug	Ac/kg cwt	717	674	6%	523	37%
Lamb – Eastern States Trade Lamb Indicator	25-Aug	Ac/kg cwt	955	914	5%	817	17%
Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers	11-Aug	Ac/kg cwt	318	318	0%	386	-18%
Goats – Eastern States (12.1–16 kg)	11-Aug	Ac/kg cwt	879	878	0%	753	17%
Live cattle – Light steers ex Darwin to Indonesia	17-Feb	Ac/kg lwt	355	355	0%	360	-1%
Live sheep – Live wethers (Muchea WA saleyard) to Middle East	19-May	\$/head	145	145	0%	#N/A	#N/A

Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Global Dairy Trade (GDT) weighted average prices ^a							
Dairy – Whole milk powder	18-Aug	US\$/t	3,552	3,598	-1%	2,969	20%
Dairy – Skim milk powder	18-Aug	US\$/t	3,052	3,020	1%	2,430	26%
Dairy – Cheddar cheese	18-Aug	US\$/t	4,184	4,065	3%	3,869	8%
Dairy – Anhydrous milk fat	18-Aug	US\$/t	5,791	5,668	2%	5,523	5%

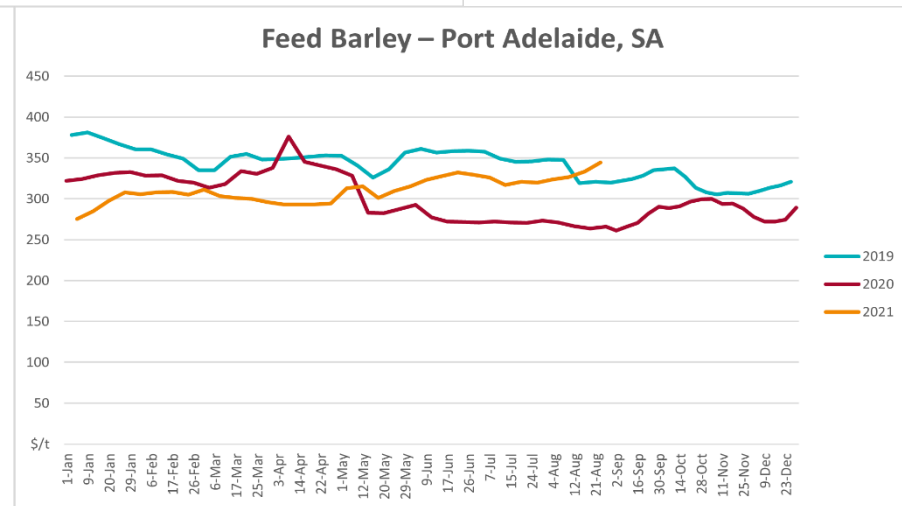
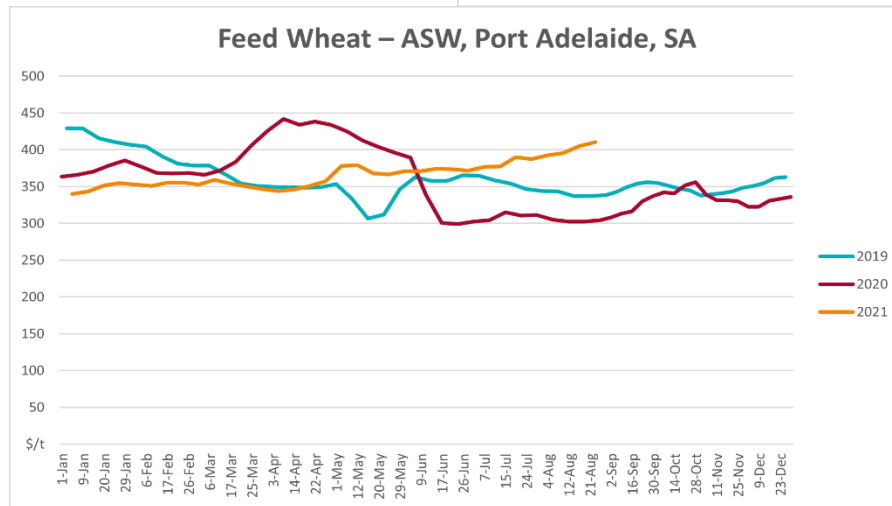
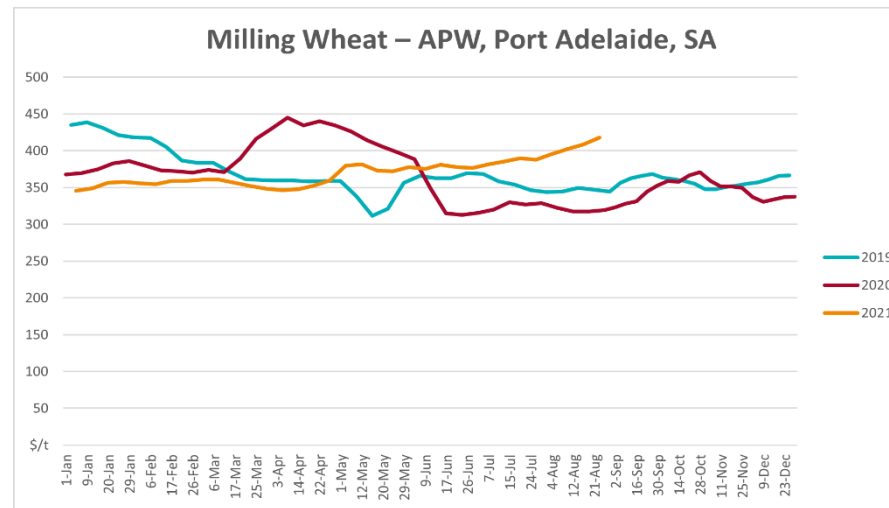
a Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

