



Weekly Australian Climate, Water and Agricultural Update

No. 14/2022

14 April 2022

Summary of key issues

- For the week ending 13 April 2022, a low-pressure trough and easterly winds brought rainfall to eastern Australia, with thunderstorms and heavy falls from south-central Queensland to south-eastern New South Wales. Low pressure systems also brought falls to parts of northern and south-western Australia, while high pressure systems resulted in clear, dry conditions for much of central and southern Australia (see Section 1.1).
- Harvesting of early sown summer crops are likely to have been delayed further due to rainfall across parts of northern New South Wales and southern Queensland. Meanwhile, cotton harvesting in Central Queensland is reported to have continued with the clear, dry conditions over the past week. In southern New South Wales, rice harvesting is well under way, with above average yields being recorded. Although there is plenty of summer crop yet to harvest, recent rainfalls across eastern and western cropping regions are providing ideal soil moisture conditions to start the winter cropping season. Many regions have received sufficient rainfall to classify as an autumn break, and planting activity is likely to increase over the coming weeks.
- A La Niña remains active in the tropical Pacific according to atmospheric and oceanic indicators. However, La Niña events typically decay throughout autumn, with a return to neutral conditions currently expected in late autumn to early winter. La Niña events are associated with above average rainfall across large parts of eastern Australia during autumn, as well as the increased likelihood of tropical cyclones within the Australian region. Even as the event weakens, it is expected to continue influencing climate patterns in Australia over the coming months (see Section 1.2).
- The outlook for May 2022 indicates that there is a 75% chance of rainfall totals between 10 and 50 millimetres across eastern New South Wales, scattered areas of Queensland, Victoria, southern South Australia, the far-southwest of Western Australia and Tasmania. Rainfall totals in excess of 100 millimetres are expected in parts of northern Queensland and western Tasmania (see Section 1.3).
- Over the 8-days to 21 April 2022, troughs and low-pressure systems are expected to bring rainfall to scattered areas of western and northern Australia, with cold fronts expected to bring rainfall to parts of south-eastern Australia. Meanwhile, high pressure systems are expected to bring mostly dry conditions to the remainder of the country (see Section 1.4).
- Water storage in the Murray–Darling Basin (MDB) decreased by 31 gigalitres (GL) between 6 April 2022 and 13 April 2022. The current volume of water held in storage is 21,511GL, which represents 85 per cent of total capacity. This is 50% or 7,125 GL more than at the same time last year.
- Allocation prices in the Victorian Murray below the Barmah Choke remained unchanged at \$62 per ML between 2 April 2022 and 9 April 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

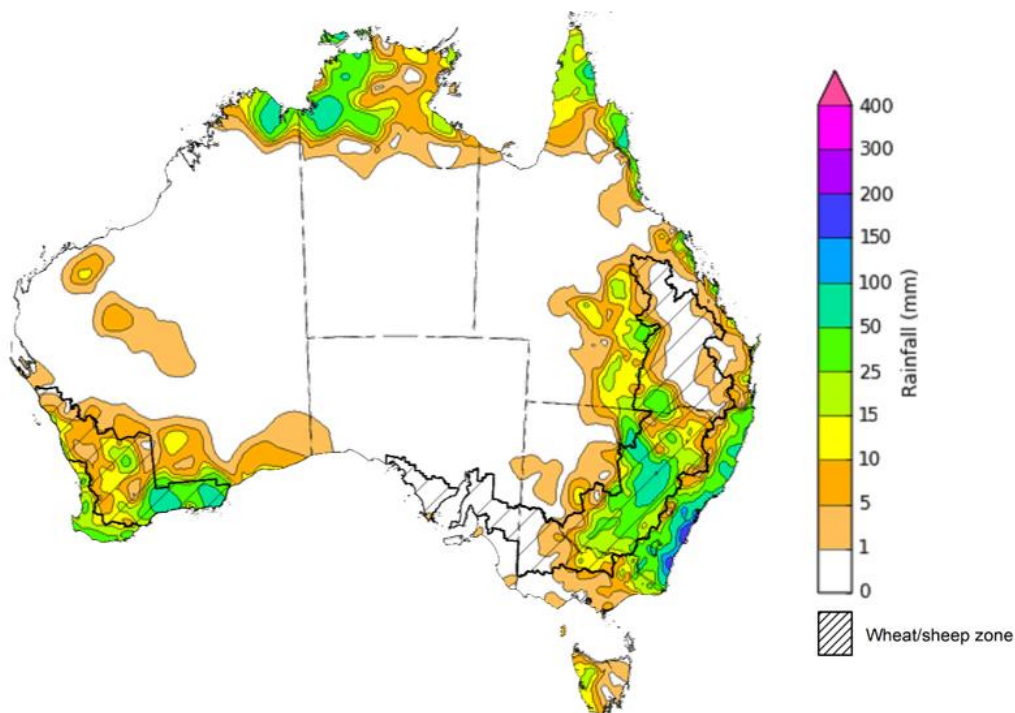
For the week ending 13 April 2022, a low-pressure trough and easterly winds brought rainfall to eastern Australia, with thunderstorms and heavy falls from south-central Queensland to south-eastern New South Wales. Low pressure systems also brought falls to parts of northern and south-western Australia, while high pressure systems resulted in clear, dry conditions for much of central and southern Australia.

