



Weekly Australian Climate, Water and Agricultural Update

No. 5/2022

10 February 2022

Summary of key issues

- For the week ending 9 February 2022, blocking high-pressure systems to the south of Australia resulted in clear, dry conditions across southern parts of the country. Meanwhile, low-pressure troughs over northern and eastern parts of Australia resulted in significant rainfall (see Section 1.1).
- Recent rainfall across Queensland cropping regions has likely stalled the harvesting of early sown summer crops, especially on the Darling Downs. For late sown crops, especially in Central Queensland, the rainfall has likely supported germination and establishment.
- El Niño-Southern Oscillation (ENSO) indicators suggest that La Niña is currently active in the tropical Pacific. La Niña events are associated with above-average rainfall for northern and eastern Australia during spring and summer. International climate models expect the La Niña event will dissipate over the coming months. Despite the easing of La Niña atmospheric and oceanic patterns, they are likely to continue influencing rainfall patterns in northern and eastern Australia over the coming months (see Section 1.2).
- The outlook for March 2022 indicates that there is a 75% chance of rainfall totals between 10 and 100 millimetres across eastern New South Wales, eastern and northern Queensland, southern Victoria, the north of Western Australia and the Northern Territory, and Tasmania. Rainfall totals in excess of 100 millimetres are expected in parts of north-eastern New South Wales, northern Queensland, the north of the Northern Territory and Western Australia, and western Tasmania. (see Section 1.3).
- The outlook for March to May 2022 suggests there is a 75% chance of rainfall totals between 50 and 200 millimetres across much of eastern New South Wales, eastern and northern Queensland, southern Victoria, southern parts of South Australia, the south-west and far north of Western Australia, northern parts of the Northern Territory and eastern Tasmania. Rainfall totals in excess of 200 millimetres are forecast for north-eastern New South Wales, northern parts of Queensland and the Northern Territory and western Tasmania.
- Over the 8-days to 17 February 2022, rainfall is expected to be restricted to northern, western and isolated areas of eastern Australia. Troughs are expected to bring heavy rain and storms to large areas of Australia's tropical north and the western half of Western Australia, while onshore winds are expected to bring showers along the eastern seaboard. Meanwhile, high pressure systems are expected to bring mostly dry conditions to much of southern and central Australia (see Section 1.4).
- Water storage in the Murray–Darling Basin (MDB) decreased by 240 gigalitres (GL) between 2 February 2022 and 9 February 2022. The current volume of water held in storage is 22,300 GL, which represents 88 of total capacity. This is 61% or 8,420 GL more than at the same time last year.
- Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$85 per ML on 28 January 2022 to \$75 per ML on 4 February 2022. 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

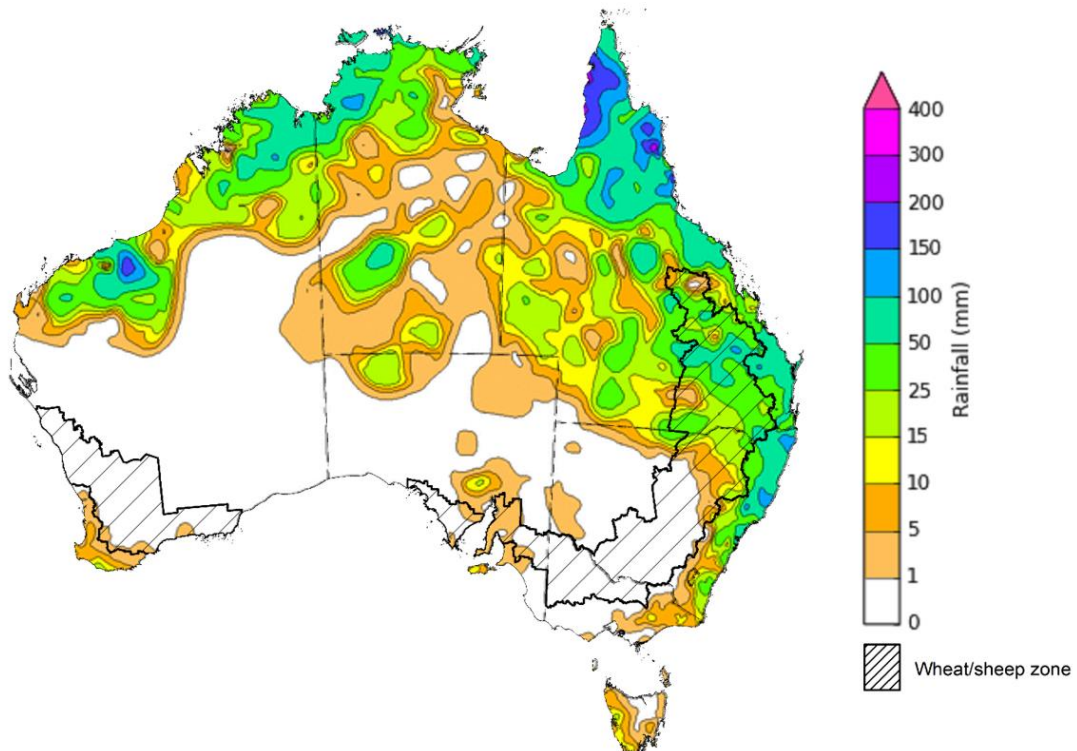
For the week ending 9 February 2022, blocking high-pressure systems to the south of Australia resulted in clear, dry conditions across southern parts of the country. Meanwhile, low-pressure troughs over northern and eastern parts of Australia resulted in significant rainfall.

Rainfall totals of between 10 and 100 millimetres were recorded across parts of eastern New South Wales, much of Queensland, the north of Western Australia and the north and centre of the Northern Territory, as well as isolated parts of Victoria, South Australia and Tasmania. Rainfall totals in excess of 100 millimetres were recorded in north-eastern New South Wales and northern parts of Queensland, Western Australia and the Northern Territory. Remaining parts of New South Wales, Victoria, South Australia and Western Australia received little to no rainfall.

In cropping regions, rainfall totals of between 10 and 100 millimetres were recorded across much of Queensland and parts of north-eastern New South Wales. Little to no rainfall was recorded across cropping regions in remaining parts of New South Wales, as well as Victoria, South Australia and Western Australia.

Recent rainfall across Queensland cropping regions has likely stalled the harvesting of early sown summer crops, especially on the Darling Downs. However, given the dry conditions through much of January, the recent rainfall is unlikely to have caused significant damage to mature crops. For late sown crops, especially in Central Queensland, the rainfall has likely supported germination and establishment.

Rainfall for the week ending 9 February 2022



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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

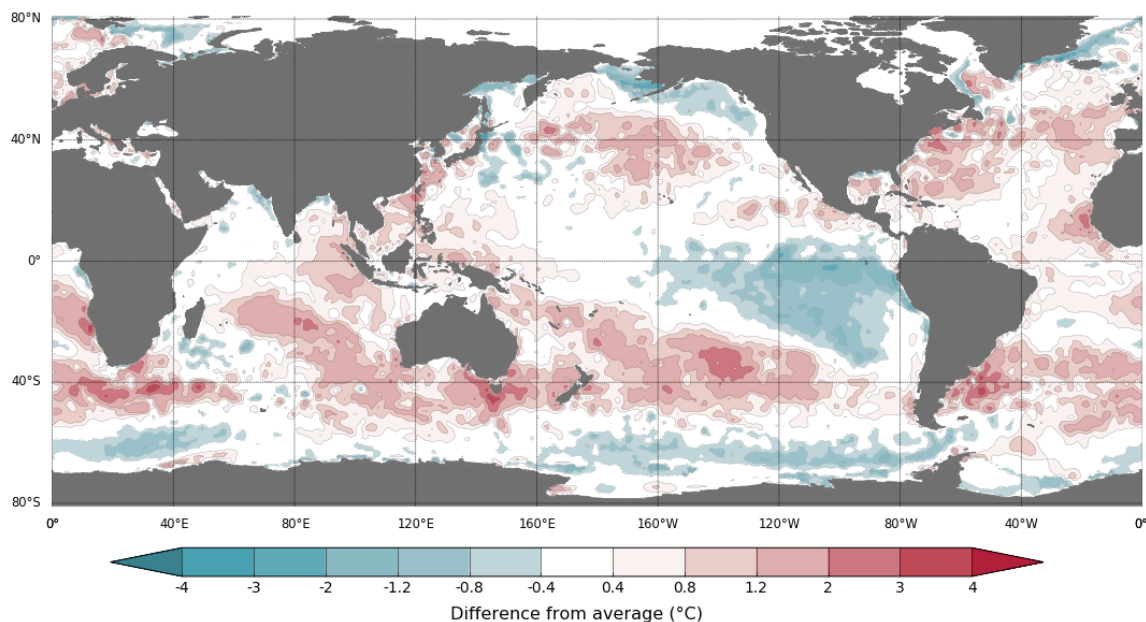
Throughout summer the climate drivers with the largest potential impact on Australia’s climate patterns are the El Niño–Southern Oscillation (ENSO), the Southern Annular Mode (SAM) and the Madden-Julian Oscillation (MJO). These climate drivers are likely to influence the growth and development of summer crops in northern growing regions and pasture growth across northern Australia with the northern wet season.

ENSO indicators suggest that La Niña is currently active in the tropical Pacific. La Niña events are associated with above-average rainfall for northern and eastern Australia during spring and summer. International climate models expect the La Niña event will dissipate over the coming months. For 2021-22 to be considered a La Niña year, the event must remain active for at least three months. Despite the easing of La Niña atmospheric and oceanic patterns, they are likely to continue influencing rainfall patterns in northern and eastern Australia over the coming months.

The SAM has recently returned to positive values and expected to remain positive over the next two to three weeks. 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. During summer, a positive SAM is associated with above average rainfall for eastern parts of Australia at this time of year, as well as below average rainfall for south-westerly exposed coastal areas.

Below average sea surface temperature (SST) anomalies have persisted in the central and eastern tropical Pacific Ocean over the past two weeks. SST in the equatorial Pacific are expected to begin warming as sub-surface waters become warmer. Current SST anomalies reflect typical La Niña patterns, with below average SST along the equator, and warm SST anomalies to the north and south. Despite the easing of negative Indian Ocean Dipole (IOD) conditions, warm SST anomalies persist to the north-west of Australia.