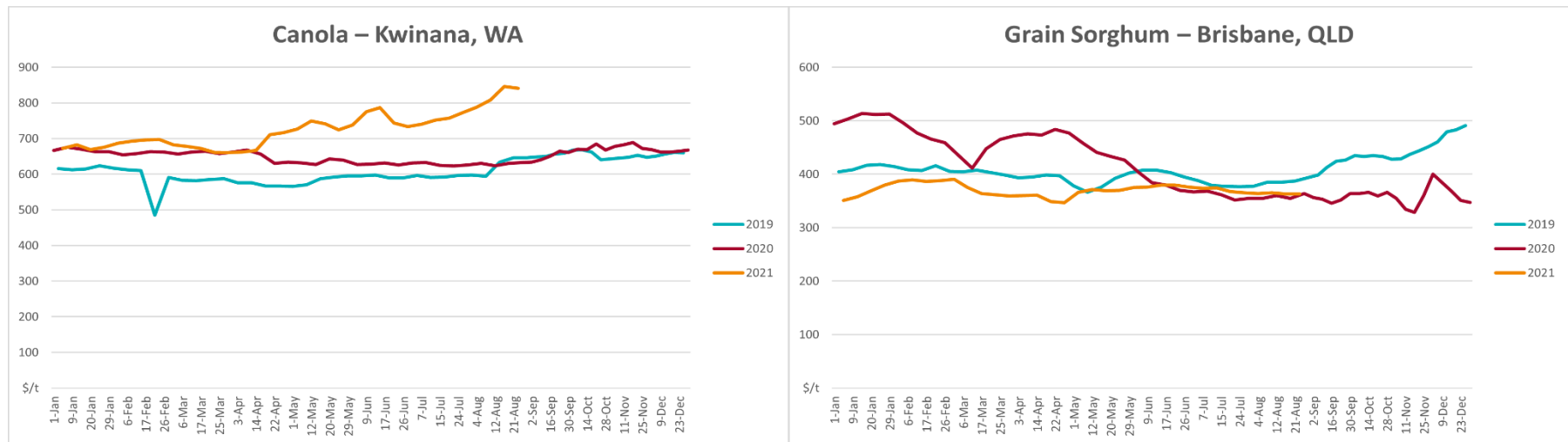
3.1. Selected world indicator prices



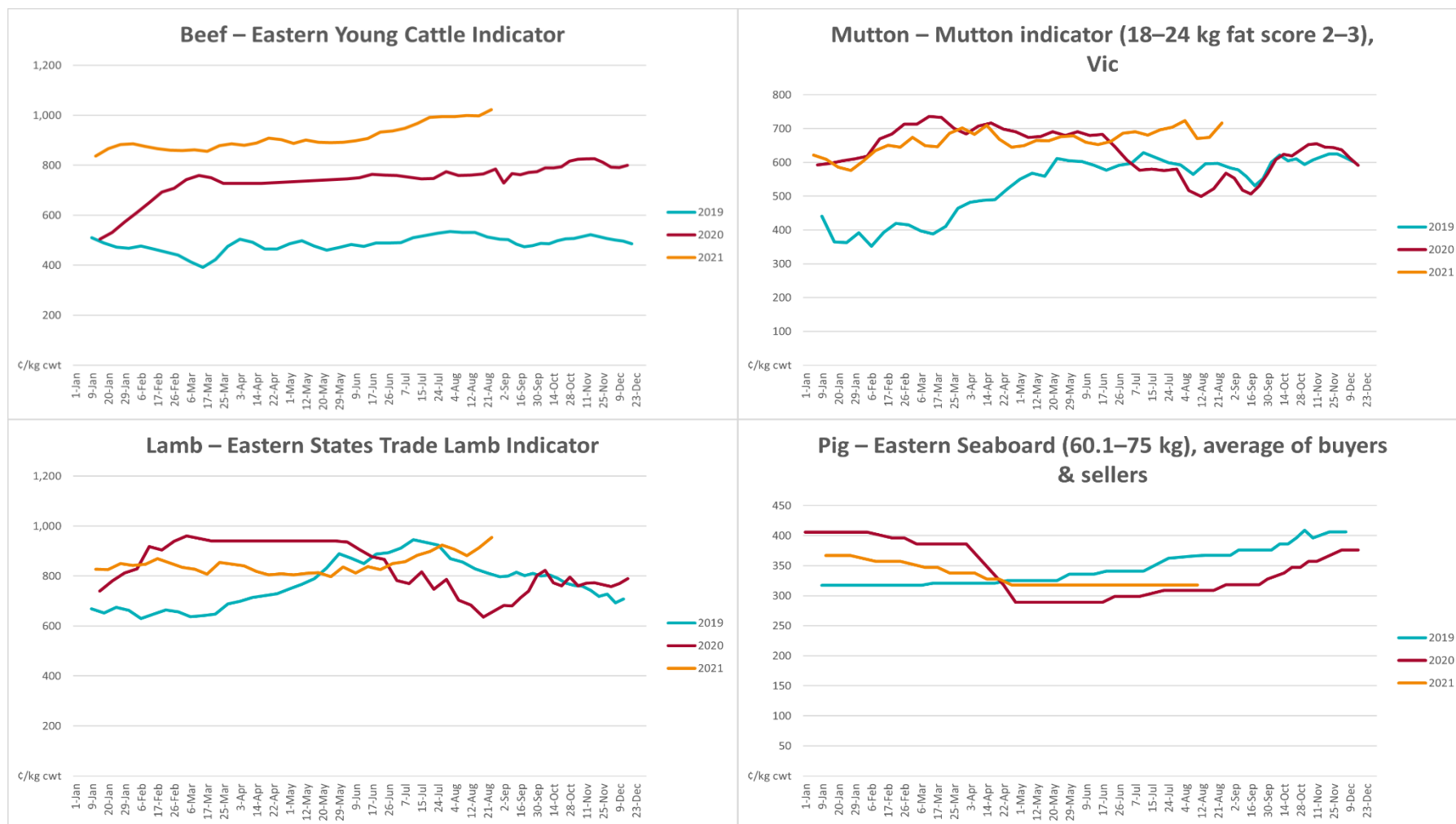


