



# Weekly Australian Climate, Water and Agricultural Update



No. 5/2021

11 February 2021

## Summary of key issues

- During the 7 days to 10 February 2021, troughs, low-pressure systems and fronts generated showers and thunderstorm activity across parts of northern, western and eastern Australia. In those summer cropping regions that recorded rainfall this week, these falls are likely to benefit the production prospects and yield potential of dryland crops ([see Section 1.1](#)).
- The La Niña event ongoing in the tropical Pacific has likely passed its peak. Early onset of northern rainfall and the enhanced probability of a wetter than average summer will likely continue to benefit summer crop production and pasture growth across eastern and northern Australia as the La Niña event weakens ([see Section 1.2](#)).
- There is a high chance that rainfall between March and May 2021 will be sufficient to sustain close to average crop and pasture production across most regions as the summer cropping season wraps up, and planting opportunities as the winter cropping season begins. In Queensland cropping regions where soil moisture levels are below average, expected rainfall totals in the most recent climate outlook are unlikely to be sufficient to support average crop production ([see Section 1.3](#)).
- Over the next 8 days, troughs, low-pressure systems, onshore flow and a weak cold front are expected to generate showers and storms over parts of northern, central-western and eastern Australia.
- In Australia's summer cropping regions, rainfall totals of between 10 and 25 millimetres are expected in most of New South Wales and Queensland over the next 8 days. Rainfall in excess of 25 millimetres is expected in summer cropping regions across parts of northern Queensland ([see Section 1.4](#)).
- Water storage levels in the Murray-Darling Basin (MDB) increased by 53 gigalitres (GL) between 2 February 2021 and 9 February 2021. The current volume of water held in storage is 13,581 GL, which represents 54% of total capacity.
- Allocation prices in the Victorian Murray below the Barmah Choke remained steady at \$105 per ML between 4 February 2021 and 10 February 2021. Prices are lower in Murrumbidgee and regions above the Barmah Choke, due to binding of the Murrumbidgee export limits and the Barmah Choke trade constraint.

# 1. Climate

## 1.1. Rainfall this week

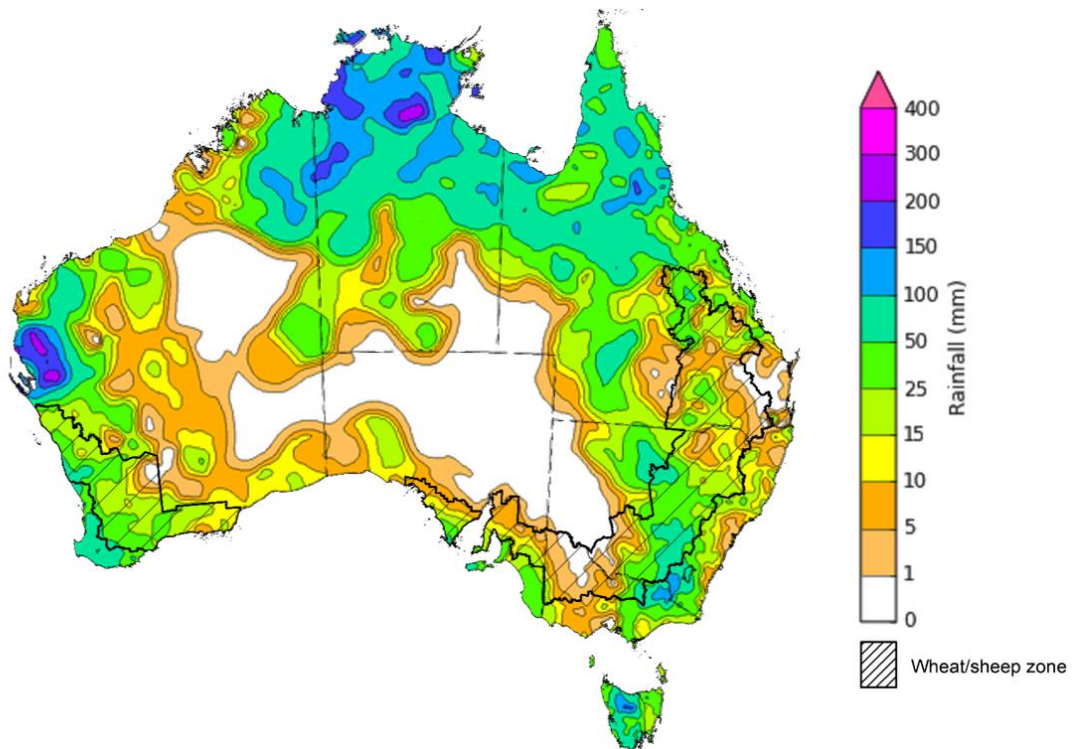
During the 7 days to 10 February 2021, troughs, low-pressure systems and fronts generated showers and thunderstorm activity across parts of northern, western and eastern Australia.

Rainfall totals of between 15 and 100 millimetres were recorded across much of central and eastern New South Wales, Queensland, the Northern Territory and Tasmania, and parts of eastern and south-western Victoria, southern South Australia and western and northern Western Australia. Rainfall totals in excess of 100 millimetres were recorded across parts of the north of the Northern Territory and isolated parts of south-eastern New South Wales, north-eastern Victoria, northern Queensland, western and northern Western Australia and north-western Tasmania.

In Australia's summer cropping regions, rainfall totals of between 10 and 50 millimetres were recorded across parts of northern and central New South Wales and northern and southern Queensland during the 7 days to 10 February 2021.

In those summer cropping regions that recorded rainfall during the 7 days to 10 February 2021, these falls are likely to benefit the production prospects and yield potential of dryland crops.

### Rainfall for the week ending 10 February 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/>

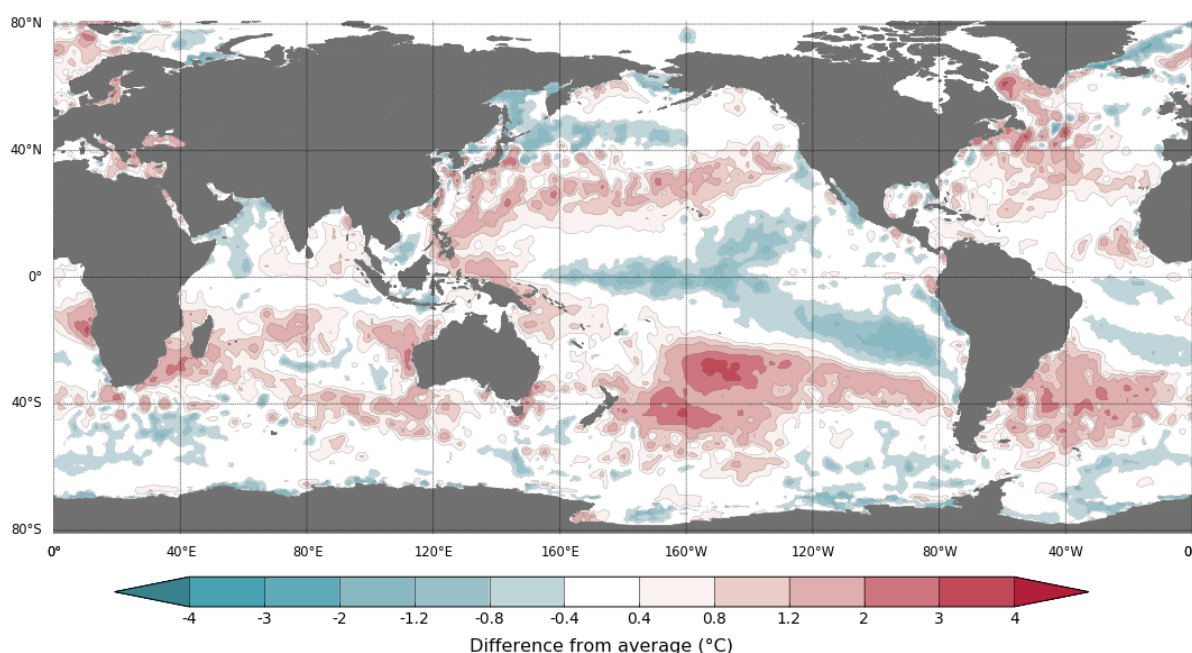
## 1.2. Climate Drivers

As the generally favourable summer cropping and northern pasture production season continues, interest moves to the prospects for autumn and the start of the winter cropping season. To gain some insight, it is important to look at the climate drivers—the El Niño–Southern Oscillation (ENSO) and the Madden–Julian Oscillation (MJO)—that can influence autumn rainfall across Australia.

The La Niña event in the tropical Pacific has likely passed its peak. A La Niña event during summer typically generates the favourable growing conditions for summer crop and pasture production. These favourable growing conditions were central in developing ABARES summer crop and livestock production forecasts embodied in the ABARES December 2020 editions of the *Australian crop report* and *Agricultural commodities*.

In the past fortnight, cool sea surface temperature anomalies have weakened in the eastern Pacific Ocean. Warm sea surface temperature anomalies have persisted in the waters near Indonesia, Papua New Guinea and the Philippines, and in the waters near western and south-eastern Australia. As at 2 February 2021 all of the international climate models surveyed suggest the La Niña event has likely passed its peak, and oceanic and atmospheric conditions will return to neutral or close to neutral levels by mid-autumn 2021. Typical La Niña impacts are likely to continue as the event starts to weaken.

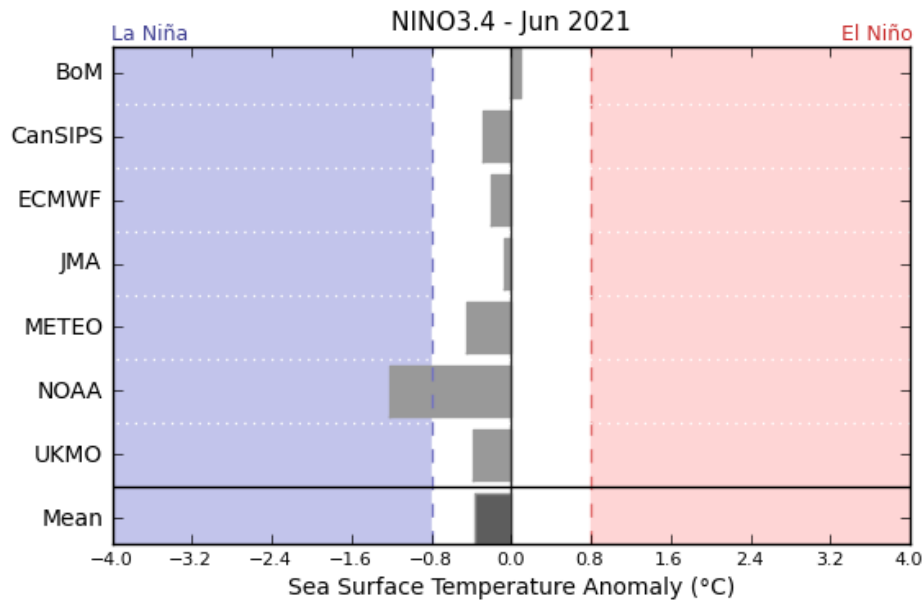
### Difference from average sea surface temperature observations 25 January to 31 January 2021