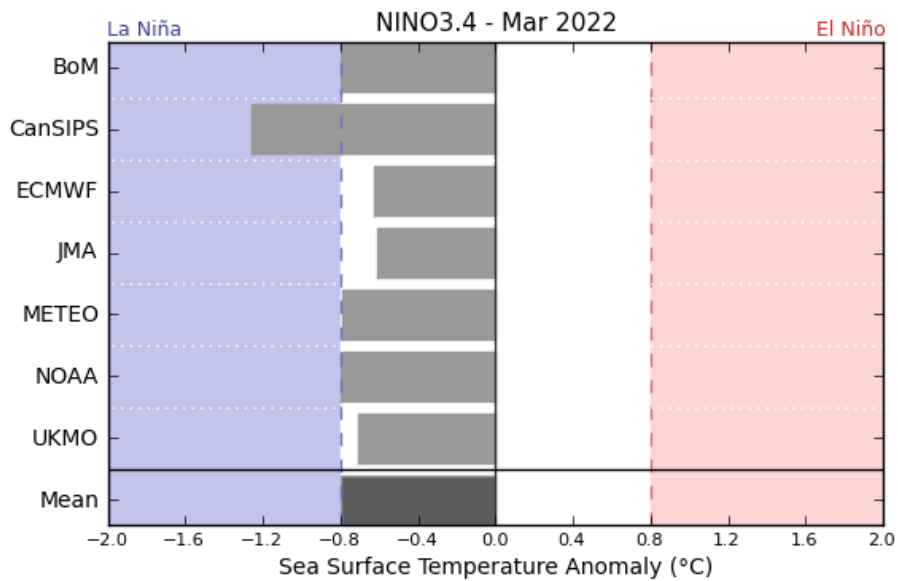
Difference from average sea surface temperature observations 24 to 30 January 2022



Data: BOM SST
Climatology baseline: 1961 to 1990
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Weekly average: 30 January 2022
Created: 31/01/2022
<http://www.bom.gov.au/climate>

International climate model outlooks for the NINO 3.4 region in March 2022

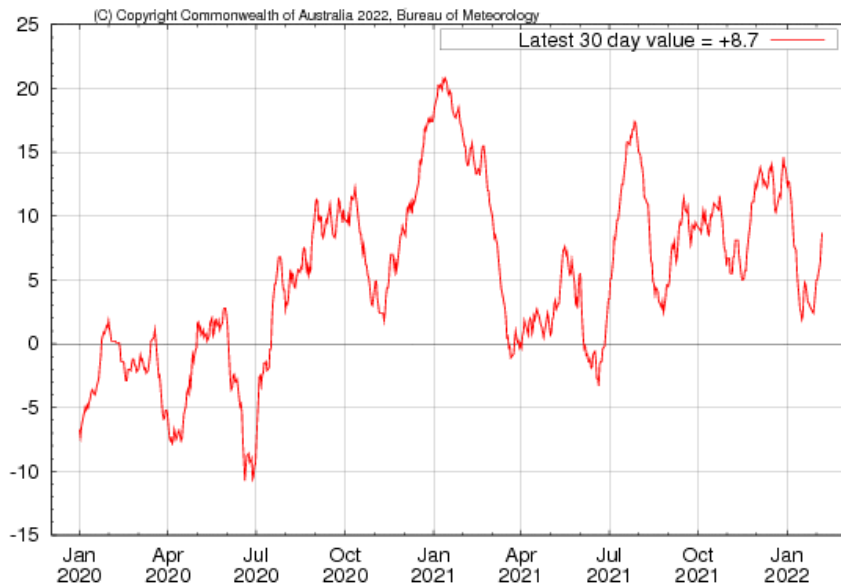


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A La Niña event is currently at or near its peak in the Pacific Ocean. Most climate models surveyed by the Bureau of Meteorology expect the La Niña event to dissipate in early Autumn, with only two of the seven models expecting it to remain active in April 2022. ENSO events typically decay and return to neutral conditions in Autumn. For the period ending 7 February 2022, the 30-day SOI was +8.7. For the period ending 30 January 2022, the 90-SOI was +9.6, both above the La Niña threshold of +7. Above average SST anomalies have continued across parts of the Maritime Continent and northern Australia. Trade winds across the western tropical Pacific have remained stronger than average, while cloudiness near the Date Line has been consistently below average since June 2021. These indications are consistent with the ongoing La Niña event.

30-day Southern Oscillation Index (SOI) values ending 7 February 2022



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.

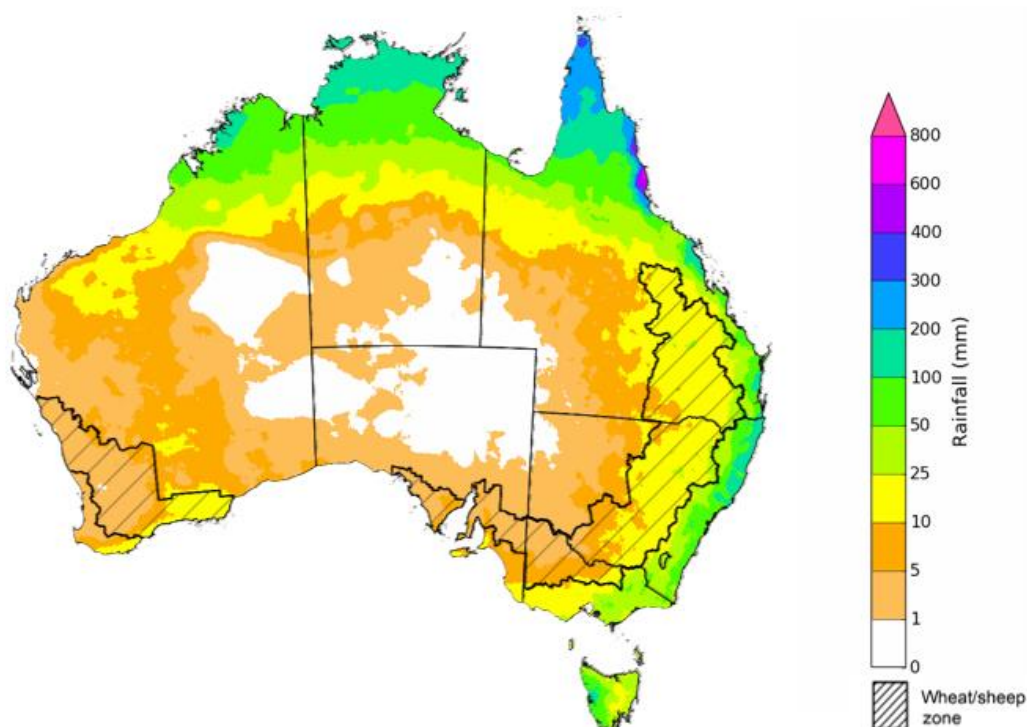
For further information, go to <http://www.bom.gov.au/climate/ahead/about/>

The Bureau of Meteorology's latest rainfall outlook indicated wetter than average conditions are expected across eastern parts of Australia during March. The ACCESS-S climate model suggests there is close to a 55% chance of exceeding median March rainfall totals across much of eastern Australia.

The outlook for March 2022 indicates that there is a 75% chance of rainfall totals between 10 and 100 millimetres across eastern New South Wales, eastern and northern Queensland, southern Victoria, the north of Western Australia and the Northern Territory, and Tasmania. Rainfall totals in excess of 100 millimetres are expected in parts of north-eastern New South Wales, northern Queensland, the north of the Northern Territory and Western Australia, and western Tasmania.

Across cropping regions there is a 75% chance of rainfall totals of between 10 and 50 millimetres across most of New South Wales, Queensland and eastern parts of Western Australia. There is a 75% chance of rainfall less than 10 millimetres for most of Victoria, South Australia and remaining parts of Western Australia. The wetter than average conditions expected for most eastern Australian cropping regions is likely to support the growth and development of late-sown summer crops but may interfere with the harvesting of early-sown crops in New South Wales and Queensland.

Rainfall totals that have a 75% chance of occurring March 2022



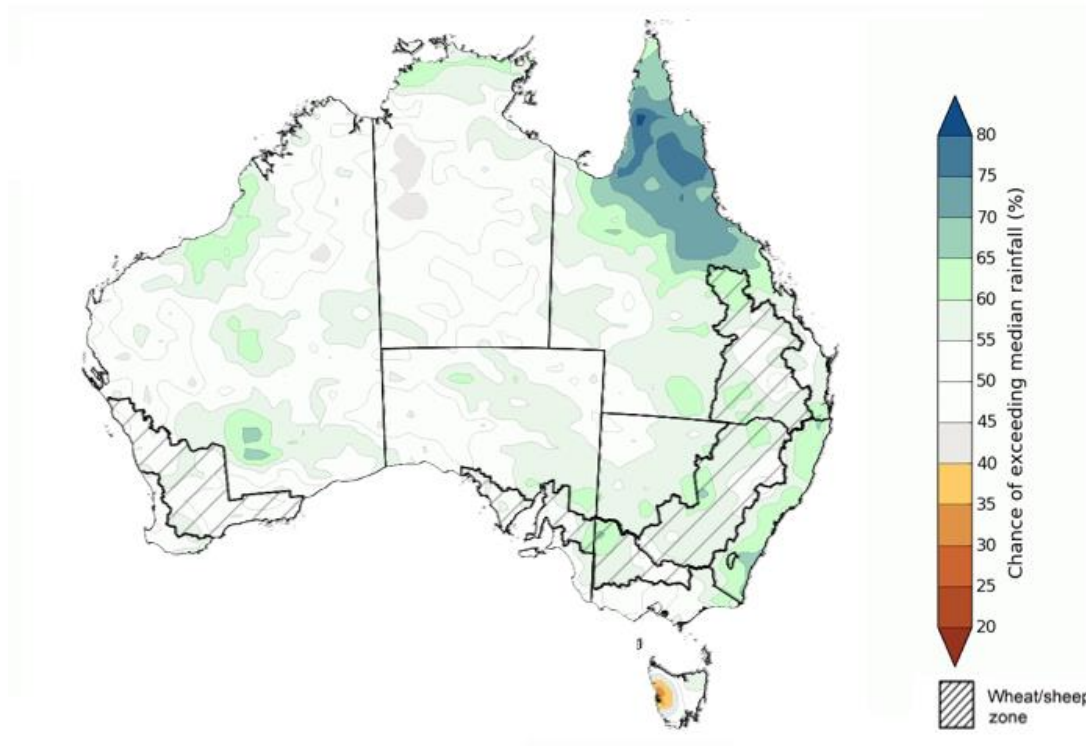
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Issued: 3/2/2022

The rainfall outlook for March to May 2022 suggests there is a greater than 55% chance of exceeding median rainfall across much of New South Wales and Queensland, and parts of Victoria, South Australia, Western Australia and the far north of the Northern Territory. For much of northern Queensland, there is a greater than 70% chance of exceeding median rainfall. For remaining regions of Australia, there is roughly an equal chance of above and below median rainfall, with only isolated areas western Tasmania expecting to receive below average rainfall between March and May 2022 (Bureau of Meteorology 'National Climate Outlook', 3 February 2022).

Bureau of Meteorology rainfall outlooks for March to May have greater than 55% past accuracy across most of eastern and central Australia. Outlook accuracy is greater than 65% across isolated parts of the country. However, there is low past accuracy for parts of north-western New South Wales, western Queensland, the north-east and north-west of South Australia, as well as large areas in southern parts of Western Australia.