Rainfall totals of between 10 and 50 millimetres were recorded across parts of eastern and central New South Wales, south-central and far northern Queensland, north-eastern Victoria, southern and northern parts of Western Australia, as well as northern parts of the Northern Territory and western Tasmania. Rainfall totals in excess of 50 millimetres were recorded across parts of eastern and central New South Wales, the far south and north of Western Australia and the north-west of the Northern Territory. Remaining parts of Australia received little to no rainfall.

In cropping regions, rainfall totals of between 10 and 50 millimetres were recorded across most of New South Wales, south-western Queensland, eastern Victoria, as well as eastern and central parts of Western Australia. Rainfall in excess of 50 millimetres was recorded in central cropping regions in New South Wales and the east of Western Australia. Little to no rainfall was recorded across remaining cropping regions in Queensland, Victoria and South Australia.

Harvesting of early sown summer crops are likely to have been delayed further due to rainfall across parts of northern New South Wales and southern Queensland. Meanwhile, cotton harvesting in Central Queensland is reported to have continued with the clear, dry conditions over the past week. In southern New South Wales, rice harvesting is well under way, with above average yields being recorded. Although there is plenty of summer crop yet to harvest, recent rainfalls across eastern and western cropping regions are providing ideal soil moisture conditions to start the winter cropping season. Many regions have received sufficient rainfall to classify as an autumn break, and planting activity is likely to increase over the coming weeks.

Rainfall for the week ending 13 April 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/>

Issued: 13/4/2022

1.2. Climate Drivers

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

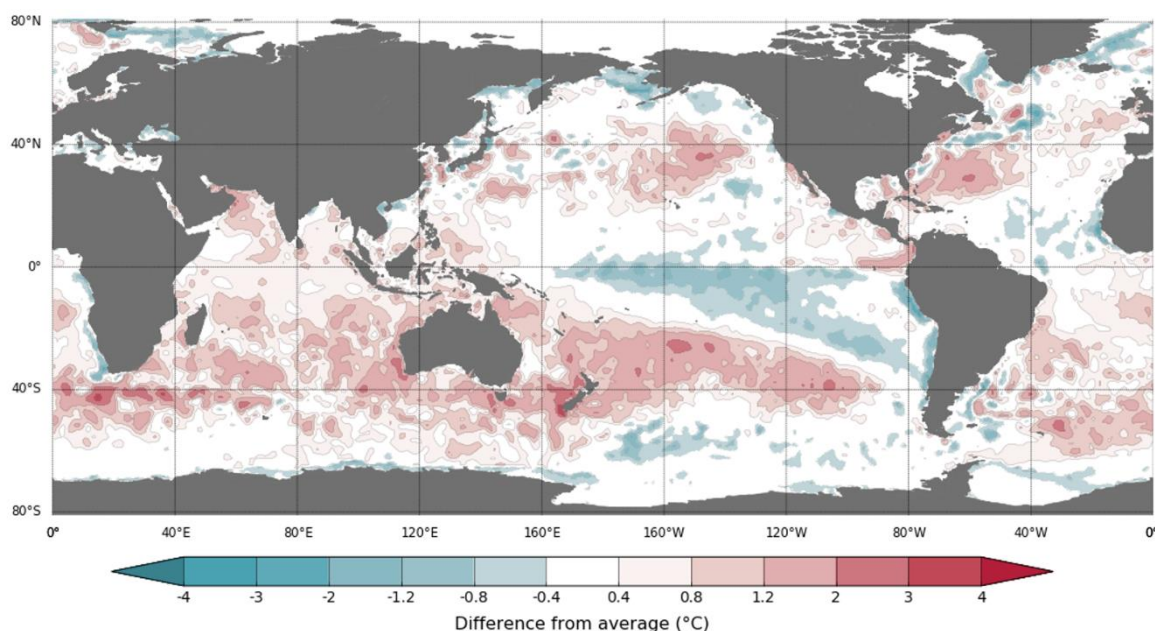
A La Niña remains active in the tropical Pacific according to atmospheric and oceanic indicators. However, La Niña events typically decay throughout autumn, with a return to neutral conditions currently expected in late autumn to early winter. La Niña events are associated with above average rainfall across large parts of eastern Australia during autumn, as well as the increased likelihood of tropical cyclones within the Australian region. Even as the event weakens, it is expected to continue influencing climate patterns in Australia over the coming months.