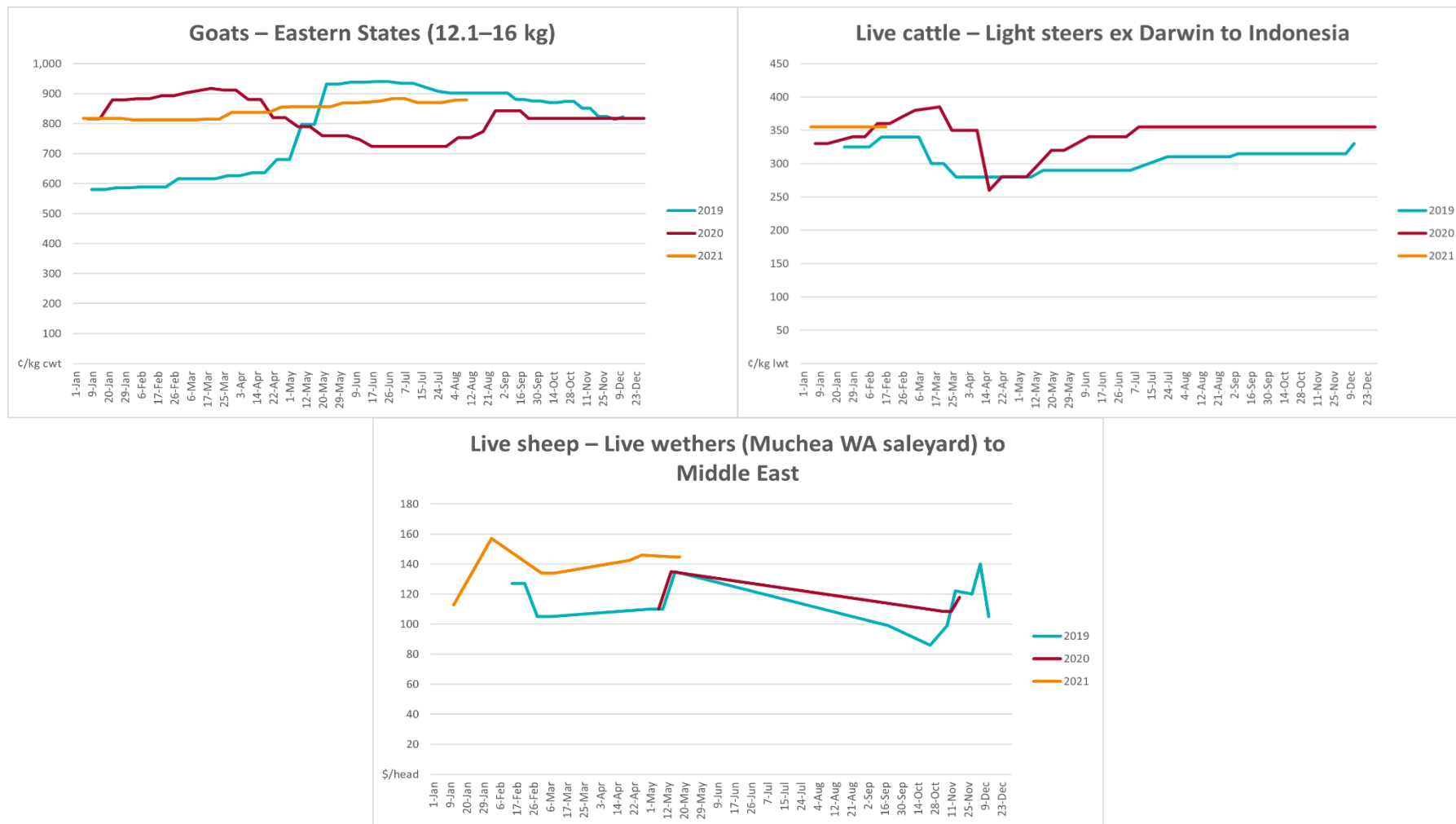
3.2. Selected domestic crop indicator prices