Chance of exceeding the median rainfall March to May 2022



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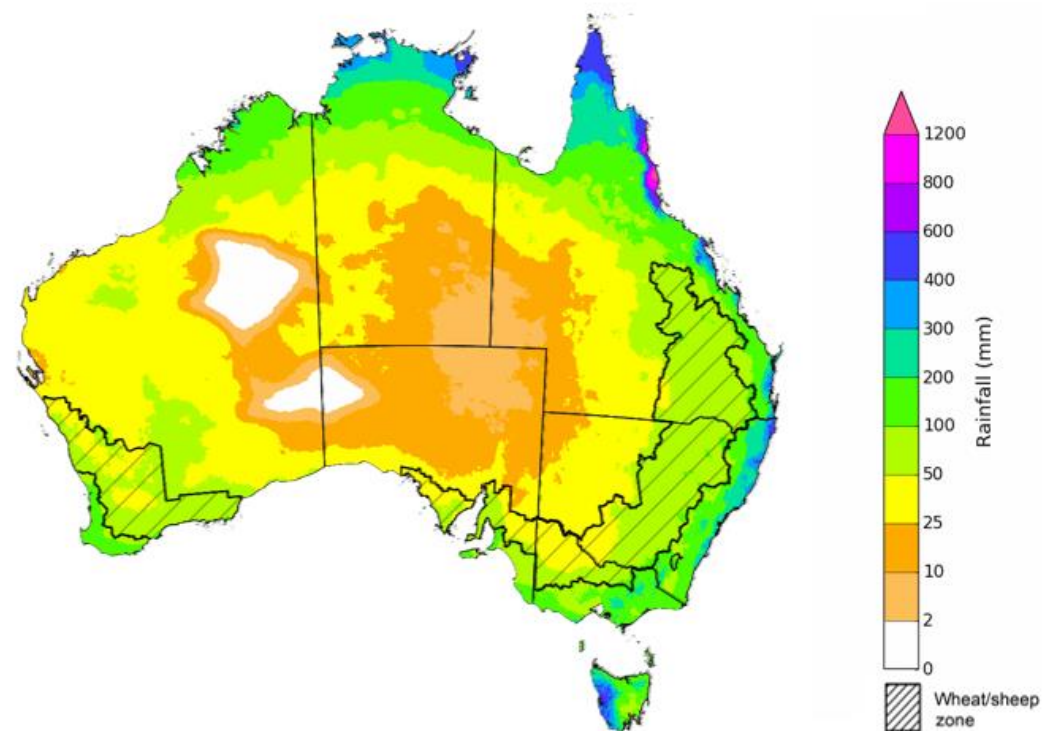
Issued: 3/2/2022

The outlook for March to May 2022 suggests there is a 75% chance of rainfall totals between 50 and 200 millimetres across much of eastern New South Wales, eastern and northern Queensland, southern Victoria, southern parts of South Australia, the south-west and far north of Western Australia, northern parts of the Northern Territory and eastern Tasmania. Rainfall totals in excess of 200 millimetres are forecast for north-eastern New South Wales, northern parts of Queensland and the Northern Territory and western Tasmania.

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

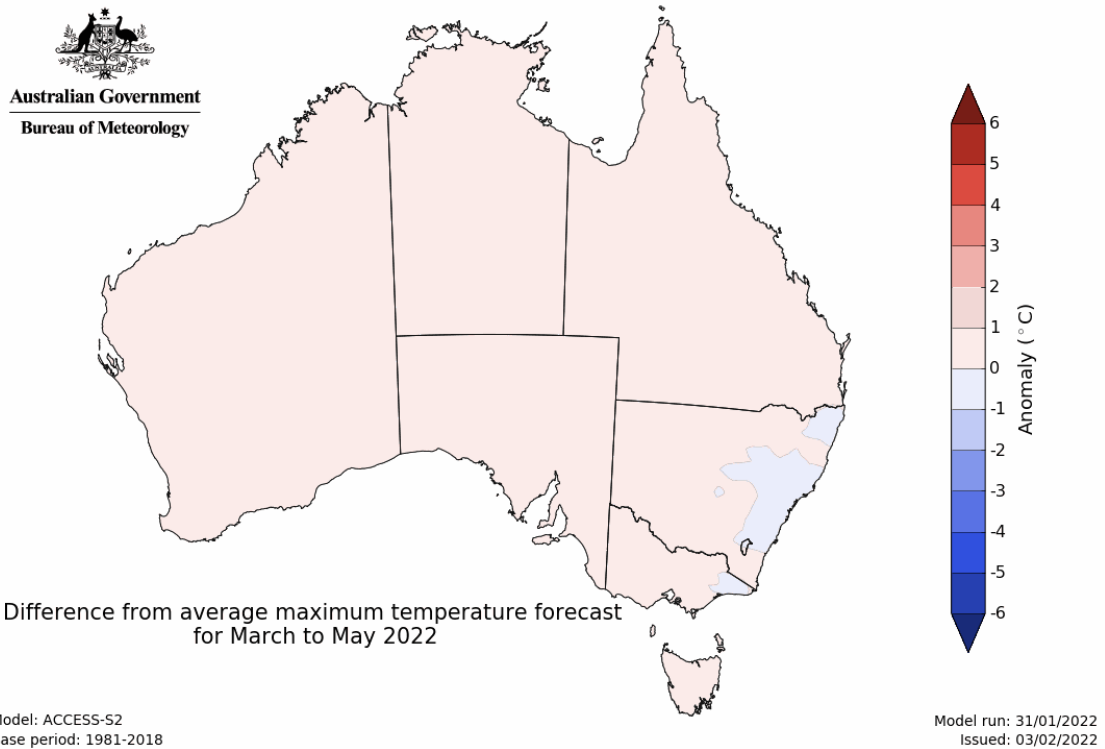
These rainfall totals are slightly below average to average for this three-month period across most New South Wales and Queensland cropping regions, and slightly below average for cropping regions in Victoria, South Australia and Western Australia. Following a relatively dry January, upper layer soil moisture levels are below average to average across summer cropping regions in New South Wales and Queensland, which may impede germination and establishment of late sown summer crops. Lower soil moisture levels, on the other hand, are above average to average across summer cropping regions, which will support yield potentials of earlier sown crops. For both early and late sown summer crops, more rainfall will be required over the coming weeks to support ongoing development and yield potentials.

Rainfall totals that have a 75% chance of occurring March to May 2022

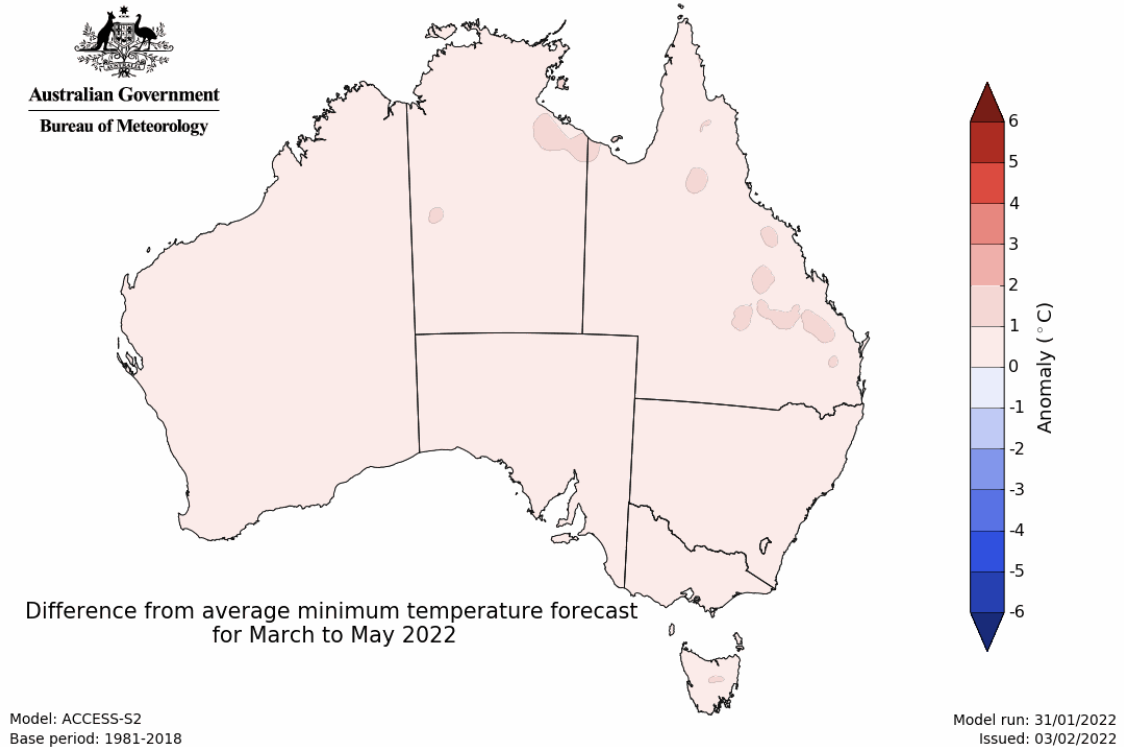


The temperature outlook for March to May 2022 indicates that maximum temperatures across most of Australia are likely to be close to the 1990-2012 average (- 1°C to 1°C). Minimum temperatures are expected to be slightly above average for parts of Queensland and the Northern Territory, and close to average for the rest of Australia (Bureau of Meteorology 'National Climate Outlook', 3 February 2022).

Predicted maximum temperature anomaly for March to May 2022



Predicted minimum temperature anomaly for March to May 2022



1.4. Rainfall forecast for the next eight days

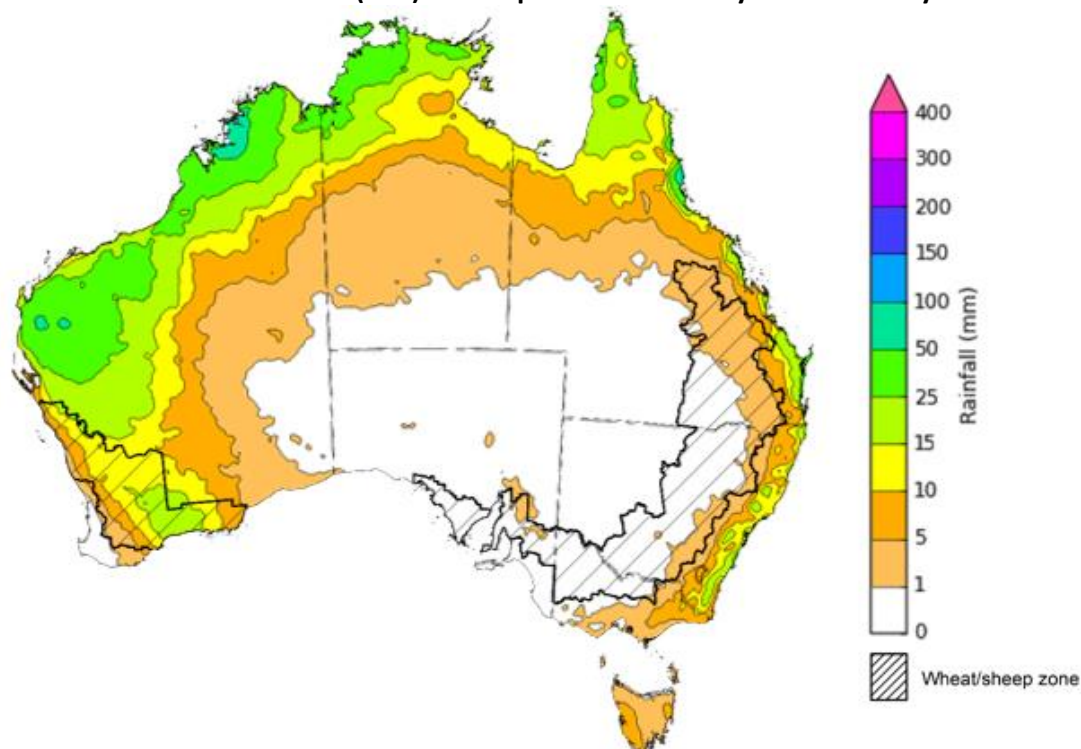
Over the 8-days to 17 February 2022, rainfall is expected to be restricted to northern, western and isolated areas of eastern Australia. Troughs are expected to bring heavy rain and storms to large areas of Australia's tropical north and the western half of Western Australia, while onshore winds are expected to bring showers along the eastern seaboard. Meanwhile, high pressure systems are expected to bring mostly dry conditions to much of southern and central Australia.