The SAM is currently positive and is forecast to remain positive to neutral until the end of April. The SAM has a marginal influence on Australian climate during autumn but increases the likelihood of dry conditions in south-west Western Australia.

The MJO is currently weak and likely to remain weak over the coming weeks. It is unlikely to influence rainfall across northern Australia and across tropical regions to Australia's north.

Below average sea surface temperature (SST) anomalies have persisted and strengthened slightly along the equator in the central and eastern Pacific Ocean. Meanwhile, warm SST anomalies throughout the Maritime Continent have weakened slightly. Warm sub-surface water temperature anomalies have emerged in the eastern Pacific Ocean, foreshadowing the breakdown of the current La Niña event.

Difference from average sea surface temperature observations 4 to 10 April 2022

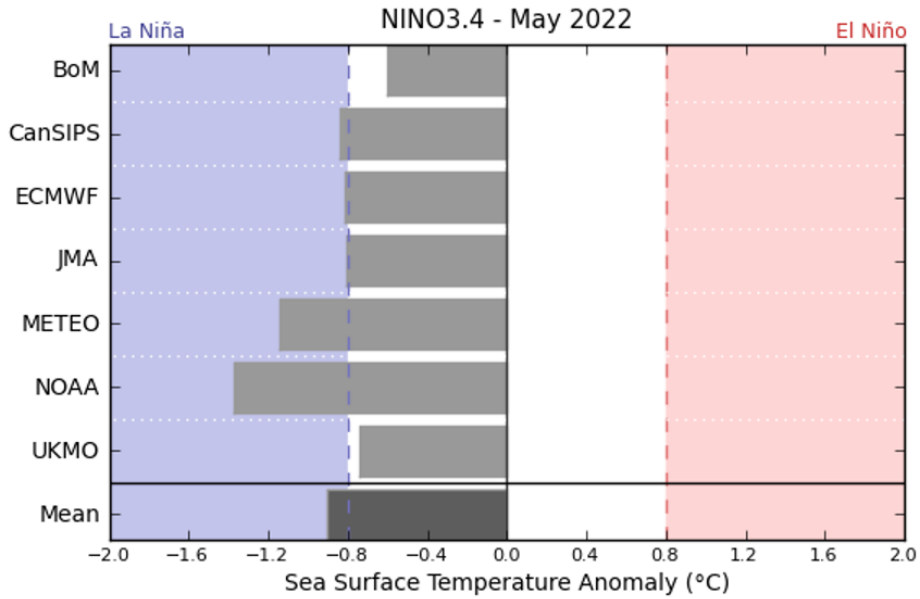


Data: BOM SST
Climatology baseline: 1961 to 1990
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<http://www.bom.gov.au/climate>