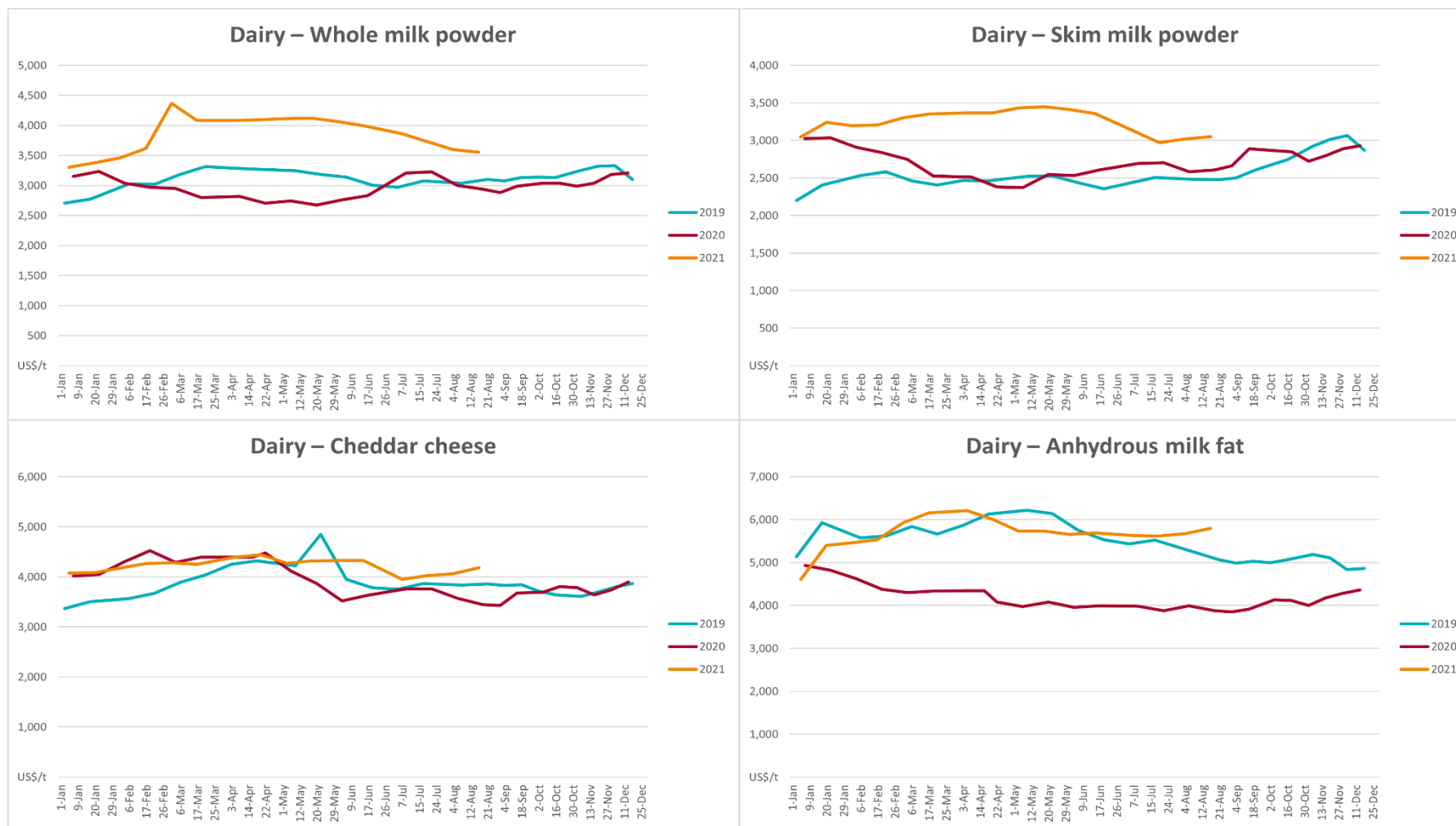


3.3. Selected domestic livestock indicator prices