Rainfall totals of between 10 and 25 millimetres are forecast for the far east of New South Wales and Victoria, as well as parts of eastern and northern Queensland, the north and west of Western Australia and the north of the Northern Territory. Rainfall in excess of 25 millimetres is expected across parts of the north of Western Australia and the Northern Territory, and scattered areas of northern and eastern Queensland.

In Australian cropping regions, rainfall totals of between 10 and 25 millimetres are expected across as most of Western Australia. Little to no rainfall is forecast for all remaining cropping regions during the next 8-days.

While little or no rainfall is expected across most summer cropping regions, soil moisture levels through the entire rootzone remain average to above average which will continue to support above average production prospects. The heavy rainfall forecast for much of Northern Australia will continue to boost pasture growth rates during this peak production season, and in the west of Australia it will build soil moisture levels following below average rainfall during the last 3-months.

Total forecast rainfall (mm) for the period 10 February to 17 February 2022



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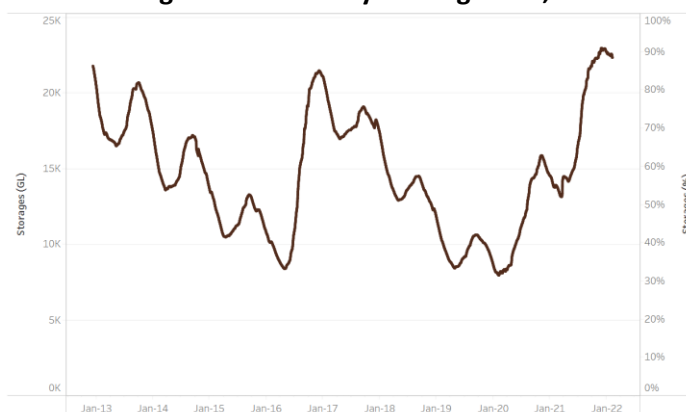
Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

2. Water

2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) decreased by 240 gigalitres (GL) between 2 February 2022 and 9 February 2022. The current volume of water held in storage is 22,300 GL, which represents 88 of total capacity. This is 61% or 8,420 GL more than at the same time last year.

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

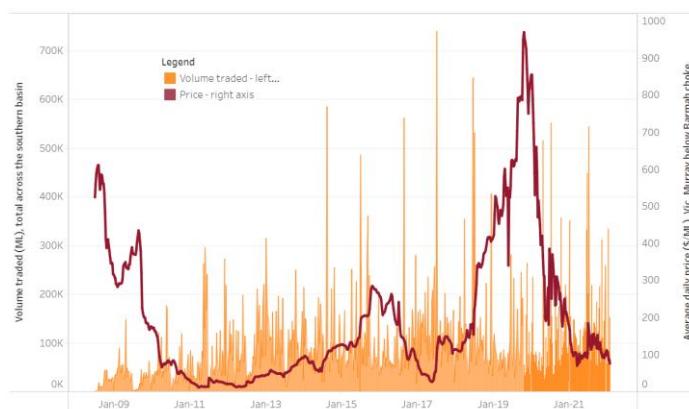


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$85 per ML on 28 January 2022 to \$75 per ML on 4 February 2022. 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.

Region	\$/ML
NSW Murray Above	36
NSW Murrumbidgee	29
VIC Goulburn-Broken	63
VIC Murray Below	75

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 9 February 2022.

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-100222

3. Commodities

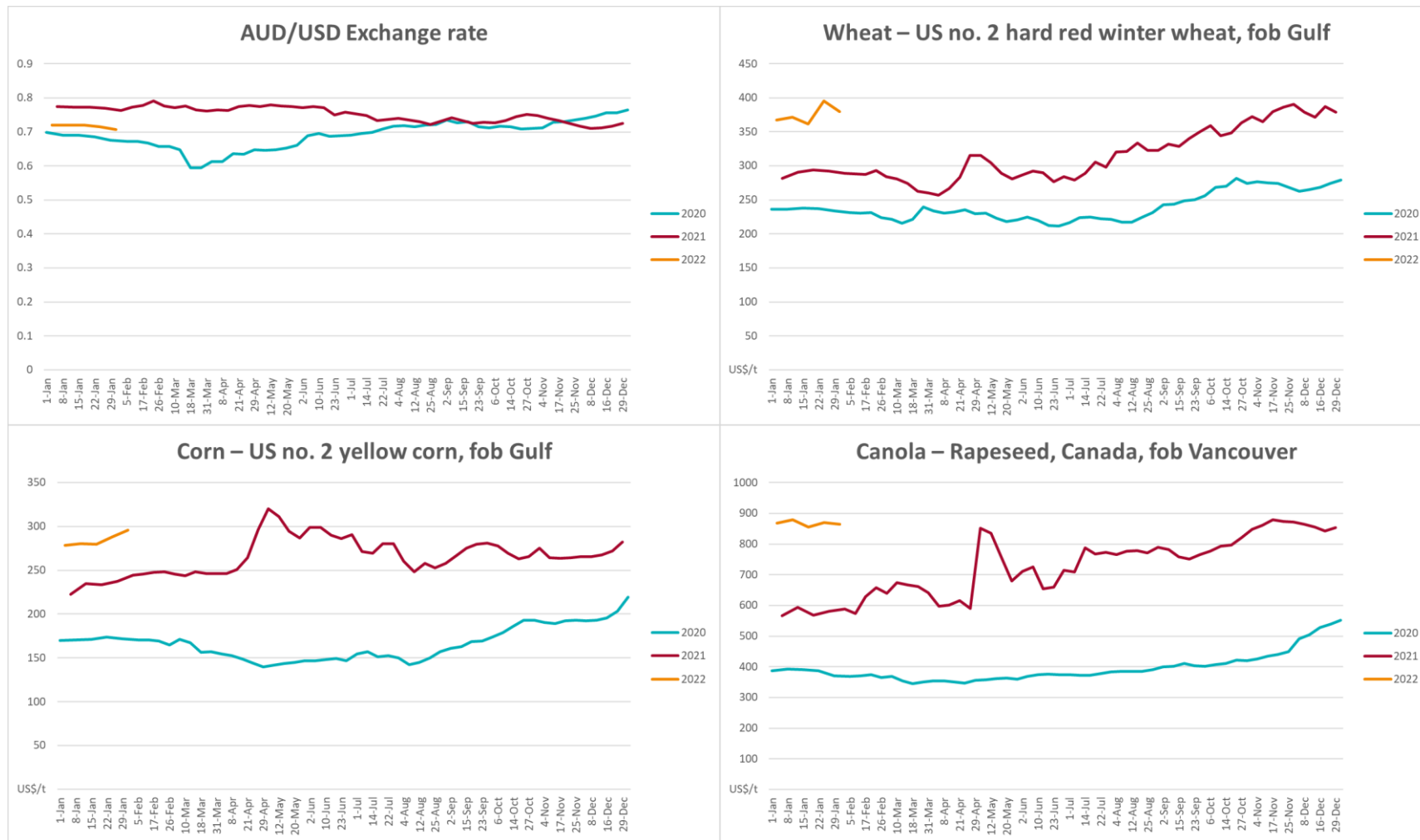
Due to technical issues the commodity prices and charts have not been updated this week. These will be updated in the next edition of ABARES Weekly Australian Climate, Water and Agricultural Update.

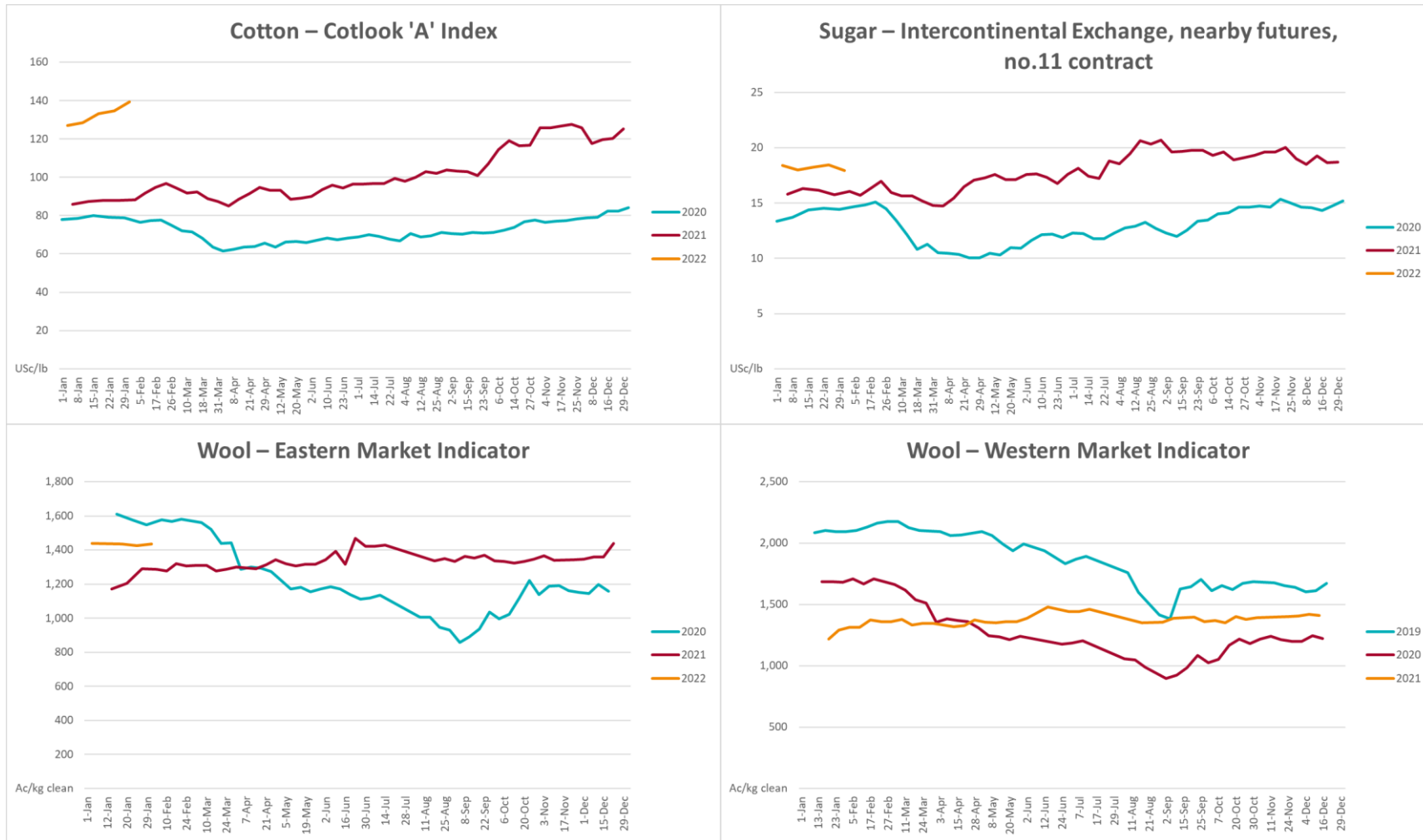
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	02-Feb	A\$/US\$	0.71	0.72	-1%	0.77	-8%
Wheat – US no. 2 hard red winter wheat, fob Gulf	02-Feb	US\$/t	380	395	-4%	288	32%
Corn – US no. 2 yellow corn, fob Gulf	02-Feb	US\$/t	296	288	3%	246	20%
Canola – Rapeseed, Canada, fob Vancouver	02-Feb	US\$/t	864	869	-1%	574	51%
Cotton – Cotlook 'A' Index	02-Feb	USc/lb	139	135	4%	92	52%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	02-Feb	USc/lb	17.9	18.5	-3%	16	14%
Wool – Eastern Market Indicator	02-Feb	Ac/kg clean	1,436	1,426	1%	1,150	25%
Wool – Western Market Indicator	15-Dec	Ac/kg clean	1,408	1,417	-1%	984	43%
Selected Australian grain export prices							
Milling Wheat – APW, Port Adelaide, SA	02-Feb	A\$/t	491	482	2%	355	38%
Feed Wheat – ASW, Port Adelaide, SA	02-Feb	A\$/t	461	452	2%	351	31%
Feed Barley – Port Adelaide, SA	02-Feb	A\$/t	387	379	2%	308	26%
Canola – Kwinana, WA	02-Feb	A\$/t	986	960	3%	693	42%
Grain Sorghum – Brisbane, QLD	02-Feb	A\$/t	367	367	0%	389	-6%
Selected domestic livestock indicator prices							
Beef – Eastern Young Cattle Indicator	02-Feb	Ac/kg cwt	1,121	1,170	-4%	866	30%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	02-Feb	Ac/kg cwt	564	576	-2%	586	-4%
Lamb – Eastern States Trade Lamb Indicator	02-Feb	Ac/kg cwt	873	834	5%	790	10%
Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers	26-Jan	Ac/kg cwt	357	357	0%	309	16%
Goats – Eastern States (12.1–16 kg)	19-Jan	Ac/kg cwt	879	879	0%	818	8%
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	22-Sep	\$/head	147	171	-14%	126	17%