Data: BOM SST  
Climatology baseline: 1961 to 1990  
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Weekly average: 31 January 2021  
Created: 01/02/2021  
<http://www.bom.gov.au/climate>

## International climate model outlooks for the NINO 3.4 region in June 2021

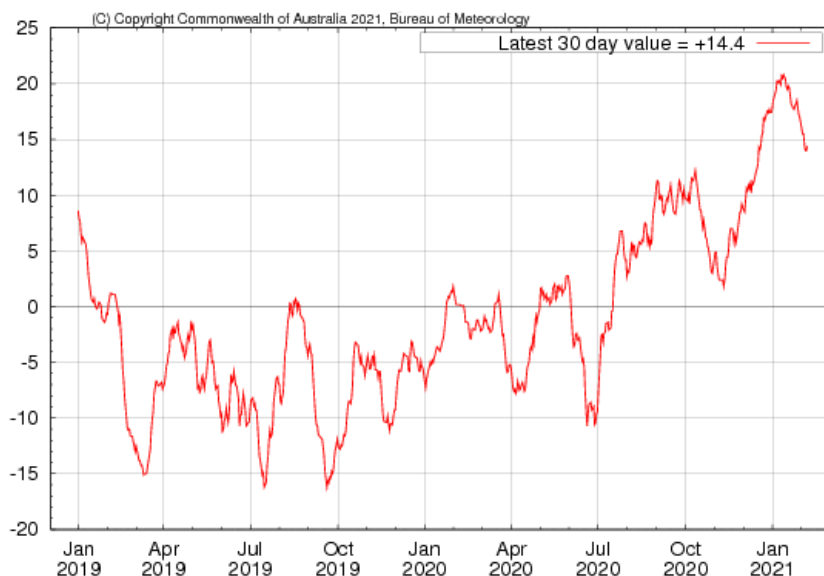


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Issued: 02/02/2021

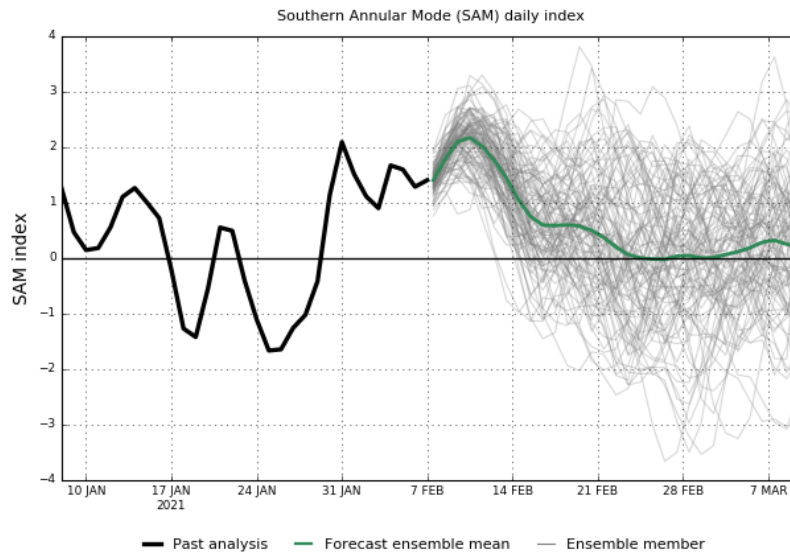
Atmospheric indicators are generally consistent with a La Niña event, with stronger than average to near average trade winds and decreased cloudiness near the Date Line. For the period ending 7 February the 30-day SOI value was 14.4 and for the period ending 31 January the 90-day value was 14.8.

## 30-day Southern Oscillation Index (SOI) values ending 7 February 2021



The Southern Annular Mode (SAM) is currently positive and expected to return to neutral around mid-February until at least early March. 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 neutral during summer, the band of westerly winds is further south than in winter and has less influence on rainfall.

### Southern Annular Mode (SAM) daily index

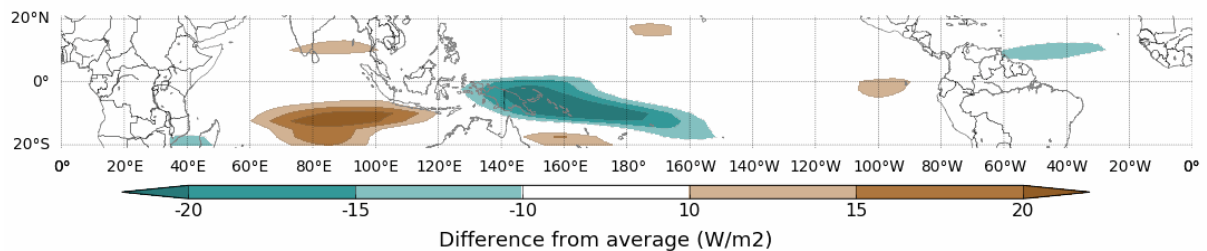


[www.bom.gov.au/climate](http://www.bom.gov.au/climate)  
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Model: ACCESS-S1  
Model run: 7 Feb 2021  
Base period: 1990-2012

As at 7 February 2021 the Madden–Julian Oscillation (MJO) was strong in strength and located above the western Pacific Ocean. The MJO is a pulse of cloud and rainfall that moves eastward along the equator. It is expected that the influence of the MJO on Australian rainfall will weaken over the next week or so as it moves east along the equator.

### Madden–Julian Oscillation (MJO) daily index



[www.bom.gov.au/climate](http://www.bom.gov.au/climate)  
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Model: ACCESS-S1  
Base period: 1990-2012  
Forecast date: 07/02/2021  
Model run date: 07/02/2021  
Note: This map displays the forecast outgoing longwave radiation (OLR) difference from expected cloudiness to identify convective rain clouds and the position of the Madden–Julian Oscillation (MJO). The blue shading indicates higher than normal, active or enhanced tropical weather and the brown shading indicates lower than normal clouds or suppressed conditions.



### 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/>

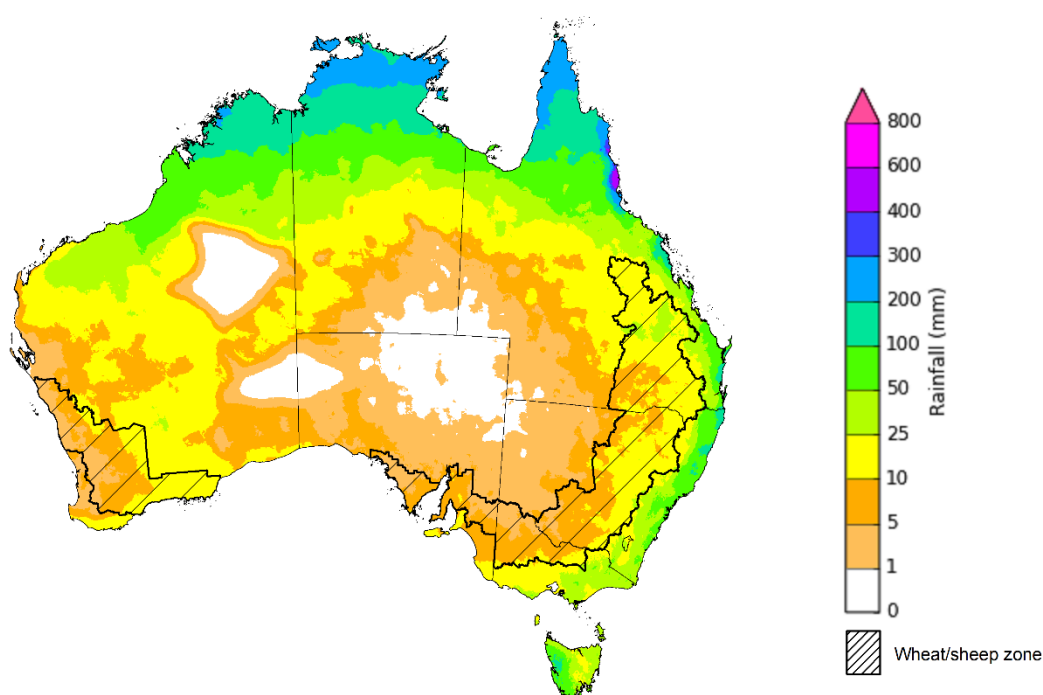
The latest rainfall outlook released by the Bureau of Meteorology suggests that wetter than average conditions are slightly more likely for much of Australia during March 2021. There is greater than 65% chance of above average rainfall across parts of north-western Australia.

The outlook for March 2021 suggests that there is a 75% chance of rainfall totals between 10 and 100 millimetres across parts of northern, western and far eastern Australia. There is a 75% chance of rainfall totals between 1 and 10 millimetres across much of the remainder of western, eastern and central Australia. Rainfall totals in excess of 100 millimetres are likely across the far tropical north.

In summer cropping regions there is a 75% chance of rainfall totals between 5 and 25 millimetres across northern New South Wales and between 5 and 50 millimetres across much of Queensland. Across most southern cropping regions there is a 75% chance of rainfall totals between 1 and 10 millimetres and up to 25 millimetres across parts of eastern and central New South Wales, southern Victoria and eastern Western Australia.

The ACCESS–S climate model suggests there is a high chance of recording close to average March rainfall totals across much of northern Australia. If realised, these totals are likely to support average pasture growth potentials in northern Australia and average crop production in northern Queensland. Across summer cropping regions in central and southern Queensland and northern New South Wales there is a 50% chance of recording close to average March rainfall. In areas with average or better levels of soil moisture, these totals are likely to be sufficient to support close to average crop and pasture production.

#### Rainfall totals that have a 75% chance of occurring March 2021

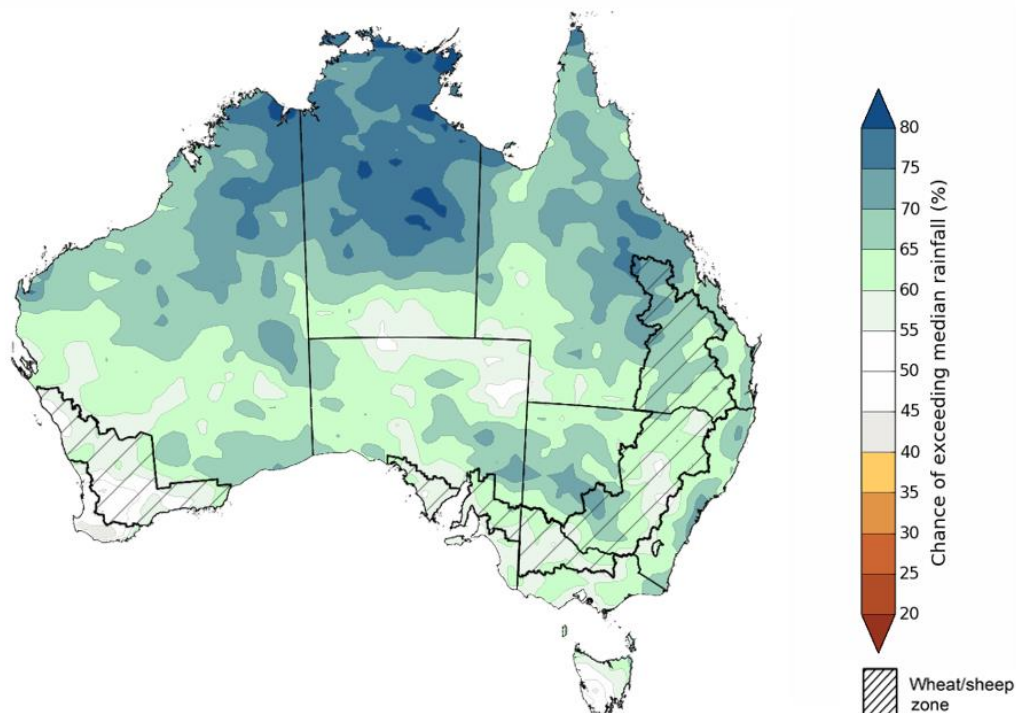


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The rainfall outlook for March to May 2021 suggests that wetter than average conditions are likely for much of Australia. There is a greater than 65% chance of above average rainfall across much of northern Australia, and across isolated parts of southern Australia (Bureau of Meteorology 'National Climate Outlook', 4 February 2021). Bureau of Meteorology rainfall outlooks for March to May have greater than 55% past accuracy across most of Australia and greater than 65% accuracy across parts of south-western New South Wales, north-eastern Queensland, central-northern and south-eastern South Australia, southern and north-eastern Western Australia and the north and south-west of the Northern Territory.