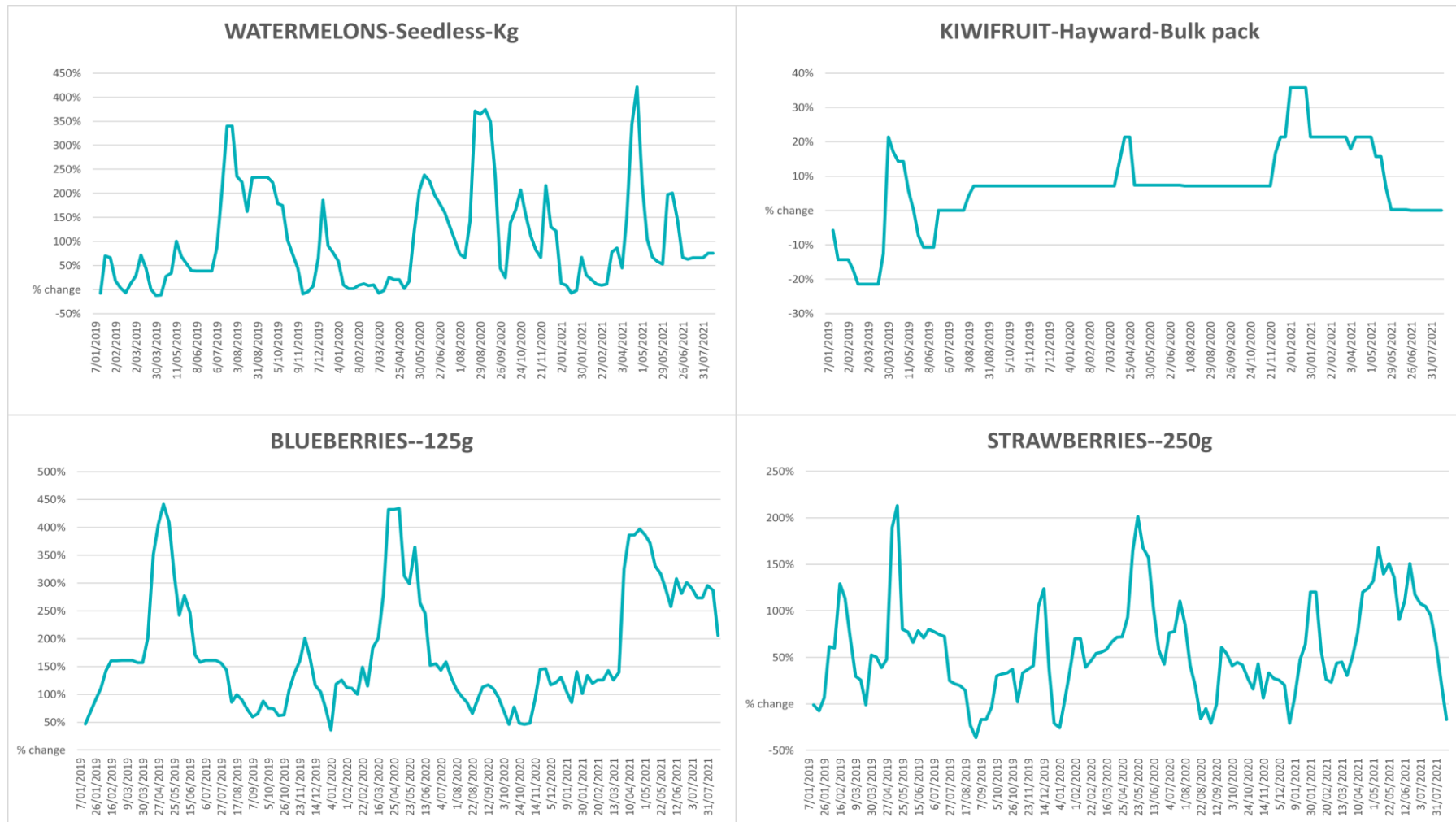


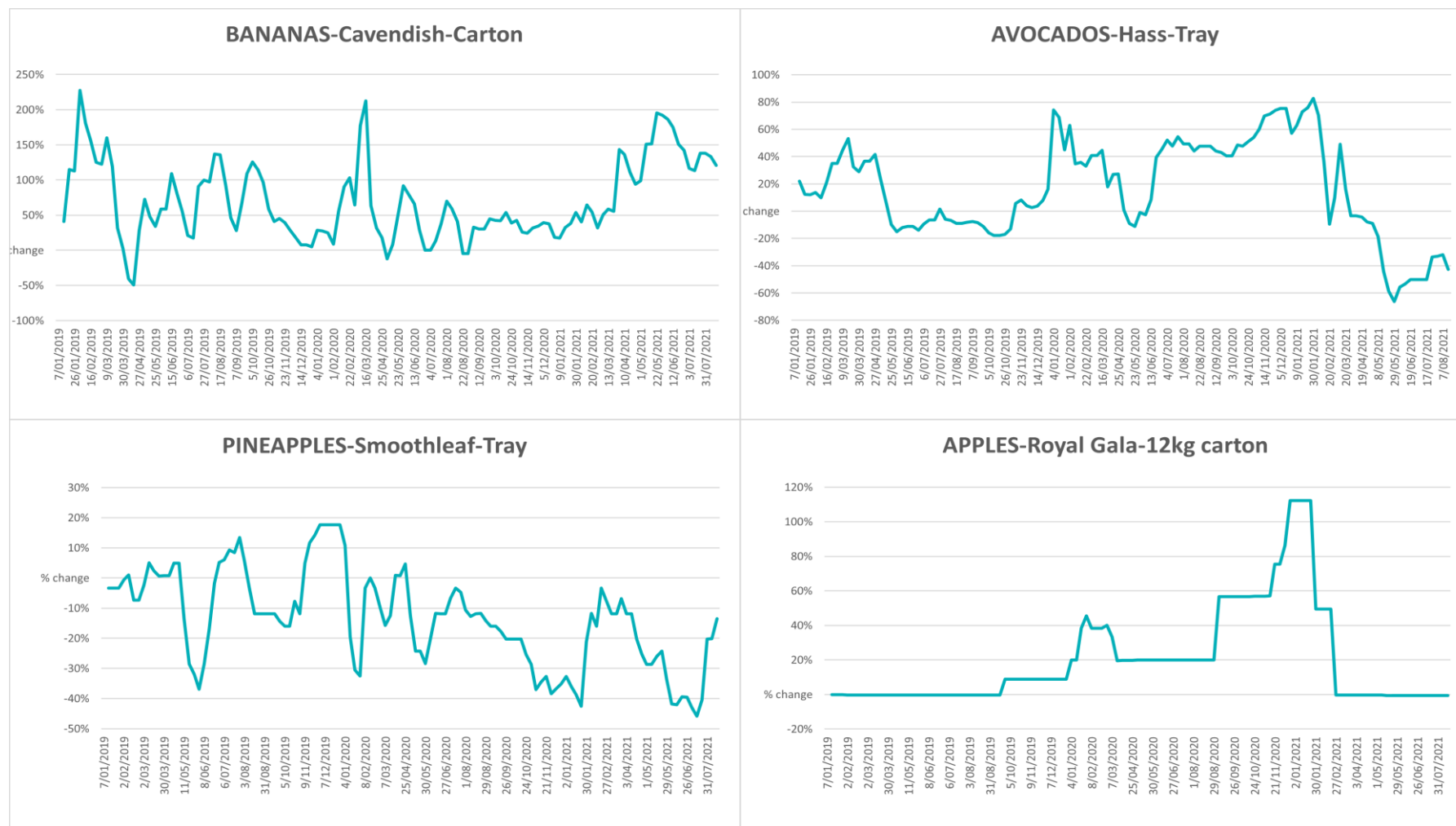