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	02-Feb	US\$/t	4,324	4,082	6%	3,099	40%
Dairy – Skim milk powder	02-Feb	US\$/t	4,051	3,963	2%	2,867	41%
Dairy – Cheddar cheese	02-Feb	US\$/t	5,684	5,546	2%	4,015	42%
Dairy – Anhydrous milk fat	02-Feb	US\$/t	6,800	6,720	1%	4,929	38%

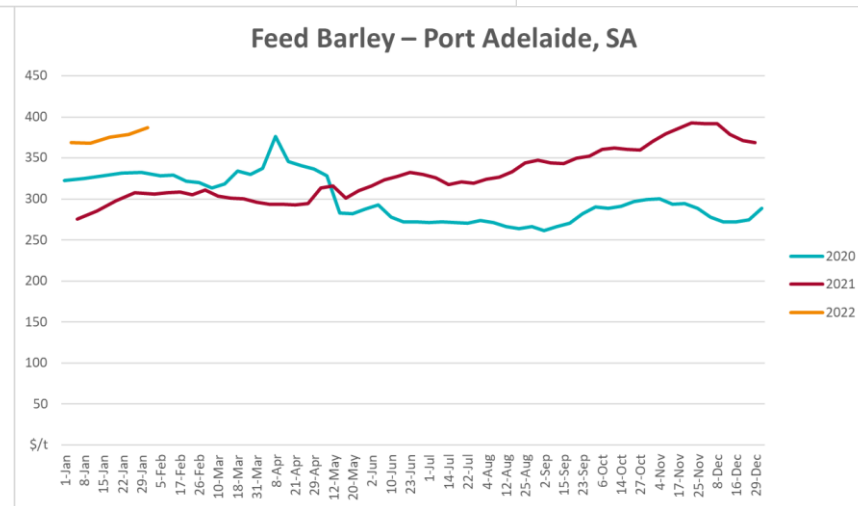
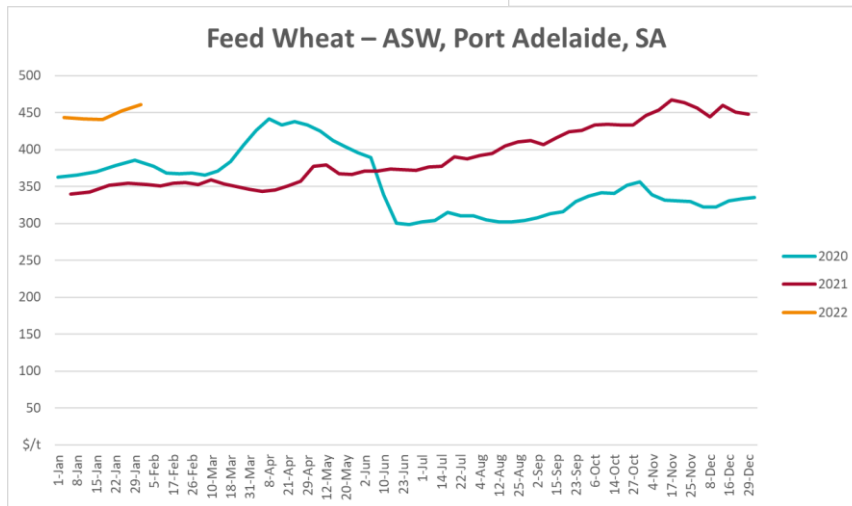
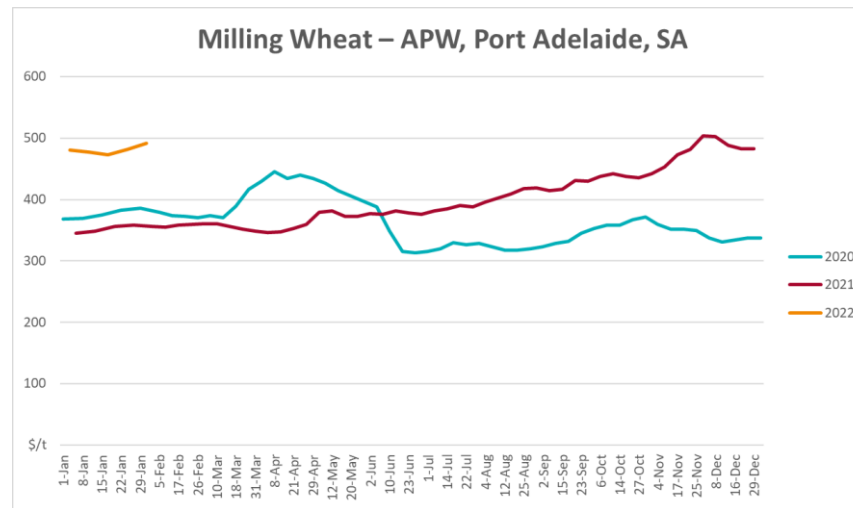
^a Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