### Chance of exceeding the median rainfall March to May 2021



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The outlook for March to May 2021 suggests there is a 75% chance of rainfall totals between 25 and 200 millimetres across much of Australia. Lower rainfall totals between 2 and 25 millimetres are likely across parts of central Australia. Rainfall totals in excess of 200 millimetres are likely across the tropical north and parts of the eastern coastline of Australia and western Tasmania.

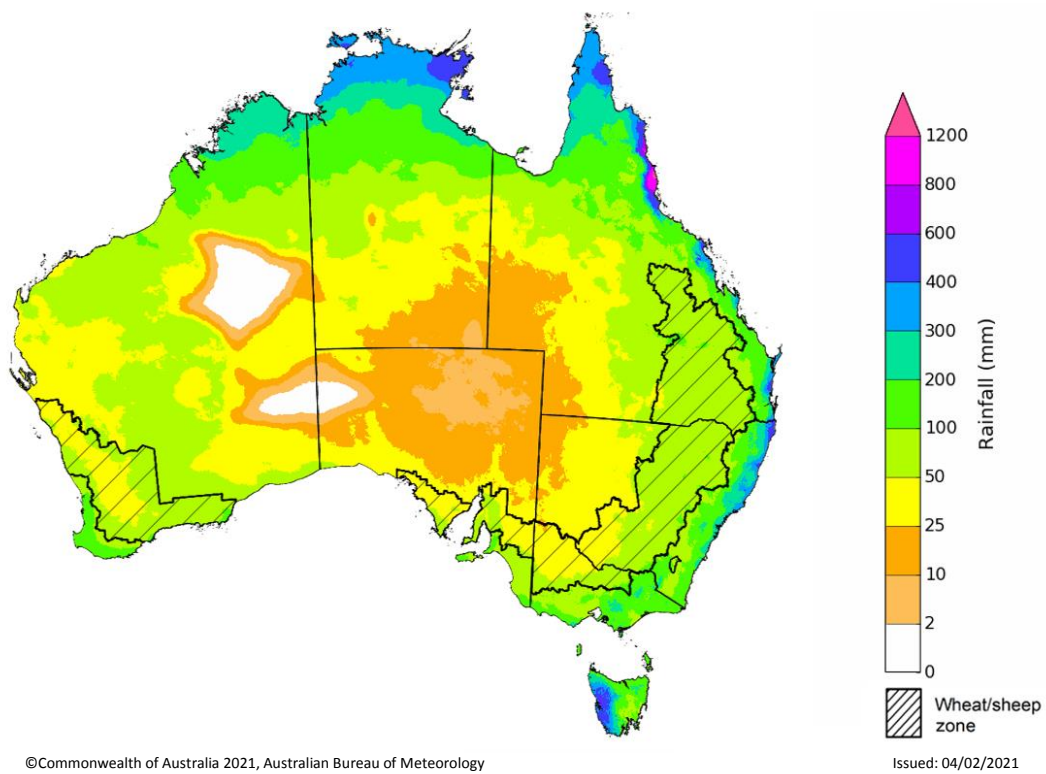
Across cropping regions, there is a 75% chance of receiving between 50 and 100 millimetres across most of New South Wales and Queensland, with lower totals between 25 and 50 millimetres across south-western New South Wales cropping regions up between March and May 2021. There is a 75% chance of receiving between 25 and 100 millimetres across most cropping regions in Victoria, South Australia and Western Australia between March and May 2021.

The ACCESS–S climate model suggests there is a high chance of recording close to average March to May rainfall totals across northern Australia and parts of eastern, western and southern Australia. If realised, these totals are likely to support average pasture growth potentials in northern Australia and average crop production in parts of northern and south-western Queensland and western New South Wales.

Across most remaining cropping regions, there is a 50% chance of recording close to average March to May rainfall. With average or better levels of soil moisture across most cropping regions, these totals are likely to be sufficient to support close to average crop and pasture production as the summer cropping season wraps up. It will also support close to average crop and pasture production potential as winter crop sowing begins. These forecast rainfall totals may not be sufficient to support

average crop production in Queensland cropping regions where soil moisture levels are below average.

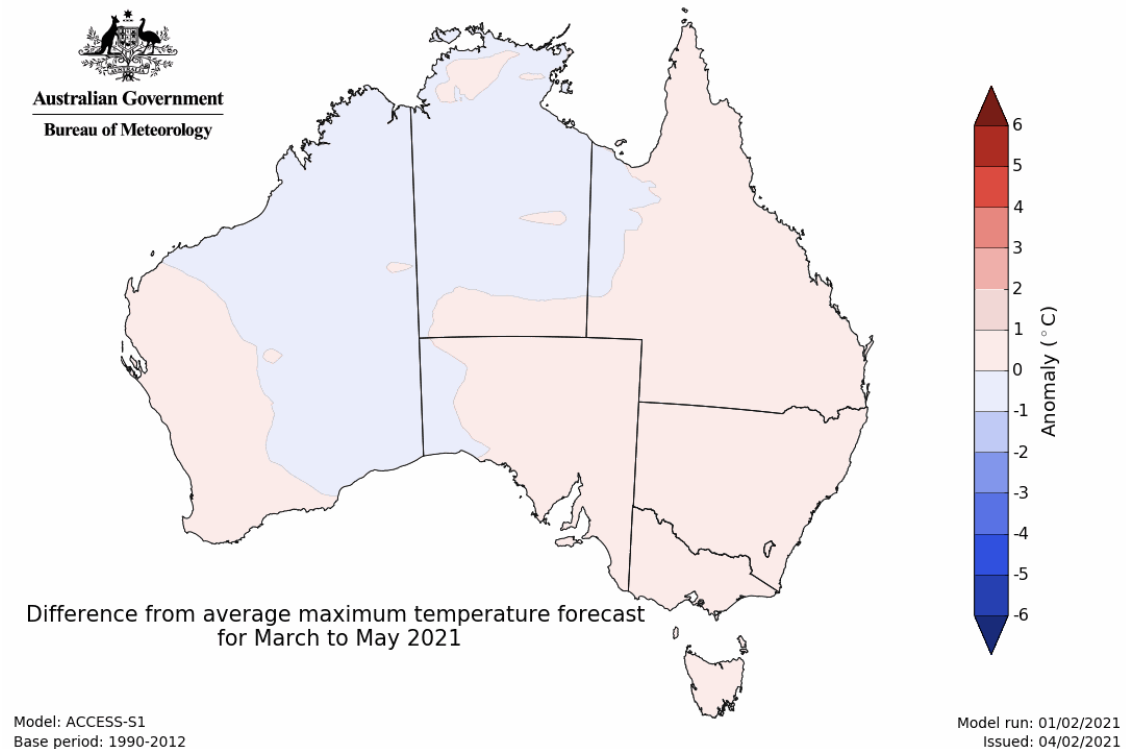
**Rainfall totals that have a 75% chance of occurring March to May 2021**



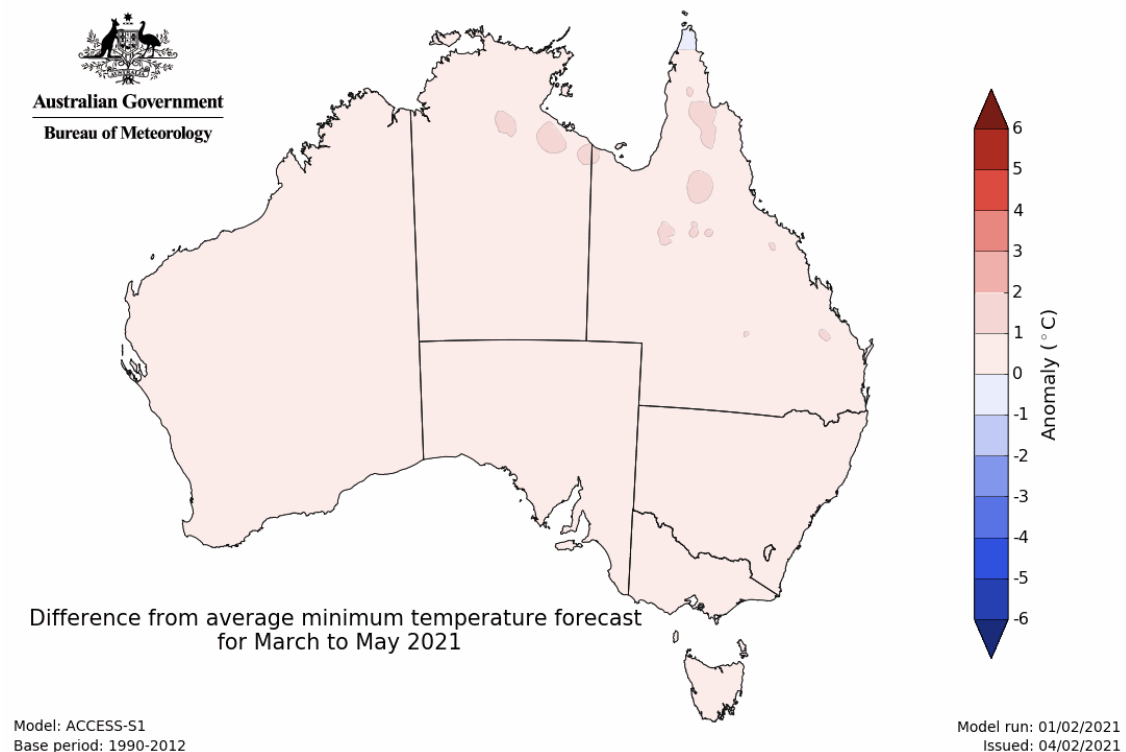


The temperature outlook for March to May 2021 indicates that night-time temperatures are likely to be between 1°C to 2°C above the 1990-2012 average across isolated parts of north-eastern Australia. Day-time temperatures across Australia and night-time temperatures across the remainder of Australia are likely to be close to the 1990-2012 average (- 1°C to 1°C) (Bureau of Meteorology 'National Climate Outlook', 4 February 2021).