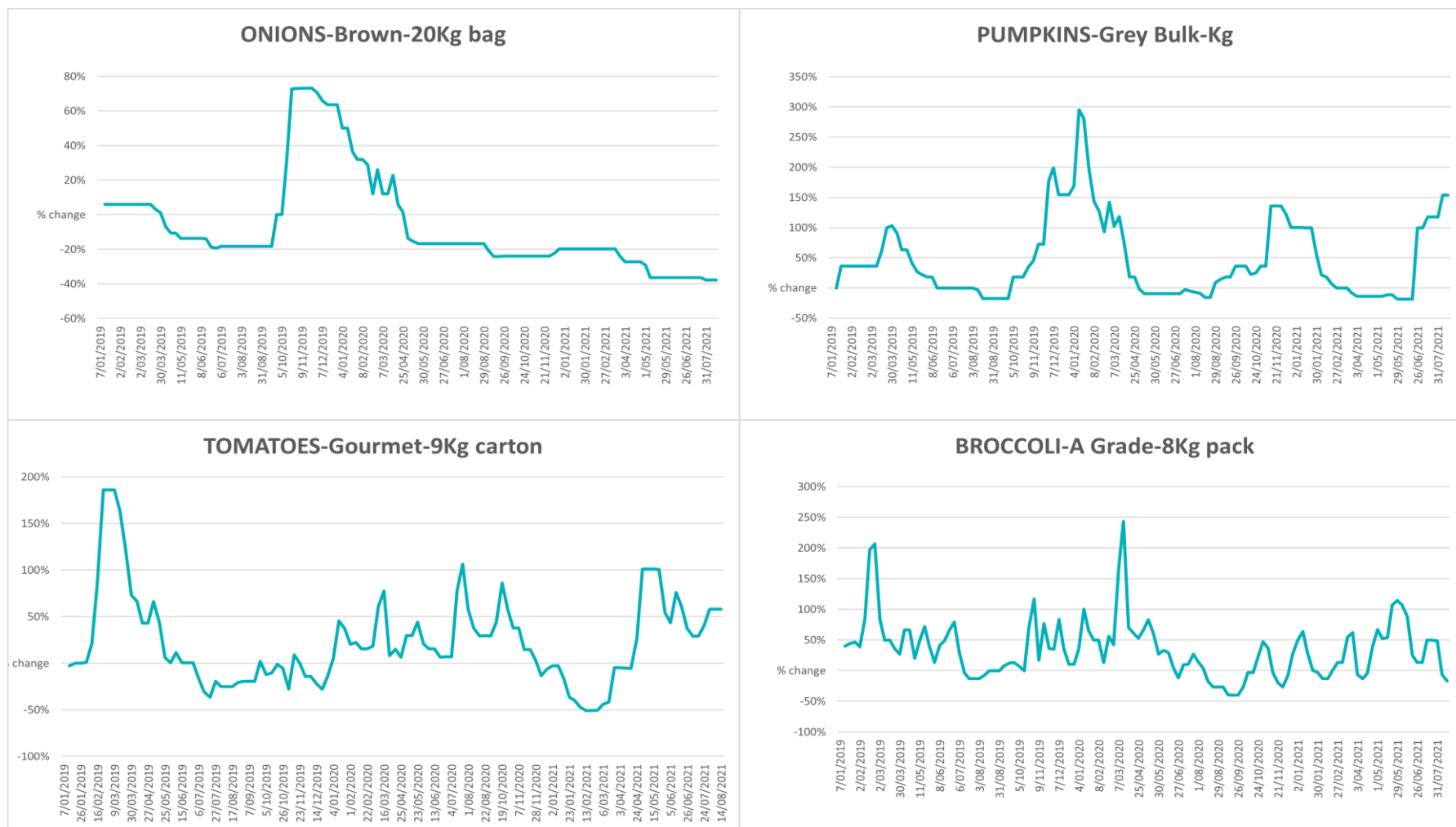
3.4. Global Dairy Trade (GDT) weighted average prices