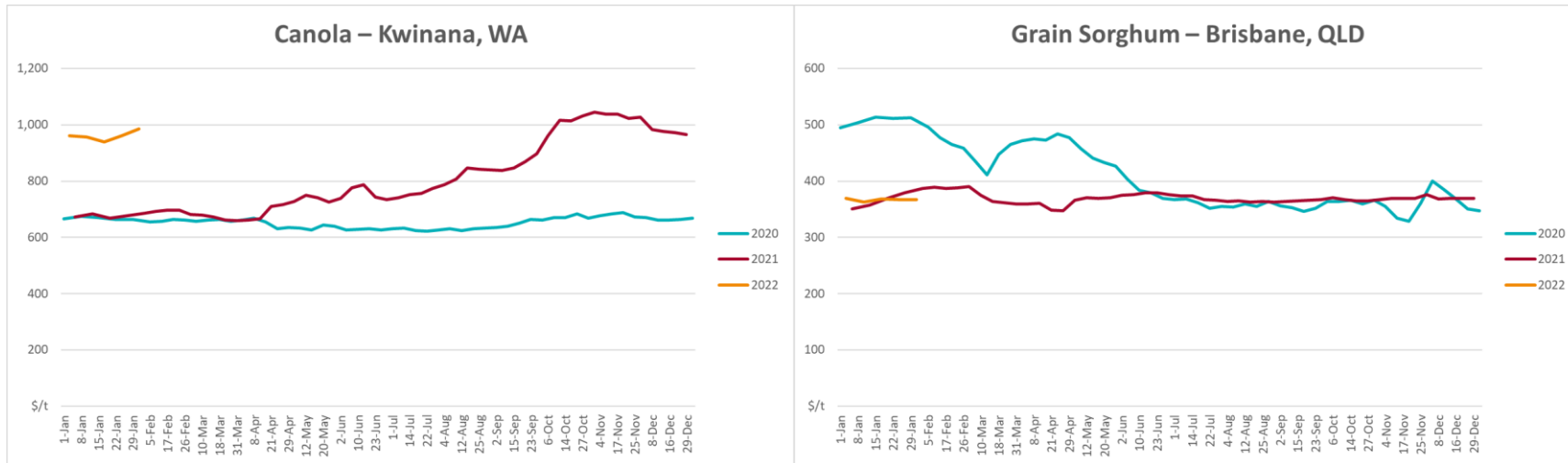
3.1. Selected world indicator prices



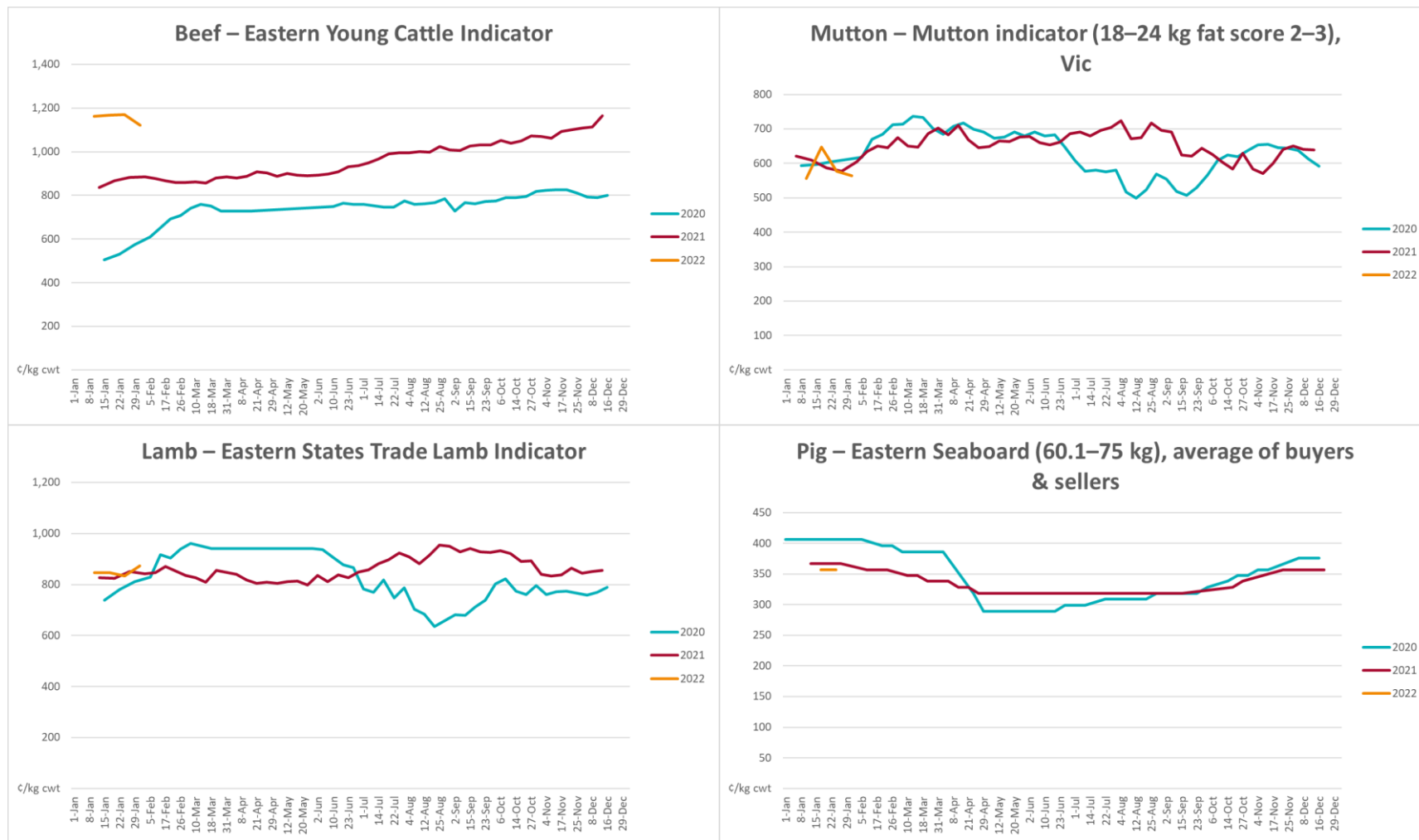


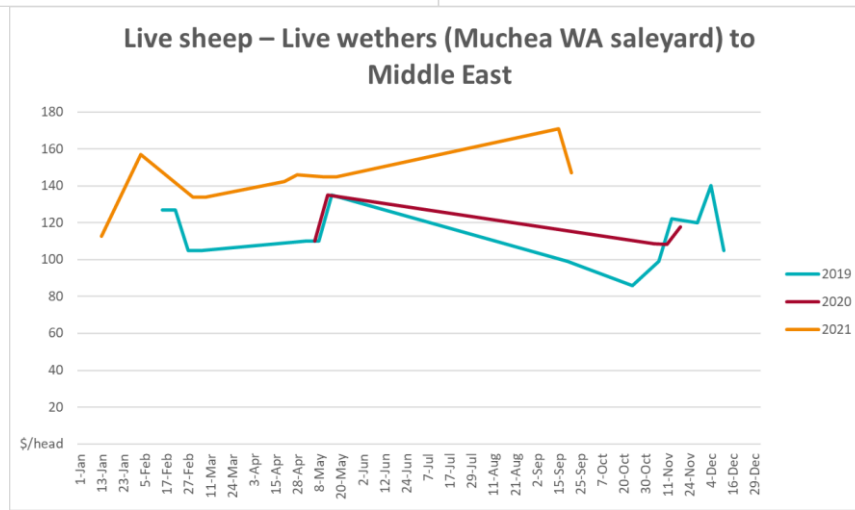
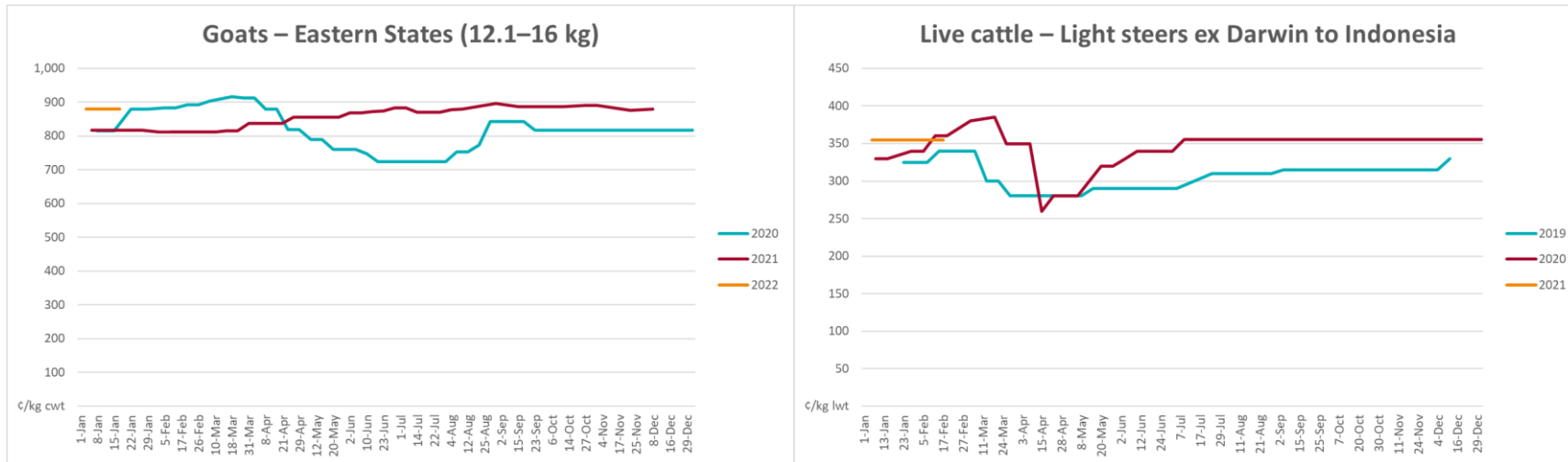
3.2. Selected domestic crop indicator prices