### Predicted maximum temperature anomaly for March to May 2021



### Predicted minimum temperature anomaly for March to May 2021



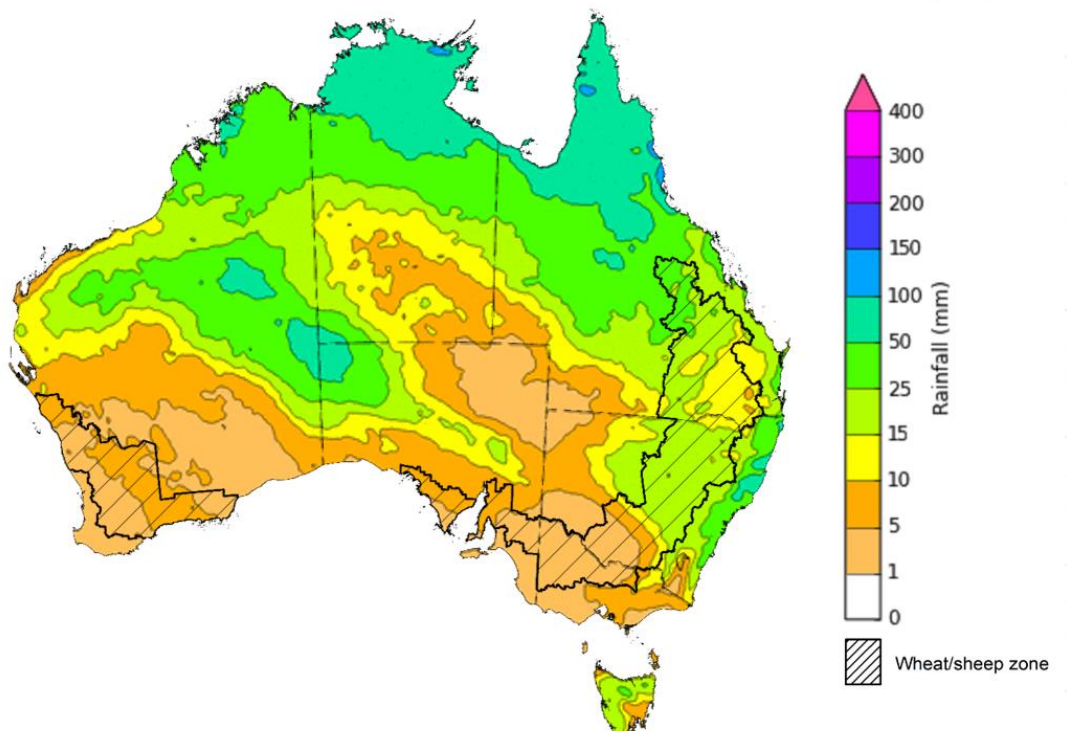
## 1.4. Rainfall forecast for the next eight days

Troughs, low-pressure systems, onshore flow and a weak cold front are expected to generate showers and storms over parts of northern, central-western and eastern Australia during the next 8 days.

Rainfall totals of between 10 and 50 millimetres are forecast for much of north-eastern New South Wales, Queensland, the northern half of Western Australia, the north and west of the Northern Territory and Tasmania, and parts of central and north-western South Australia. Rainfall totals in excess of 50 millimetres are expected across parts of northern Queensland, the north of the Northern Territory and isolated parts of eastern New South Wales, north-eastern South Australia and eastern and northern Western Australia.

In Australia's summer cropping regions, rainfall of between 10 and 25 millimetres is expected most of New South Wales and Queensland. Rainfall in excess of 25 millimetres is expected in summer cropping regions across parts of northern Queensland.

**Total forecast rainfall (mm) for the period 11 February to 18 February 2021**



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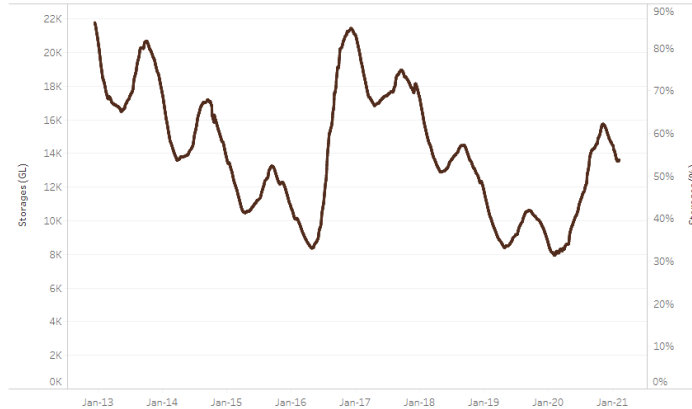
Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

## 2. Water

### 2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) increased by 53 gigalitres (GL) between 2 February 2021 and 9 February 2021. The current volume of water held in storage is 13,581 GL, which represents 54% of total capacity. This is 72% or 5,663 GL more than at the same time last year.

**Water storages in the Murray-Darling Basin, 2013–2021**

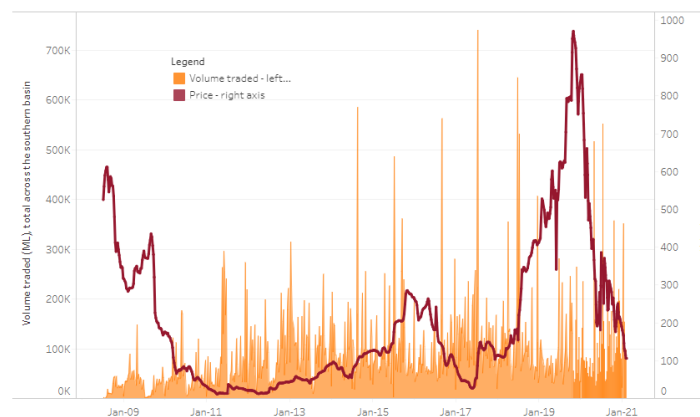


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke remained steady at \$105 per ML between 4 January 2021 and 10 February 2021. Prices are lower in the Murrumbidgee and regions above the Barmah Choke, due to binding of the Murrumbidgee export limit and the Barmah Choke trade constraint.

| Region              | \$/ML |
|---------------------|-------|
| NSW Murray Above    | 92    |
| NSW Murrumbidgee    | 28    |
| VIC Goulburn-Broken | 110   |
| VIC Murray Below    | 105   |

**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 11 February 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-110221](http://www.agriculture.gov.au/abares/products/weekly_update/weekly-update-110221)

### 3. Commodities

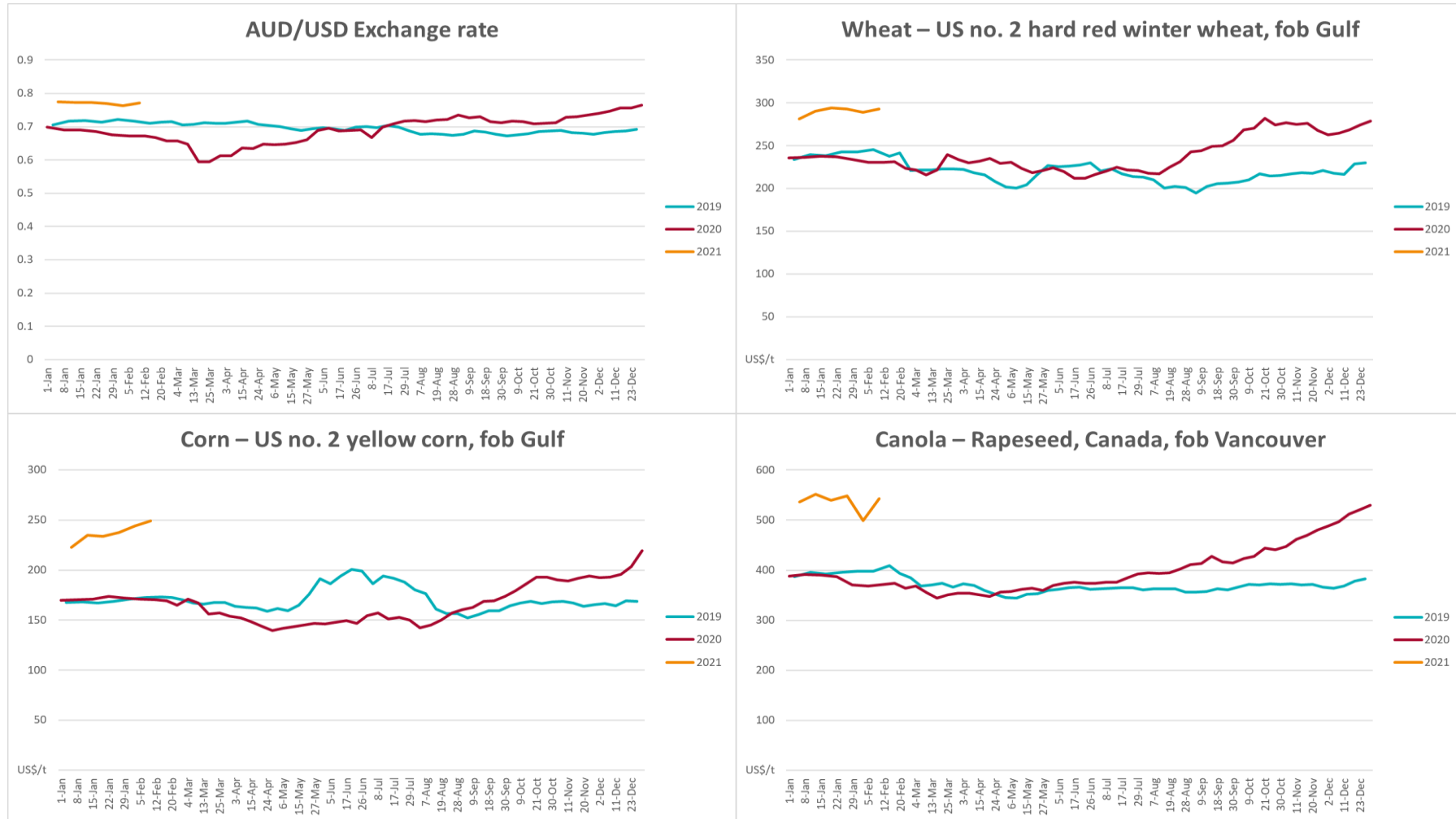
| Indicator   | Week ended | Unit        | Latest price | Previous week | Weekly change | Price 12 months ago | Annual change |
|---|------------|-------------|--------------|---------------|---------------|---------------------|---------------|
| <b>Selected world indicator prices</b>                            |            |             |              |               |               |                     |               |
| AUD/USD Exchange rate   | 10-Feb     | A\$/US\$    | 0.77         | 0.76          | 1%            | 0.67                | 16%           |
| Wheat – US no. 2 hard red winter wheat, fob Gulf                  | 10-Feb     | US\$/t      | 293          | 289           | 1%            | 231                 | 27%           |
| Corn – US no. 2 yellow corn, fob Gulf                             | 10-Feb     | US\$/t      | 249          | 244           | 2%            | 169                 | 47%           |
| Canola – Rapeseed, Canada, fob Vancouver                          | 10-Feb     | US\$/t      | 543          | 499           | 9%            | 374                 | 45%           |
| Cotton – Cotlook 'A' Index  | 10-Feb     | USc/lb      | 90           | 87            | 4%            | 78                  | 16%           |
| Sugar – Intercontinental Exchange, nearby futures, no.11 contract | 10-Feb     | USc/lb      | 16           | 16            | -3%           | 15                  | 6%            |
| Wool – Eastern Market Indicator                                   | 03-Feb     | Ac/kg clean | 1,285        | 1,202         | 7%            | 1,555               | -17%          |
| Wool – Western Market Indicator                                   | 03-Feb     | Ac/kg clean | 1,313        | 1,219         | 8%            | 1,621               | -19%          |
| <b>Selected Australian grain export prices</b>                    |            |             |              |               |               |                     |               |
| Milling Wheat – APW, Port Adelaide, SA                            | 10-Feb     | A\$/t       | 354          | 357           | -1%           | 372                 | -5%           |
| Feed Wheat – ASW, Port Adelaide, SA                               | 10-Feb     | A\$/t       | 350          | 354           | -1%           | 368                 | -5%           |
| Feed Barley – Port Adelaide, SA                                   | 10-Feb     | A\$/t       | 305          | 305           | 0%            | 322                 | -5%           |
| Canola – Kwinana, WA  | 10-Feb     | A\$/t       | 691          | 686           | 1%            | 663                 | 4%            |
| Grain Sorghum – Brisbane, QLD                                     | 10-Feb     | A\$/t       | 389          | 385           | 1%            | 465                 | -16%          |
| <b>Selected domestic livestock indicator prices</b>               |            |             |              |               |               |                     |               |
| Beef – Eastern Young Cattle Indicator                             | 10-Feb     | Ac/kg cwt   | 882          | 885           | 0%            | 507                 | 74%           |
| Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic           | 27-Jan     | Ac/kg cwt   | 594          | 574           | 3%            | 553                 | 7%            |
| Lamb – Eastern States Trade Lamb Indicator                        | 27-Jan     | Ac/kg cwt   | 850          | 825           | 3%            | 815                 | 4%            |
| Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers  | 13-Jan     | Ac/kg cwt   | 367          | 367           | 0%            | 405                 | -9%           |
| Goats – Eastern States (12.1–16 kg)                               | 27-Jan     | Ac/kg cwt   | 818          | 818           | 0%            | 816                 | 0%            |
| Live cattle – Light steers ex Darwin to Indonesia                 | 27-Jan     | Ac/kg lwt   | 355          | 355           | 0%            | 315                 | 13%           |
| Live sheep – Live wethers (Mucnea WA saleyard) to Middle East     | 18-Nov     | \$/head     | 118          | 108           | 9%            | N/A                 | N/A           |