Weekly average: 10 April 2022
Created: 11/04/2022

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

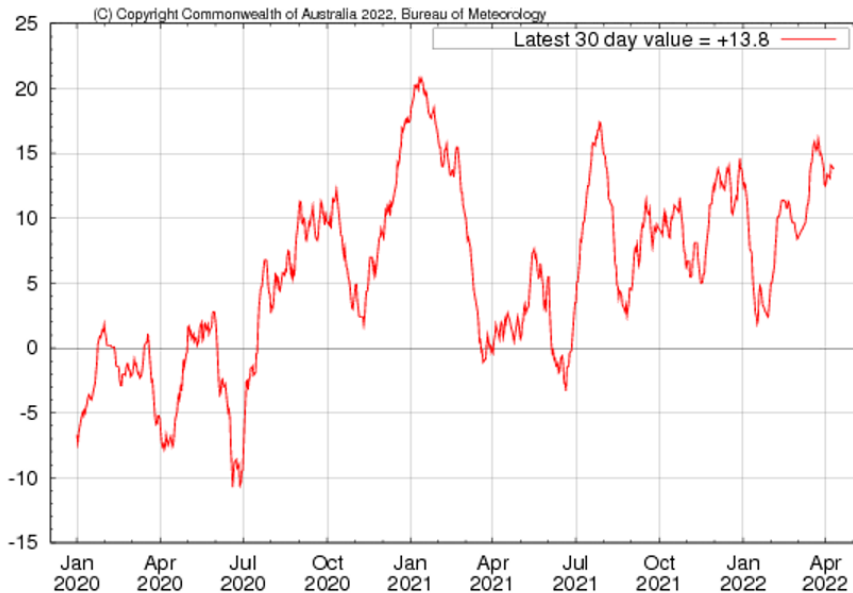


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Most climate models surveyed by the Bureau of Meteorology expect the La Niña event to continue into May. However, only two of the seven models are expecting it to remain active in June 2022. ENSO events are most active throughout spring and summer, then decay and return to neutral conditions in autumn. For the period ending 10 April 2022, the 30-day SOI was +13.9 and the 90-day SOI was +11.0, both well above the La Niña threshold of +7. Trade winds were stronger than average in the western Pacific but have returned to average strength in the eastern Pacific, and cloudiness near the Date Line remains below average. These indications are consistent with the ongoing La Niña event.

30-day Southern Oscillation Index (SOI) values ending 11 April 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.

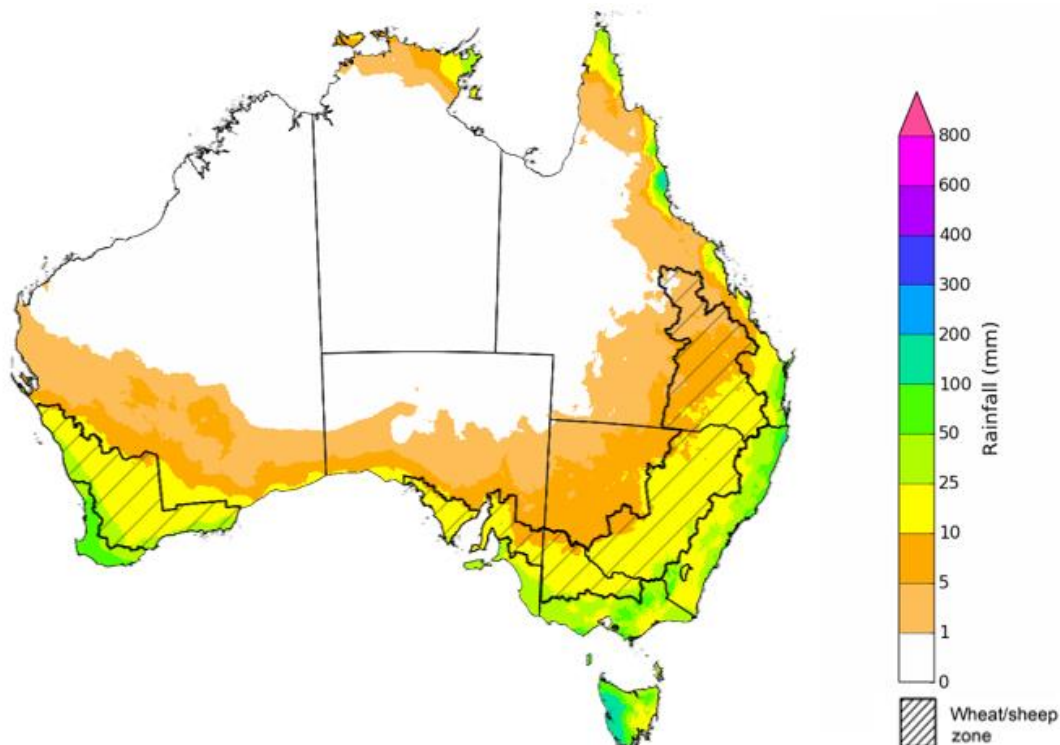
For further information, go to <http://www.bom.gov.au/climate/ahead/about/>

The Bureau of Meteorology's latest rainfall outlook indicated wetter than average conditions are expected across parts of northern and eastern Australia during May. The ACCESS-S climate model suggests there is close to a 60% chance of exceeding median May rainfall for parts of Cape York Peninsula in Queensland, and along the New South Wales and south-east Queensland coasts while below median rainfall is likely for south-west Western Australia and central Australia.