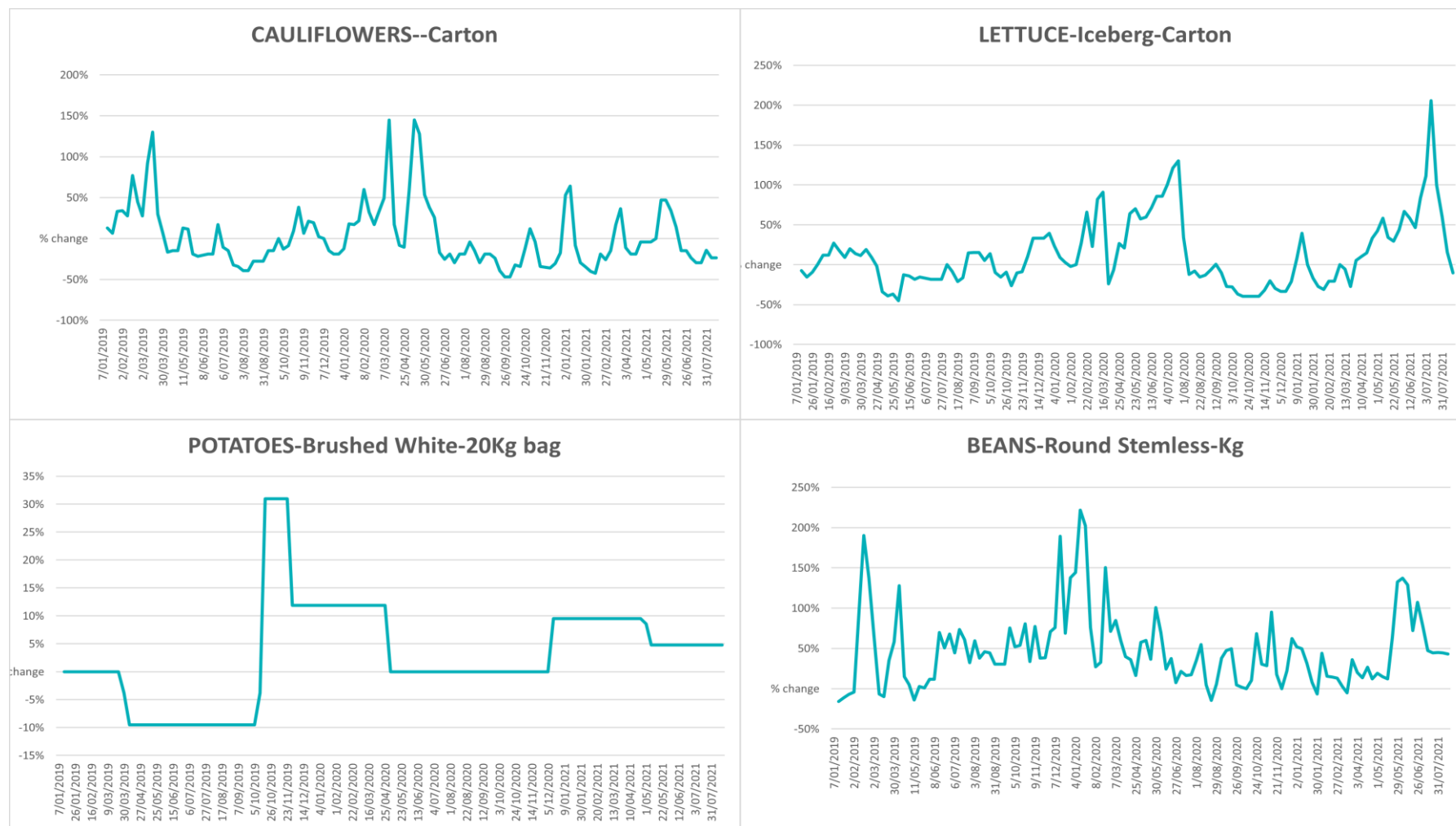


3.5. Selected fruit and vegetable prices

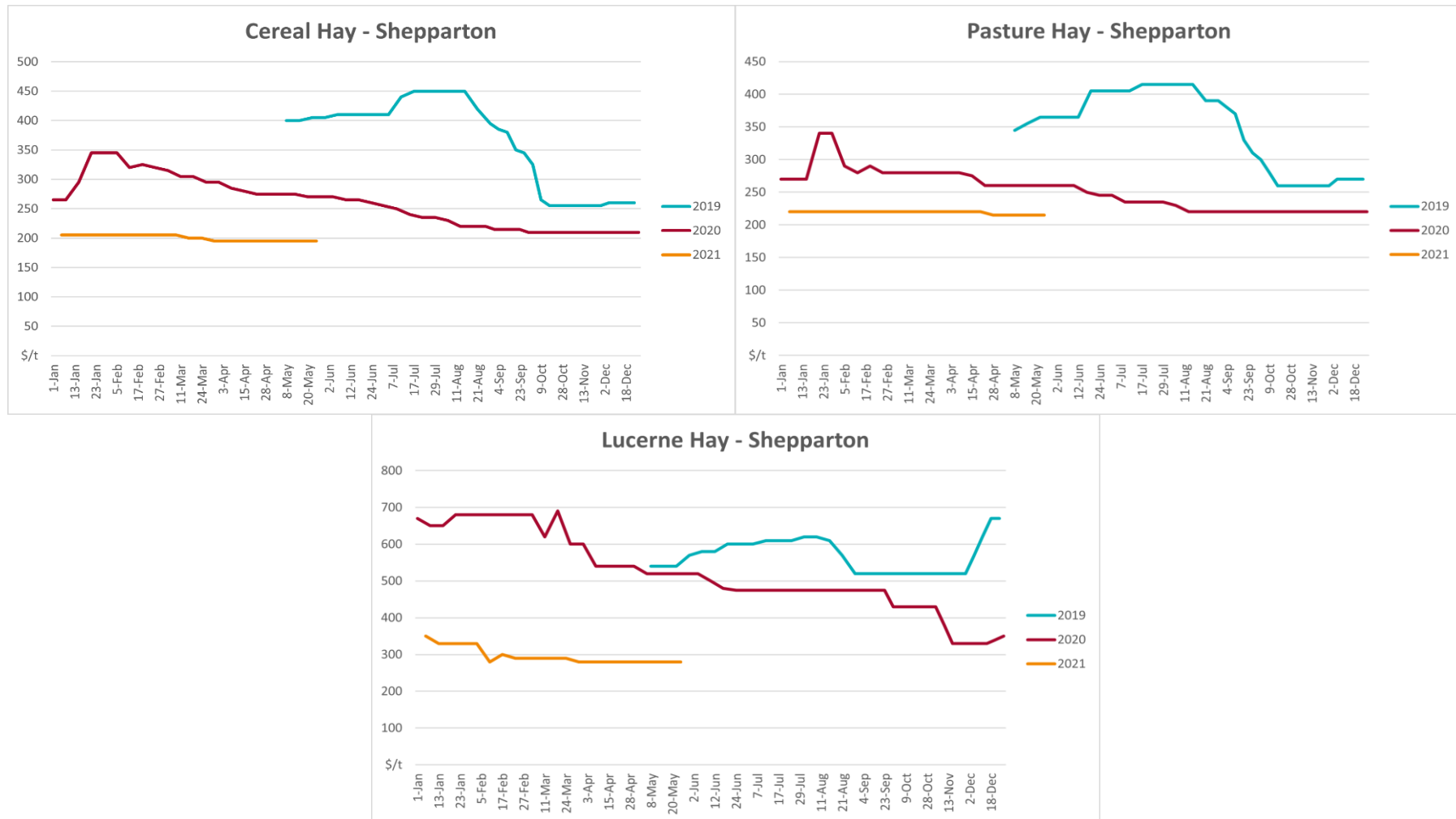








3.6. Selected domestic fodder indicator prices



4. Data attribution

Climate

Bureau of Meteorology

- Weekly rainfall totals: www.bom.gov.au/climate/maps/rainfall/
- Monthly and last 3-month rainfall percentiles: www.bom.gov.au/water/landscape/
- Temperature anomalies: www.bom.gov.au/jsp/awap/temp/index.jsp
- Rainfall forecast: www.bom.gov.au/jsp/watl/rainfall/pme.jsp
- Seasonal outlook: www.bom.gov.au/climate/outlooks/#/overview/summary/
- Climate drivers: <http://www.bom.gov.au/climate/enso/>
- Soil moisture: www.bom.gov.au/water/landscape/

Other

- Pasture growth: www.longpaddock.qld.gov.au/aussiegrass/
- 3-month global outlooks: [Environment and Climate Change Canada](#), [NOAA Climate Prediction Center](#), [EUROBRISA CPTEC/INPE](#), [European Centre for Medium-Range Weather Forecasts](#), [Hydrometcenter of Russia](#), [National Climate Center Climate System Diagnosis and Prediction Room \(NCC\)](#), [International Research Institute for Climate and Society](#)
- Global production: <https://ipad.fas.usda.gov/ogamaps/cropmapsandcalendars.aspx>
- Autumn break: Pook et al., 2009, <https://rmets-onlinelibrary-wiley-com.virtual.anu.edu.au/doi/epdf/10.1002/joc.1833>