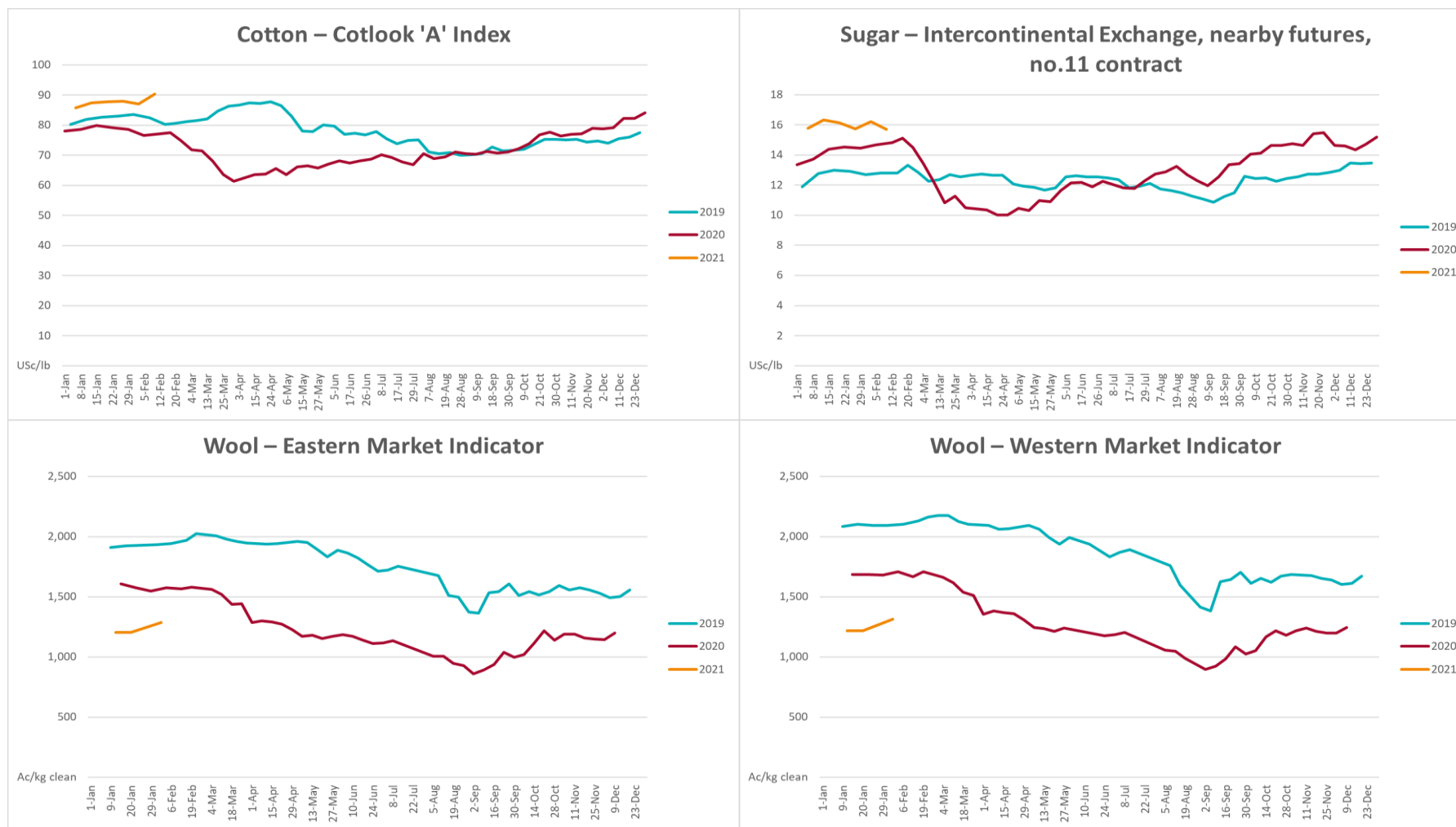
| Indicator  | Week ended | Unit   | Latest price | Previous week | Weekly change | Price 12 months ago | Annual change |
|--|------------|--------|--------------|---------------|---------------|---------------------|---------------|
| <b>Global Dairy Trade (GDT) weighted average prices <sup>a</sup></b> |            |        |              |               |               |                     |               |
| Dairy – Whole milk powder  | 03-Feb     | US\$/t | 3,458        | 3,380         | 2%            | 2,674               | 29%           |
| Dairy – Skim milk powder   | 03-Feb     | US\$/t | 3,198        | 3,243         | -1%           | 2,042               | 57%           |
| Dairy – Cheddar cheese   | 03-Feb     | US\$/t | 4,178        | 4,082         | 2%            | 3,263               | 28%           |
| Dairy – Anhydrous milk fat   | 03-Feb     | US\$/t | 5,463        | 5,398         | 1%            | 4,936               | 11%           |