The outlook for May 2022 indicates that there is a 75% chance of rainfall totals between 10 and 50 millimetres across eastern New South Wales, scattered areas of Queensland, Victoria, southern South Australia, the far-southwest of Western Australia and Tasmania. Rainfall totals in excess of 100 millimetres are expected in parts of northern Queensland and western Tasmania.

Across cropping regions there is a 75% chance of rainfall totals of between 10 and 25 millimetres across most of New South Wales, south-eastern Queensland, Victoria, South Australia and Western Australia. There is a 75% chance of rainfall less than 10 millimetres for much of Queensland. Given that many winter cropping regions have received sufficient rainfall to classify as an early autumn break, these forecast rainfall totals are expected to provide sufficient additional soil moisture to provide a favourable start to the winter season. Meanwhile, lower rainfall totals during May will allow timely field access for the planting of winter crops and harvesting activity for summer planted crops across Queensland and northern New South Wales.

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



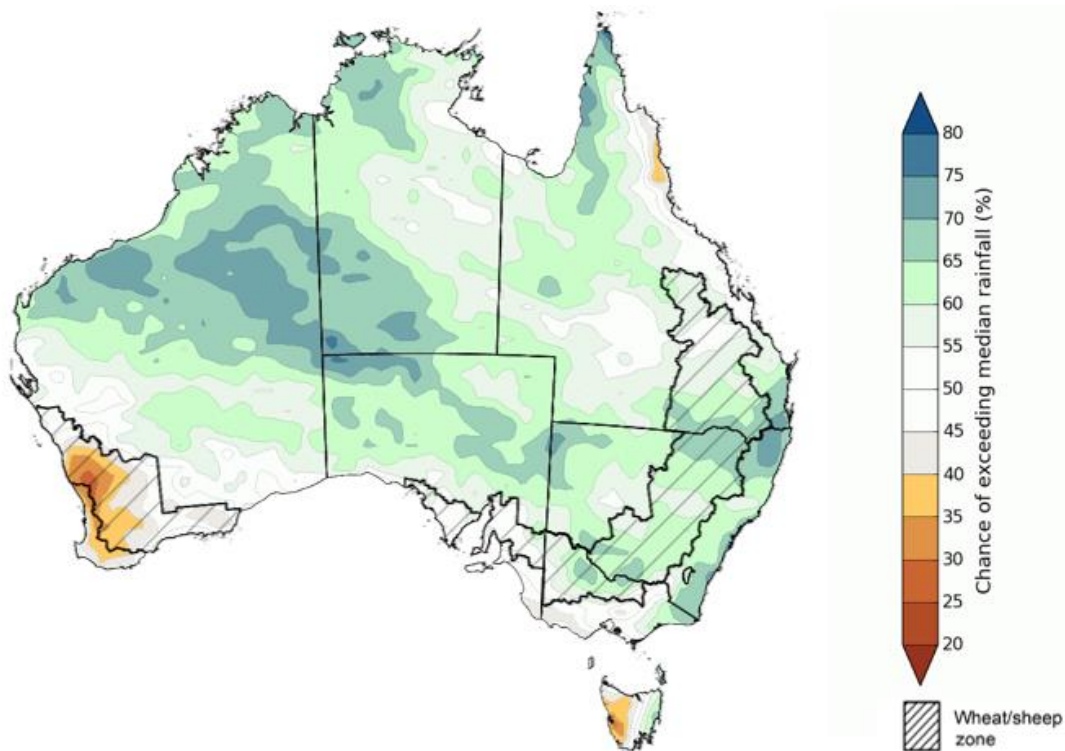
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The rainfall outlook for May to July 2022 suggests there is a greater than 60% chance of exceeding median rainfall across most of New South Wales, parts of southern and northern Queensland, northern parts of South Australia, Victoria and Western Australia and the western half of the Northern Territory. Between May to July 2022, below average rainfall is expected for south-west Western Australia, isolated parts of north-eastern Queensland, as well as western Tasmania. For remaining regions of Australia, there is roughly an equal chance of above and below median rainfall (Bureau of Meteorology 'National Climate Outlook', 7 April 2022).

Bureau of Meteorology rainfall outlooks for May to July have greater than 55% past accuracy across most of Australia. Outlook accuracy is greater than 65% across large areas of western and eastern Australia. However, there is low past accuracy for scattered areas of northern Australia.