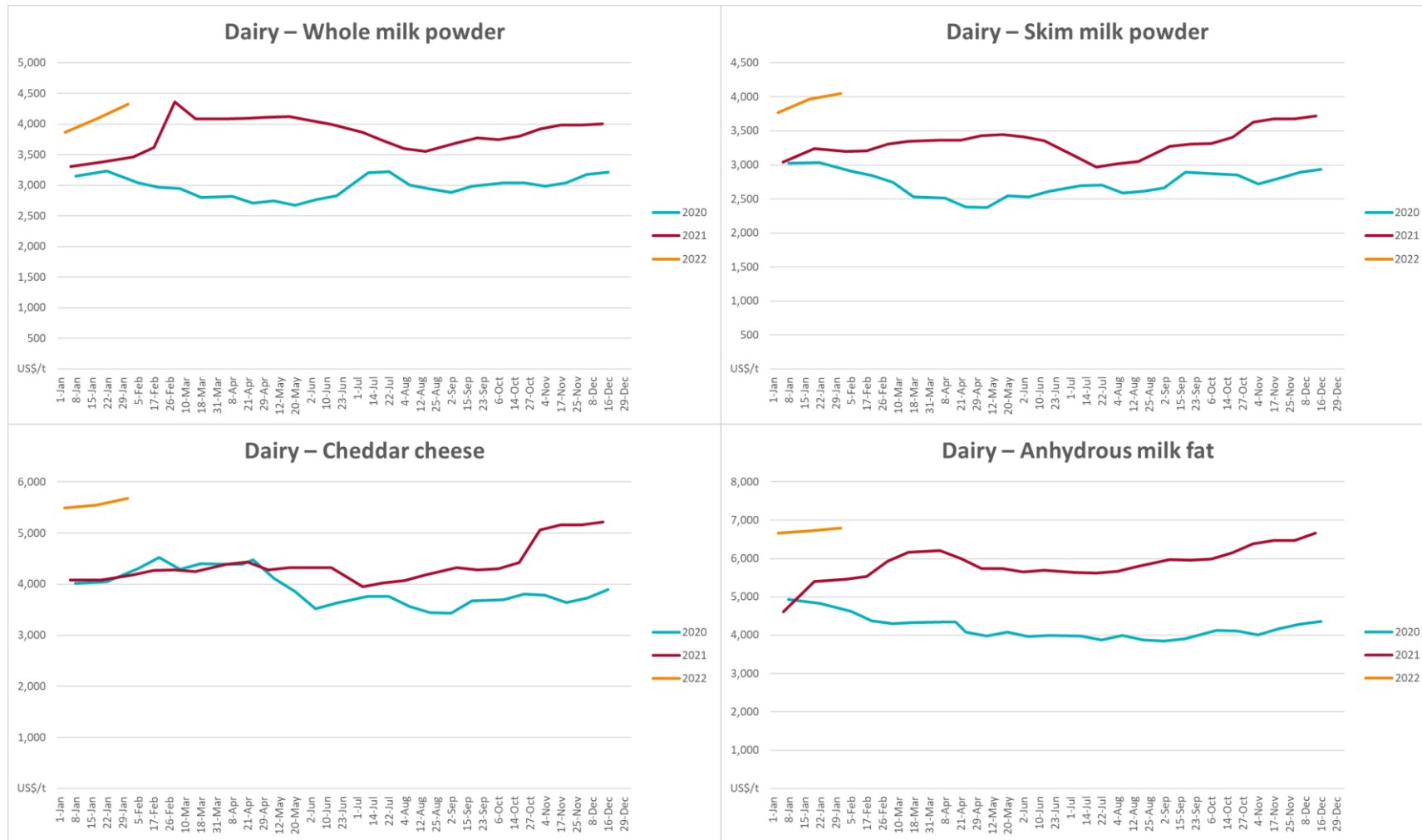


3.3. Selected domestic livestock indicator prices

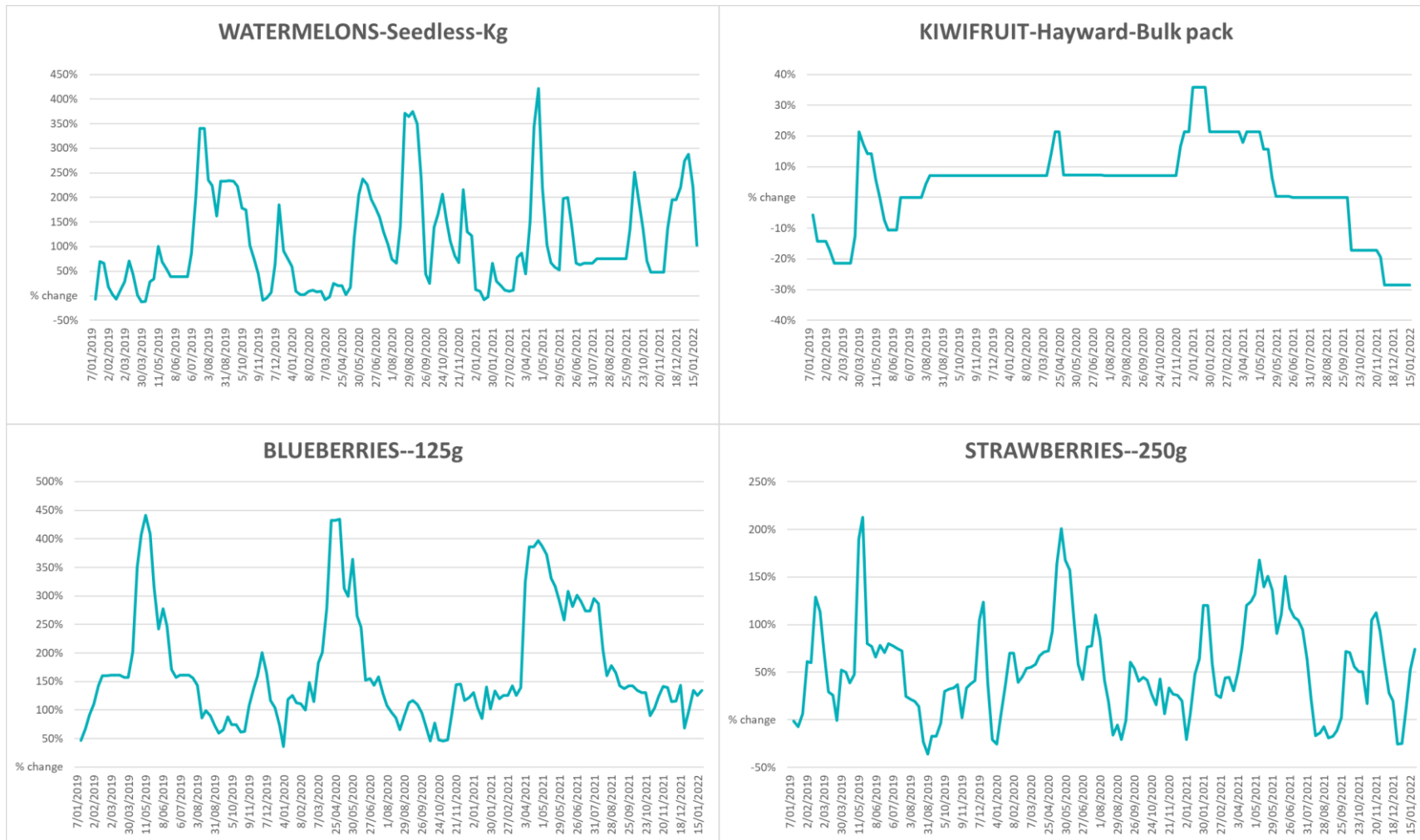


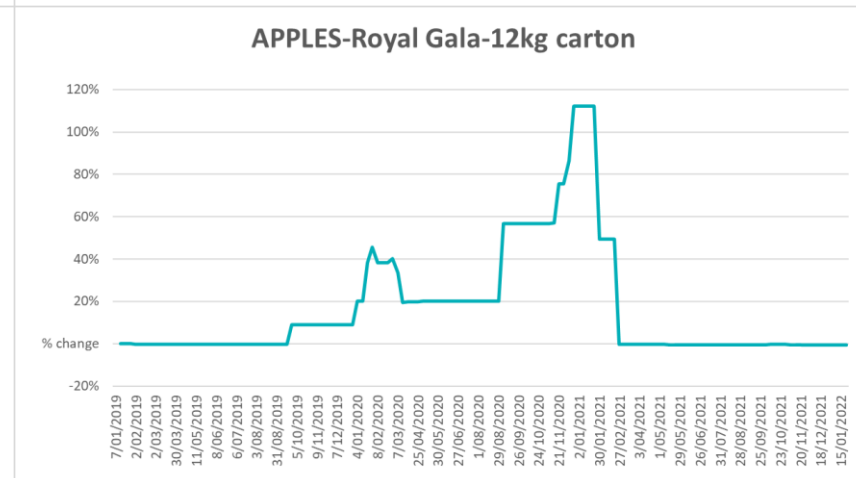
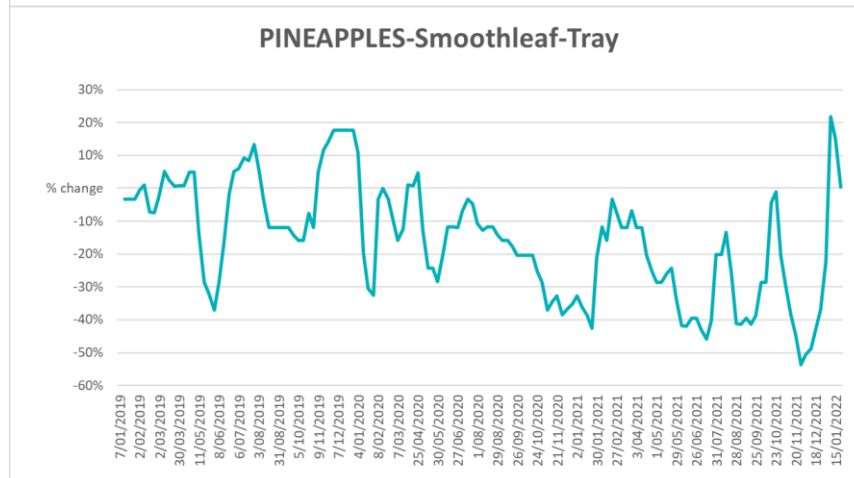
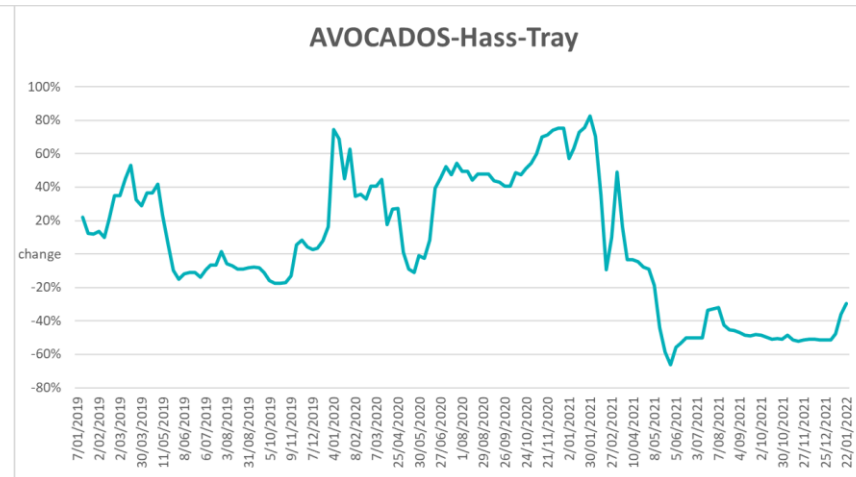
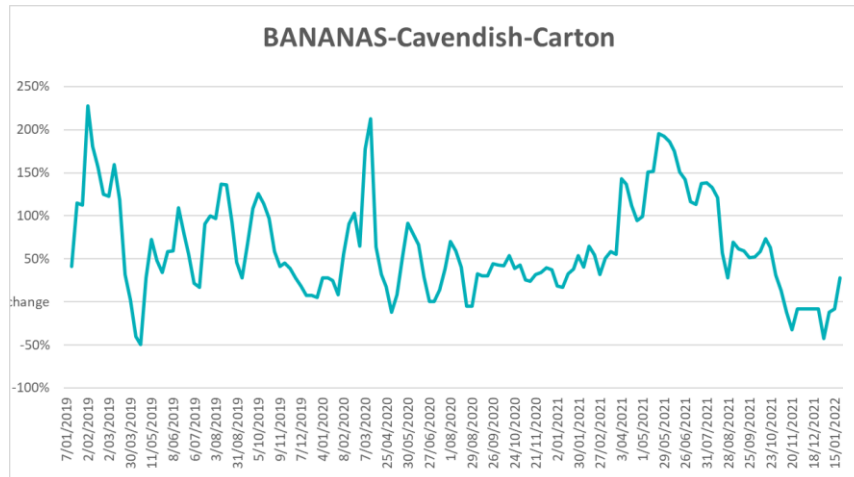


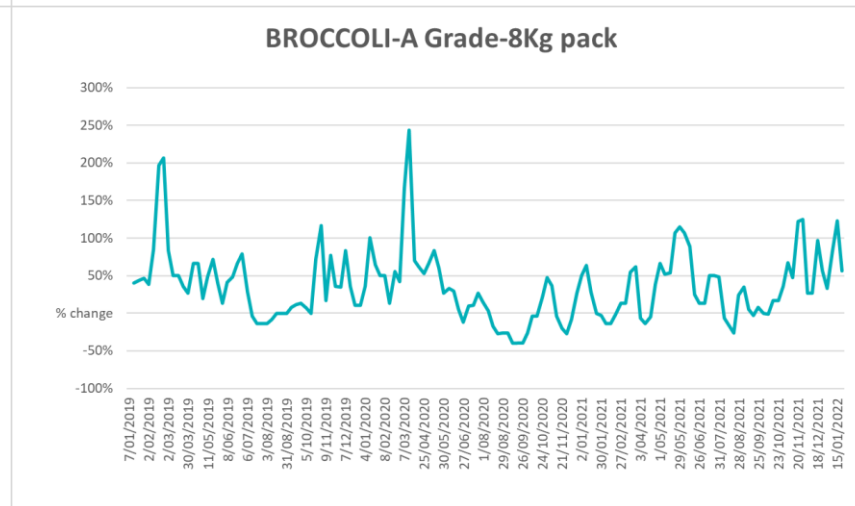
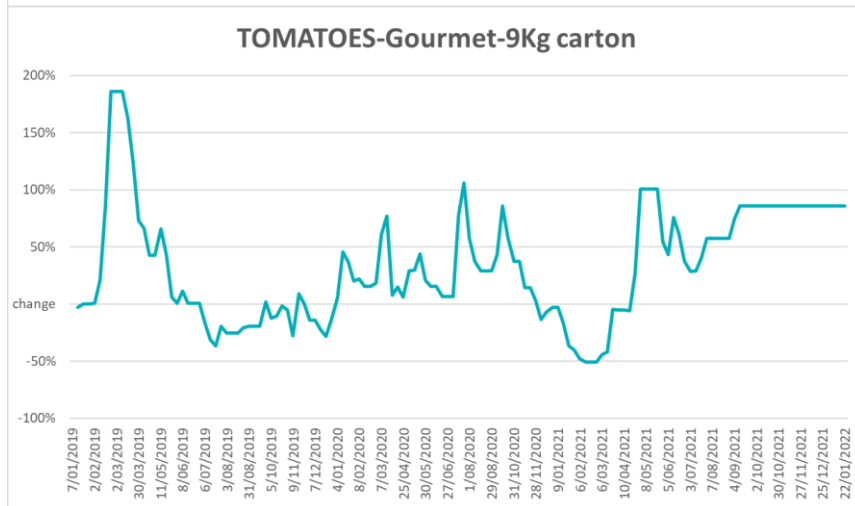
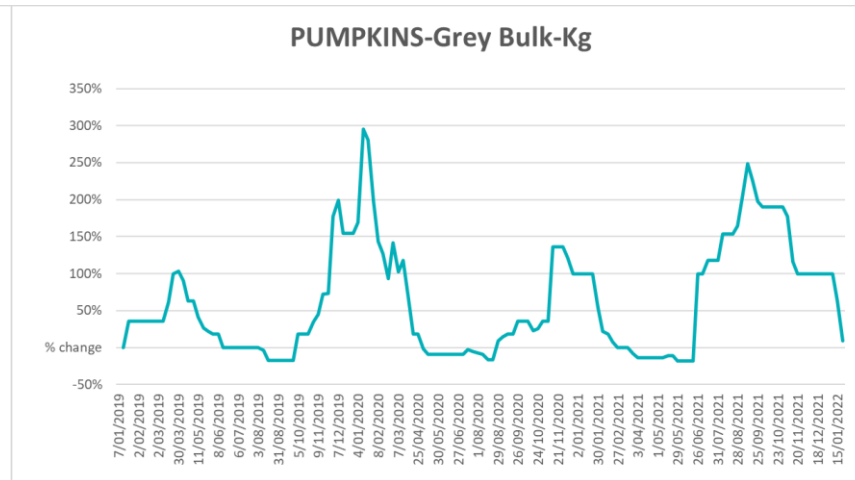
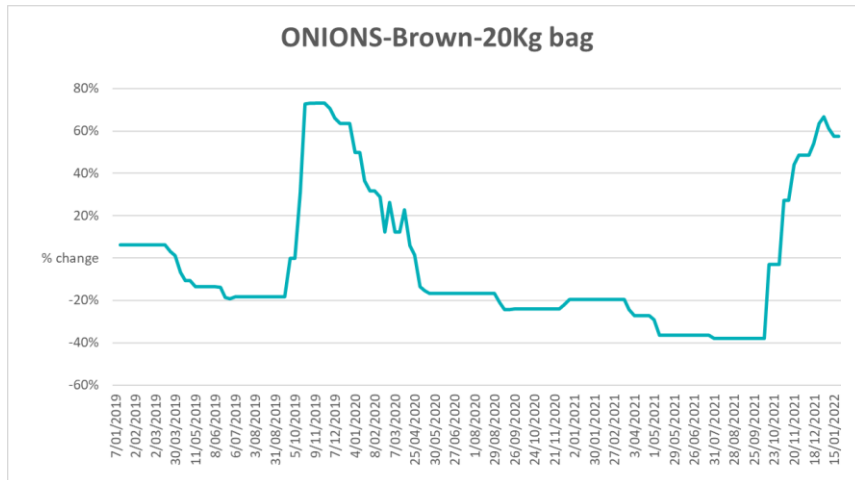
3.4. Global Dairy Trade (GDT) weighted average prices