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

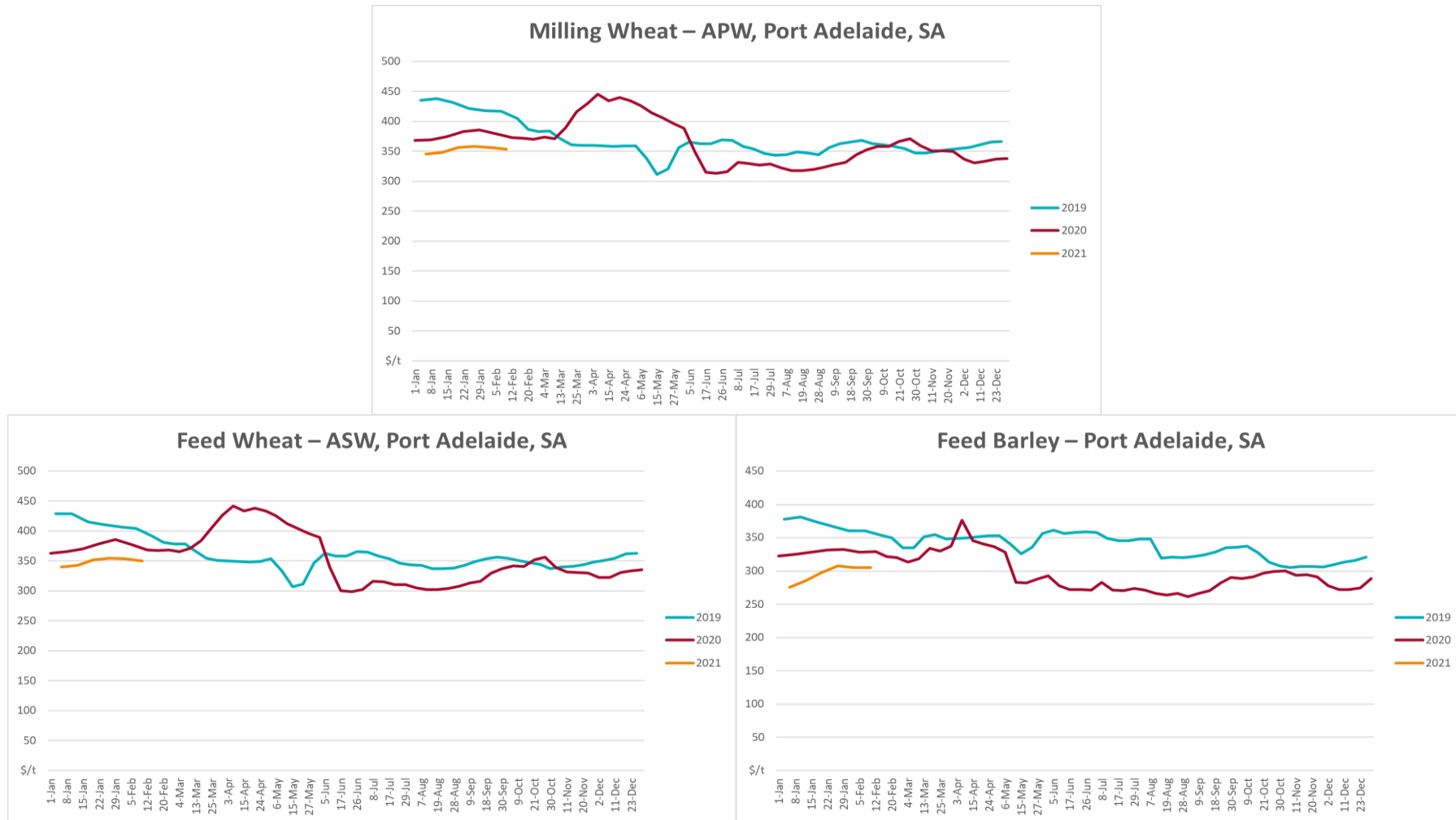


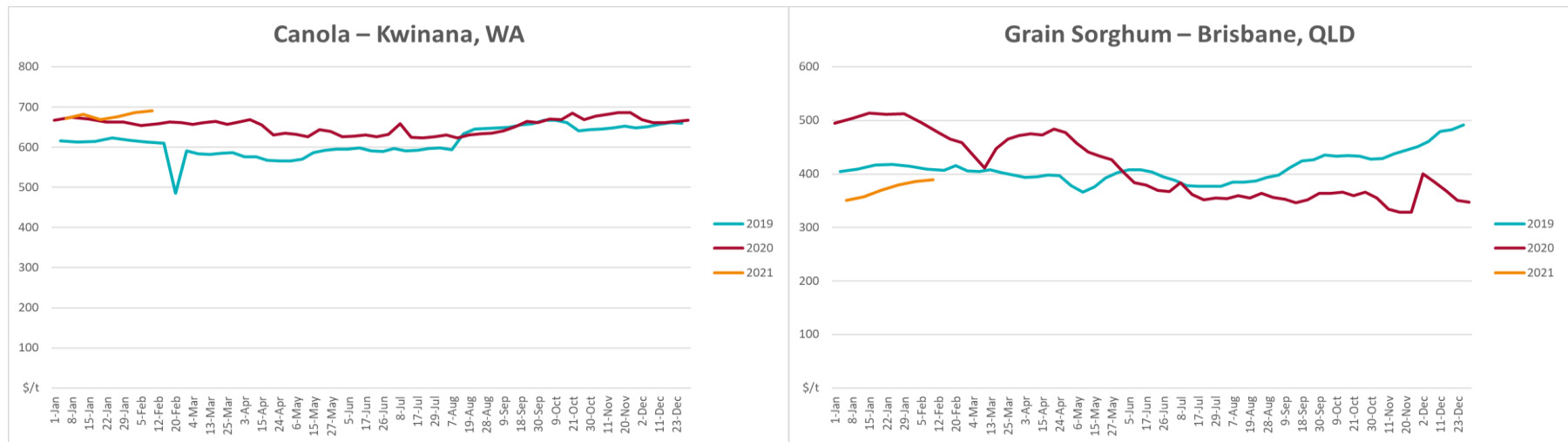
### 3.1. Selected world indicator prices



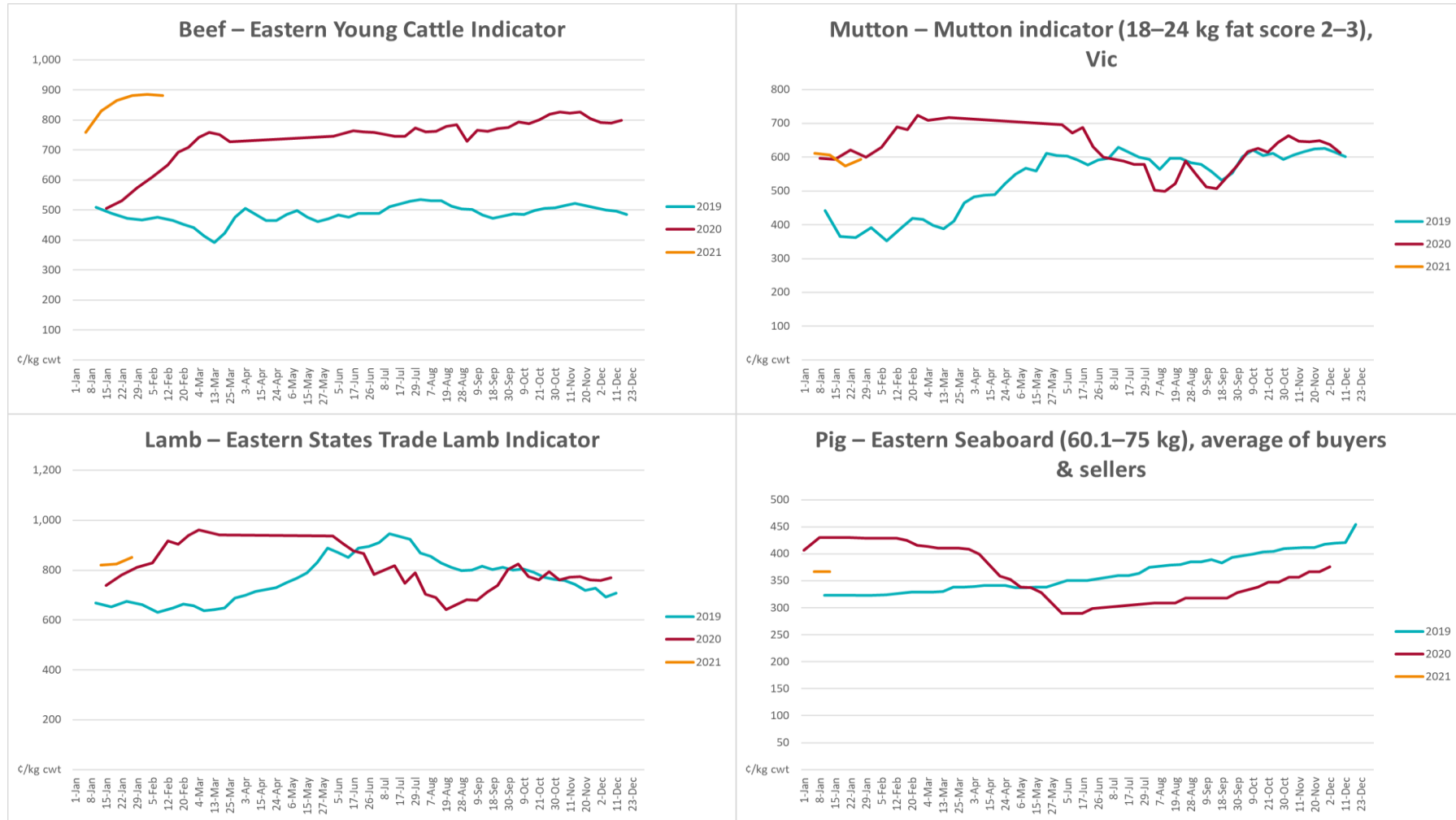


### 3.2. Selected domestic crop indicator prices

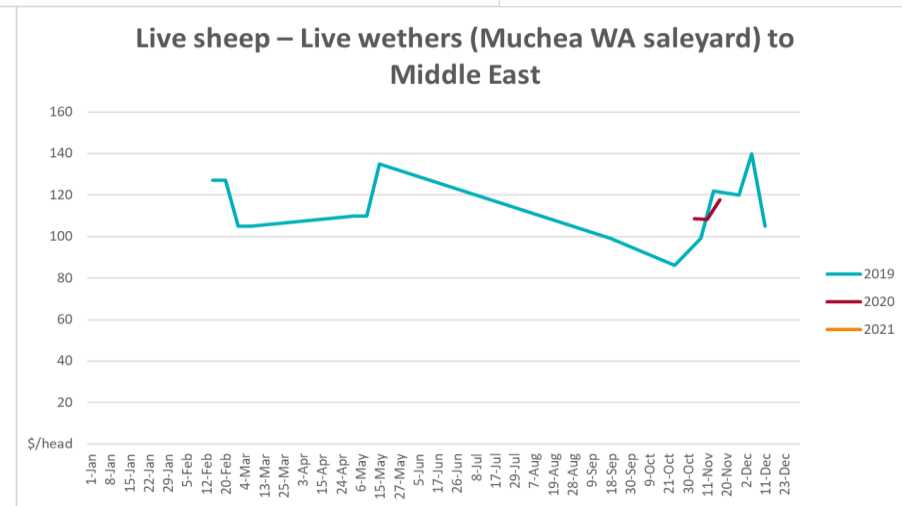
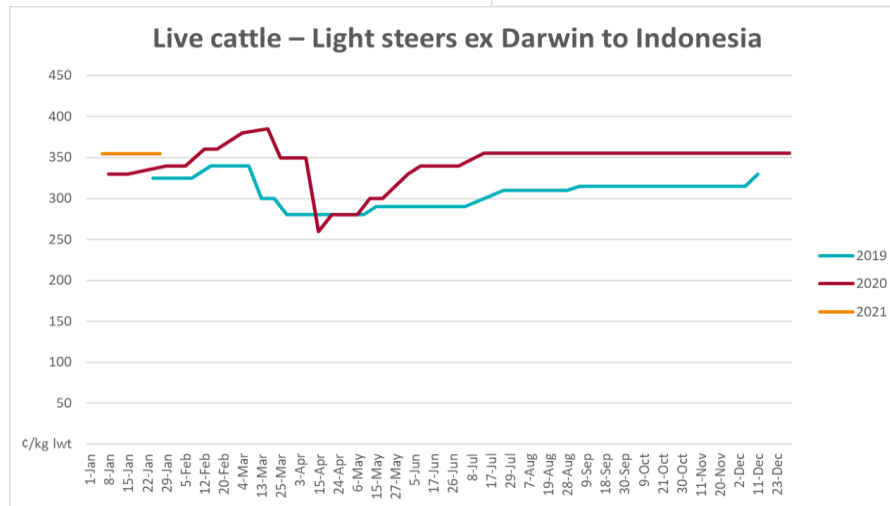
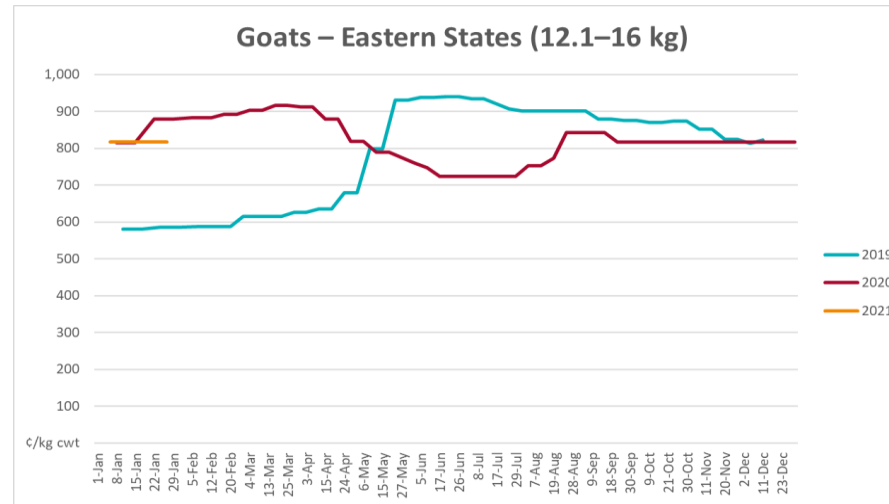