Chance of exceeding the median rainfall May to July 2022



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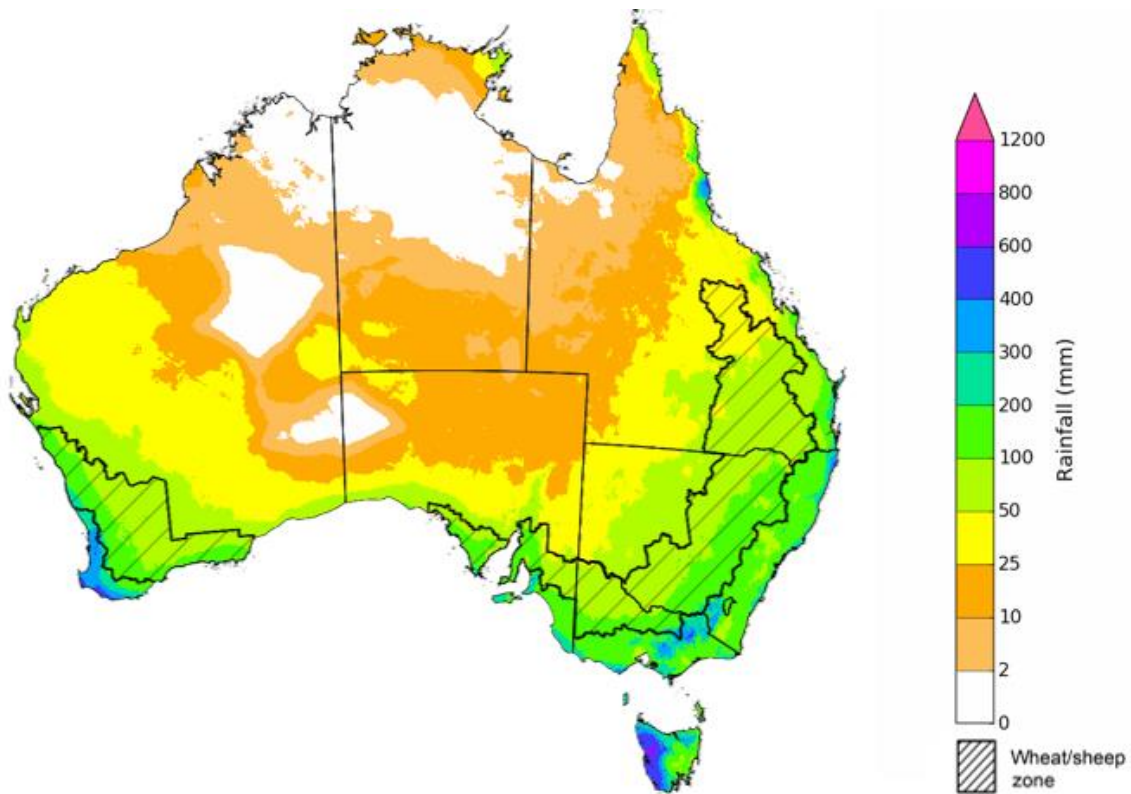
Issued: 7/4/2022

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

Across cropping regions, there is a 75% chance of receiving between 50 and 100 millimetres across New South Wales, much of Queensland, Victoria, South Australia and Western Australia. Totals of less than 50 millimetres are expected across northern cropping regions in Queensland.

Root zone soil moisture levels are average to above average across much of the Wheat/sheep zone but below average to average across parts of South Australia and Victoria. There is a high—75%—chance that forecast rainfall totals in northern cropping regions will be sufficient to support yield potentials for late sown summer crops, as well as the germination and establishment of winter crops. In remaining cropping regions, the expectation of close to average rainfall over the next three months is likely to provide an ideal start to the winter cropping season, particularly in areas with average or better soil moisture levels for this time of year.