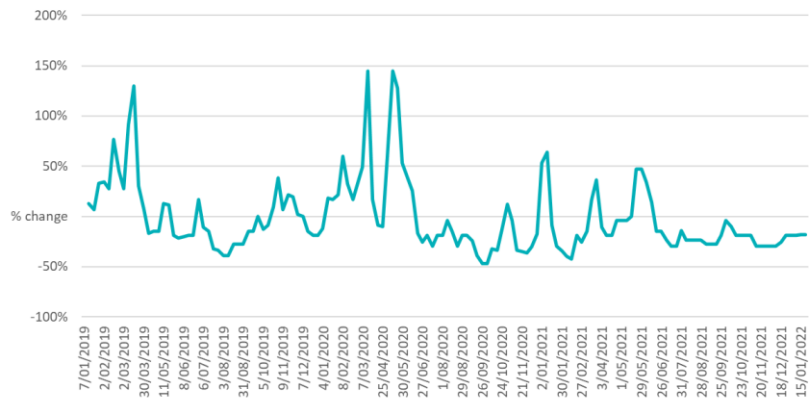
3.5. Selected fruit and vegetable prices



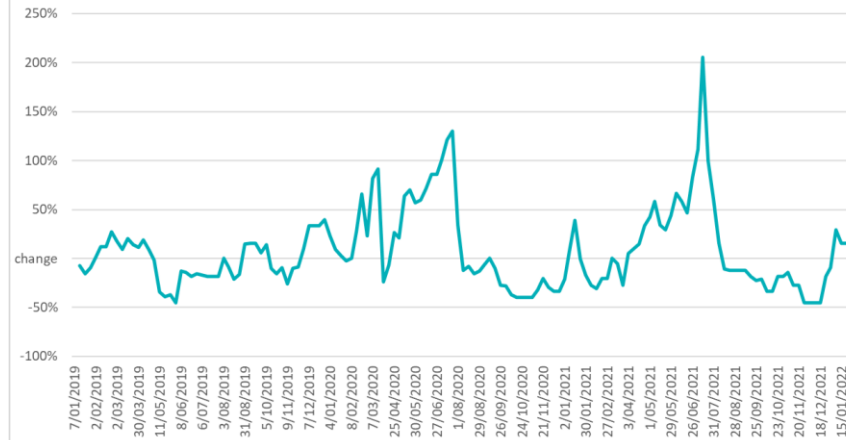




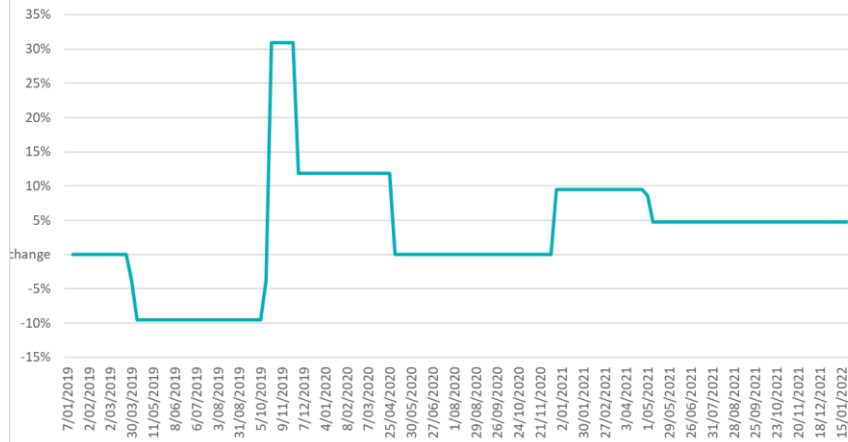
CAULIFLOWERS--Carton



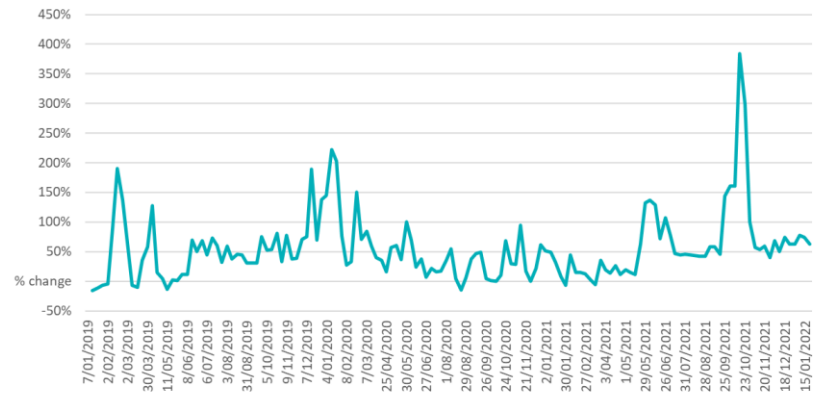
LETTUCE-Iceberg-Carton



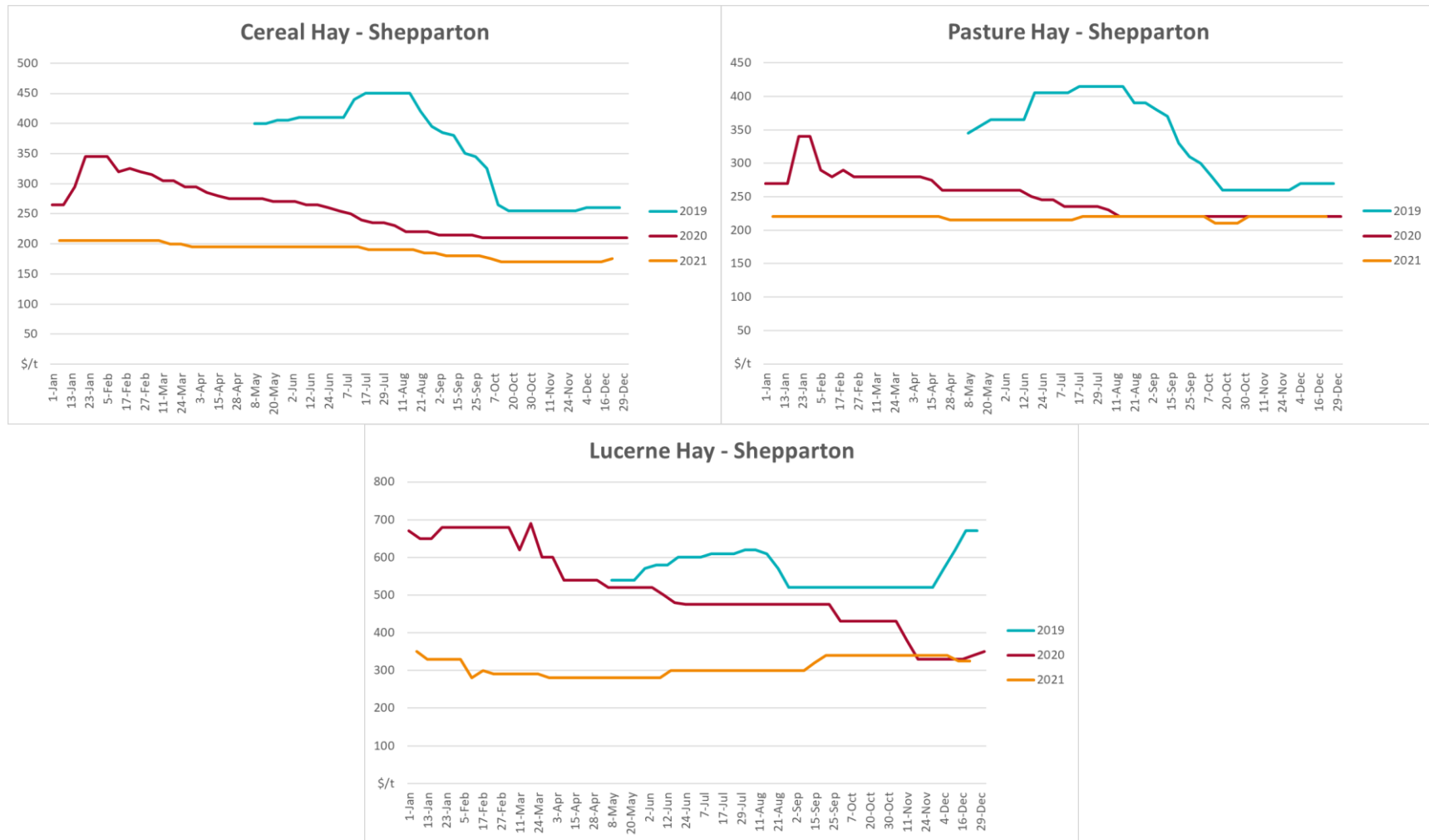
POTATOES-Brushed White-20Kg bag



BEANS-Round Stemless-Kg



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/mbd/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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