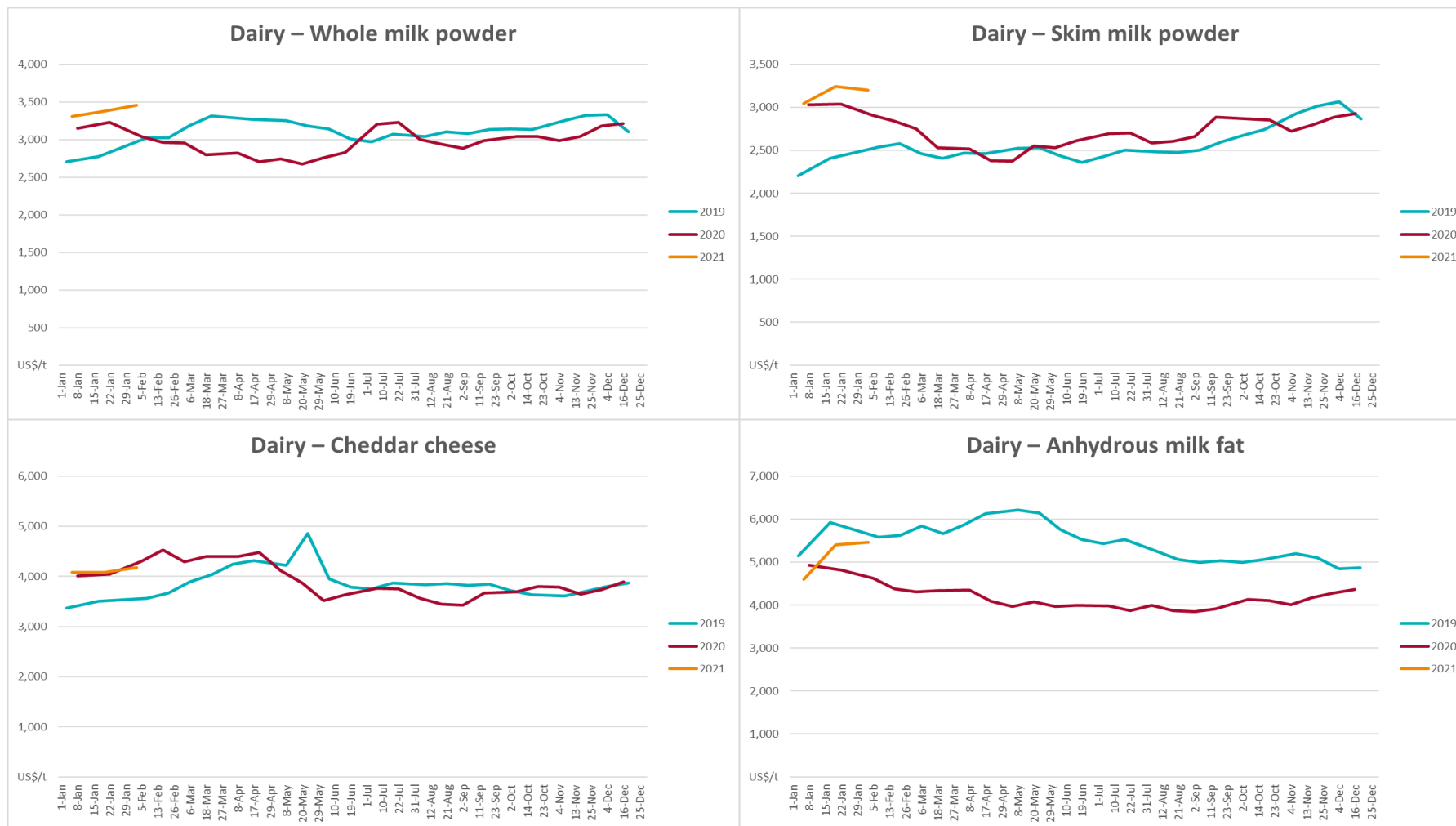
### 3.3. Selected domestic livestock indicator prices



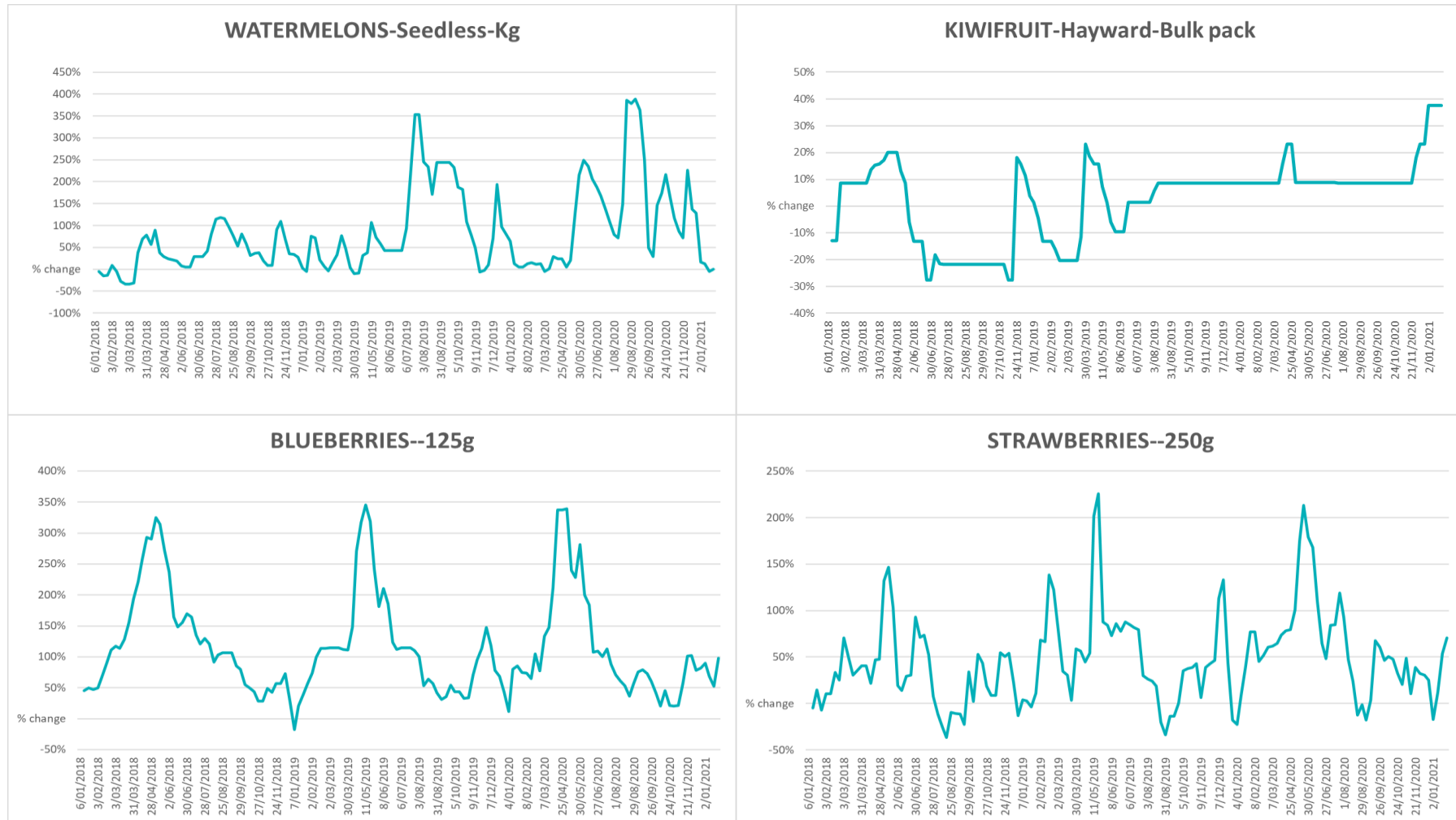




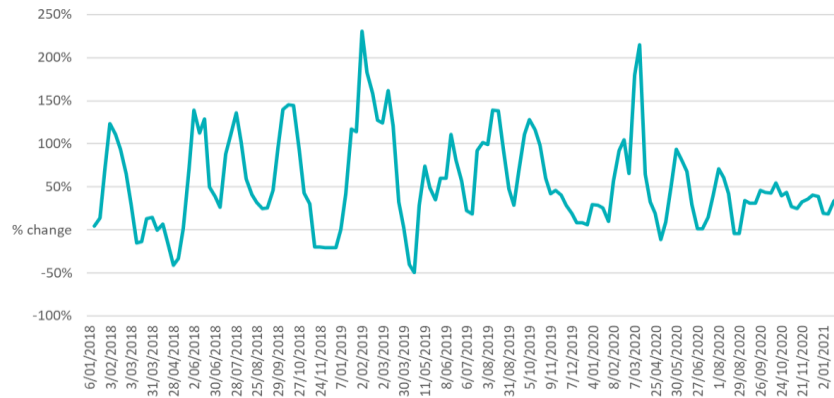
### 3.4. Global Dairy Trade (GDT) weighted average prices



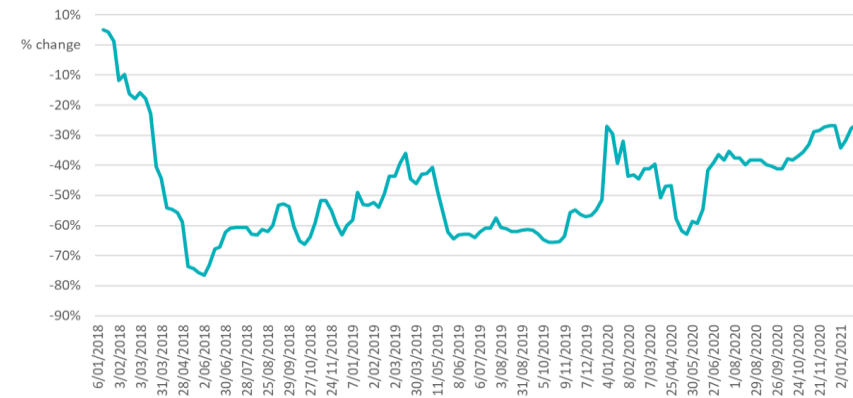
### 3.5. Selected fruit and vegetable prices