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

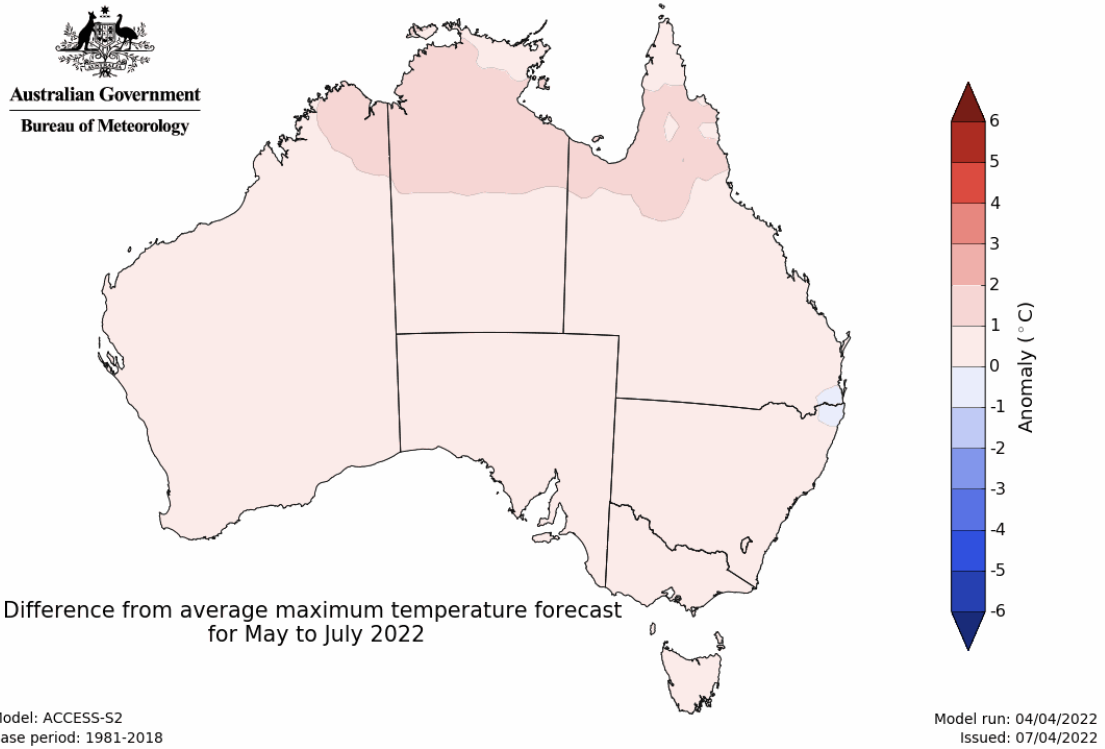


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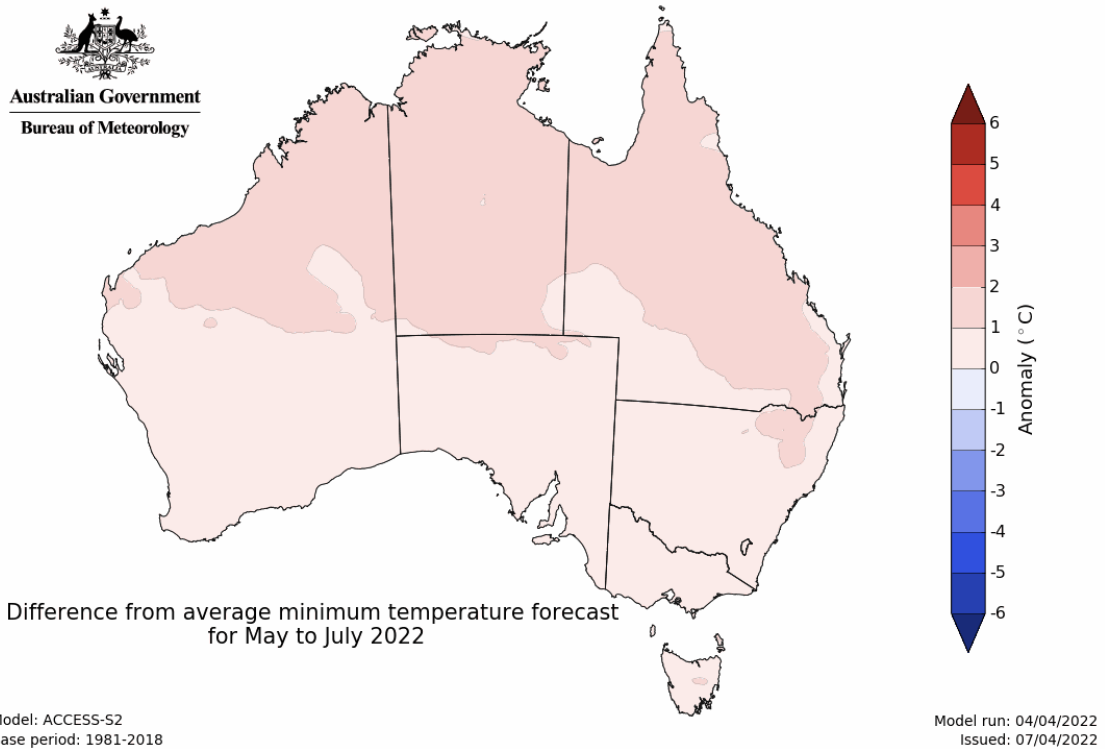
Issued: 7/4/2022

The temperature outlook for May to July 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 much of the northern half of Australia, and close to average for the rest of Australia (Bureau of Meteorology 'National Climate Outlook', 7 April 2022).