Water

Prices

- Waterflow: <https://www.waterflow.io/>
- Ruralco: <https://www.ruralcowater.com.au/>

Bureau of Meteorology:

- Allocation trade: <http://www.bom.gov.au/water/dashboards/#/water-markets/mdb/at>
- Storage volumes: <http://www.bom.gov.au/water/dashboards/#/water-storages/summary/drainage>

Trade constraints:

- Water NSW: <https://www.watarnsw.com.au/customer-service/ordering-trading-and-pricing/trading/murrumbidgee>
- Victorian Water Register: <https://www.waterregister.vic.gov.au/TradingRules2019/>

Commodities

Fruit and vegetables

- Datafresh: www.freshstate.com.au

Pigs

- Australian Pork Limited: www.australianpork.com.au

Dairy

- Global Dairy Trade: www.globaldairytrade.info/en/product-results/

World wheat, canola

- International Grains Council

World coarse grains

- United States Department of Agriculture

World cotton

- Cotlook: www.cotlook.com/

World sugar

- New York Stock Exchange - Intercontinental Exchange

Wool

- Australian Wool Exchange: www.awex.com.au/
- Domestic wheat, barley, sorghum, canola and fodder
 - Jumbuk Consulting Pty Ltd: <http://www.jumbukag.com.au/>

Cattle, beef, mutton, lamb, goat and live export

- Meat and Livestock Australia: www.mla.com.au/Prices-and-market

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