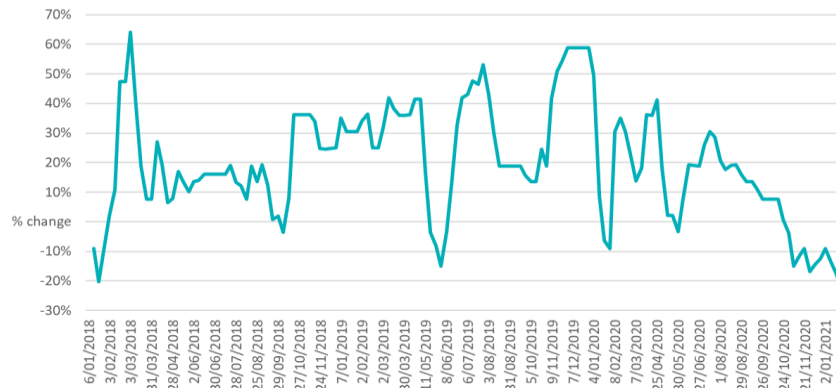
**BANANAS-Cavendish-Carton**



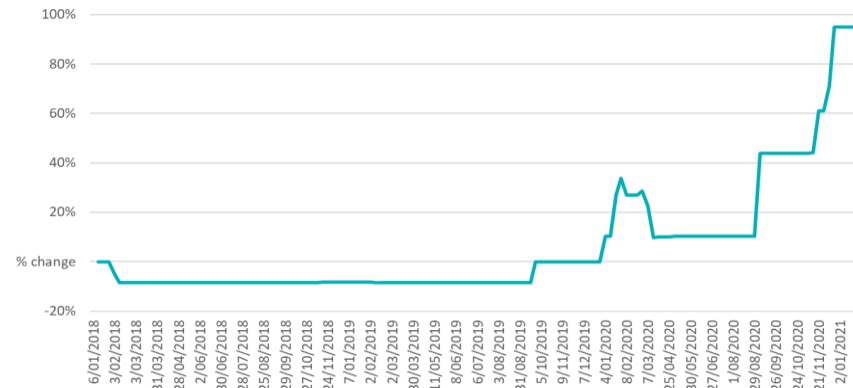
**AVOCADOS-Hass-Tray**

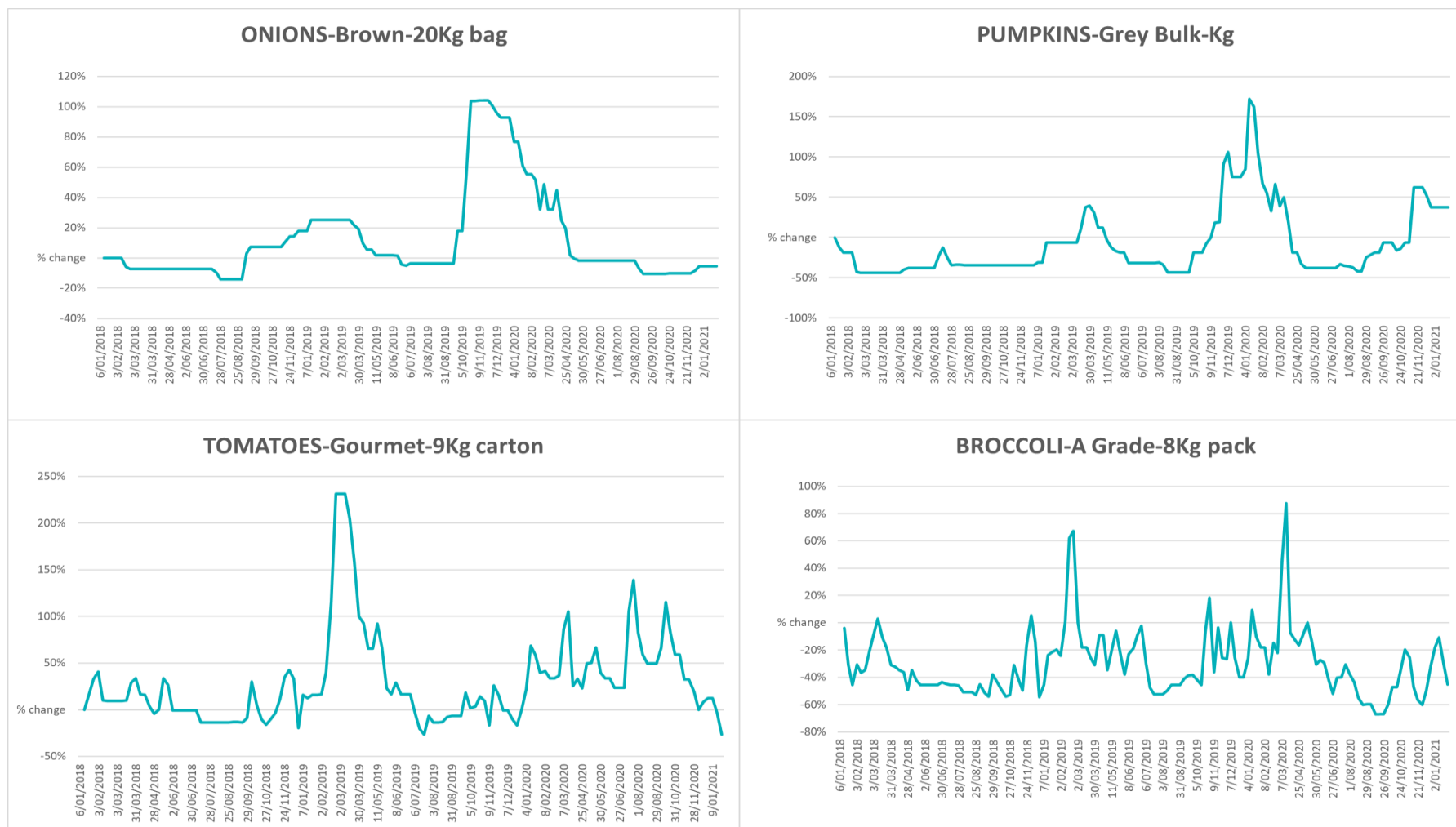


**PINEAPPLES-Smoothleaf-Tray**

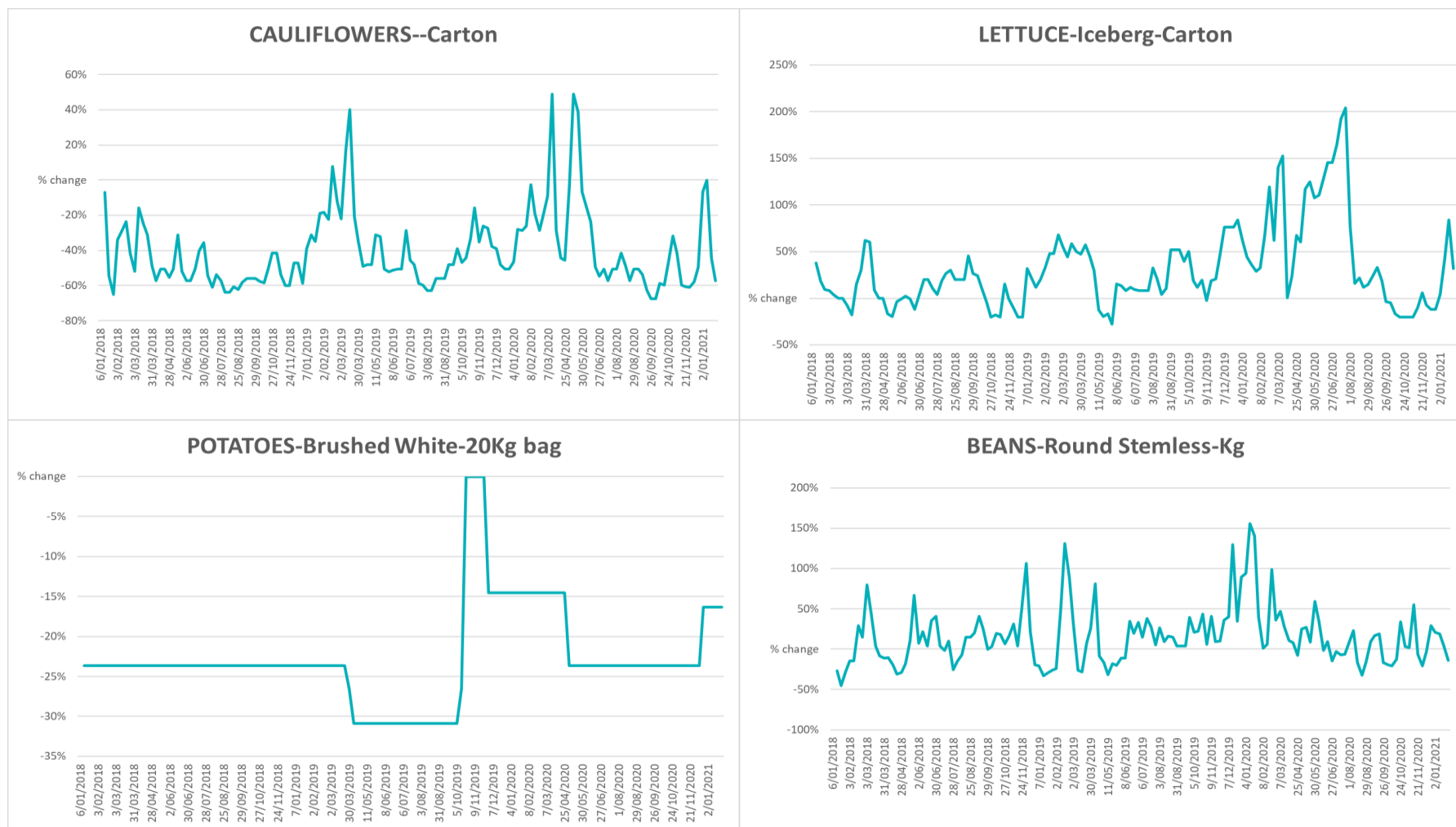


**APPLES-Royal Gala-12kg carton**









## 4. Data attribution

### Climate

#### Bureau of Meteorology

- Weekly rainfall totals: [www.bom.gov.au/jsp/awap/rain/index.jsp](http://www.bom.gov.au/jsp/awap/rain/index.jsp)
- Monthly and last 3-month rainfall percentiles: [www.bom.gov.au/jsp/awap/rain/index.jsp](http://www.bom.gov.au/jsp/awap/rain/index.jsp)
- Temperature anomalies: [www.bom.gov.au/jsp/awap/temp/index.jsp](http://www.bom.gov.au/jsp/awap/temp/index.jsp)
- Rainfall forecast: [www.bom.gov.au/jsp/watl/rainfall/pme.jsp](http://www.bom.gov.au/jsp/watl/rainfall/pme.jsp)
- Seasonal outlook: [www.bom.gov.au/climate/outlooks/#/overview/summary/](http://www.bom.gov.au/climate/outlooks/#/overview/summary/)
- Drought statement: [www.bom.gov.au/climate/drought/drought.shtml](http://www.bom.gov.au/climate/drought/drought.shtml)
- Soil moisture: [www.bom.gov.au/water/landscape/](http://www.bom.gov.au/water/landscape/)

#### Other

- Pasture growth: <https://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>

### Water

#### New South Wales

- New South Wales Water Information: <http://waterinfo.nsw.gov.au/>
- New South Wales Office of Water, Department of Primary Industries: [www.water.nsw.gov.au/Home/default.aspx](http://www.water.nsw.gov.au/Home/default.aspx)
- Available water determinations register: [www.water.nsw.gov.au/water-licensing/registers](http://www.water.nsw.gov.au/water-licensing/registers)

#### Queensland

- Sunwater: [www.sunwater.com.au](http://www.sunwater.com.au)
- Seqwater: <http://seqwater.com.au>

#### South Australia

- SA Water: [www.sawater.com.au/community-and-environment/the-river-murray/river-reports/daily-flow-report](http://www.sawater.com.au/community-and-environment/the-river-murray/river-reports/daily-flow-report)
- South Australian Department of Environment, Water and Natural Resources: [www.environment.sa.gov.au](http://www.environment.sa.gov.au)

#### Victoria

- Goulburn–Murray Water: [www.g-mwater.com.au](http://www.g-mwater.com.au)

### Commodities

#### Fruit and vegetables

- Datafresh: [www.freshstate.com.au](http://www.freshstate.com.au)

#### Pigs

- Australian Pork Limited: [www.australianpork.com.au](http://www.australianpork.com.au)

#### Dairy

- Global Dairy Trade: [www.globaldairytrade.info/en/product-results/](http://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/](http://www.cotlook.com/)

#### World sugar

- New York Stock Exchange - Intercontinental Exchange

#### Wool

- Australian Wool Exchange: [www.awex.com.au/](http://www.awex.com.au/)

#### Domestic wheat, barley, sorghum and canola

- 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](http://www.mla.com.au/Prices-and-market)

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