Predicted maximum temperature anomaly for May to July 2022



Predicted minimum temperature anomaly for May to July 2022



1.4. Rainfall forecast for the next eight days

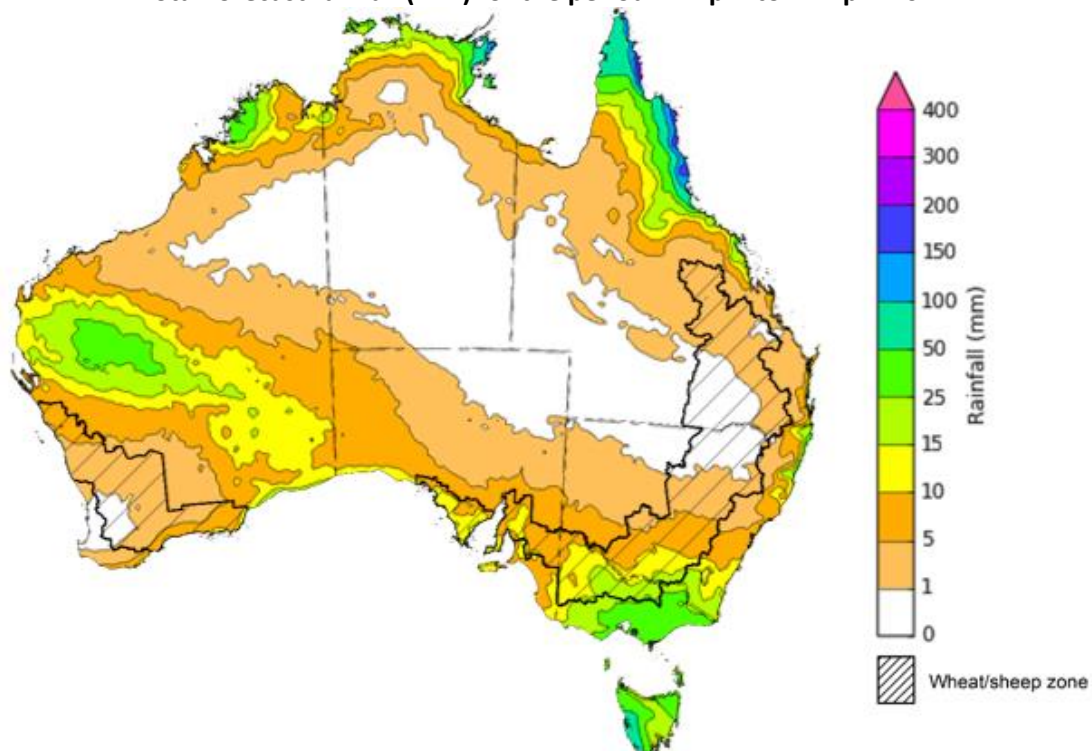
Over the 8-days to 21 April 2022, troughs and low-pressure systems are expected to bring rainfall to scattered areas of western and northern Australia, with cold fronts expected to bring rainfall to parts of south-eastern Australia. Meanwhile, high pressure systems are expected to bring mostly dry conditions to the remainder of the country.

Rainfall totals of between 10 and 50 millimetres are forecast for parts of north-eastern and south-eastern New South Wales, much of Victoria, as well as parts of north-eastern Queensland, parts of central and northern Western Australia, the far north of the Northern Territory and much of Tasmania. Rainfall in excess of 50 millimetres is expected for parts of tropical northern Australia and western Tasmania.

In Australian cropping regions, rainfall totals of between 10 and 25 millimetres are expected across much of Victoria, and parts of southern New South Wales and South Australia. Little to no rainfall is forecast for all remaining cropping regions during the next 8-days.

The dry conditions across most cropping regions in Queensland and northern New South Wales will be a welcome break from heavy rainfalls in the past month. Soil moisture levels are well above average for parts of southern Queensland and much of northern New South Wales, delaying the harvesting of summer crops and planting of long season winter crops. The forecast dry conditions across most northern cropping regions will allow saturated soil to dry sufficiently to allow field access for the harvest of summer crops and the planting of winter crops.

Total forecast rainfall (mm) for the period 14 April to 21 April 2022



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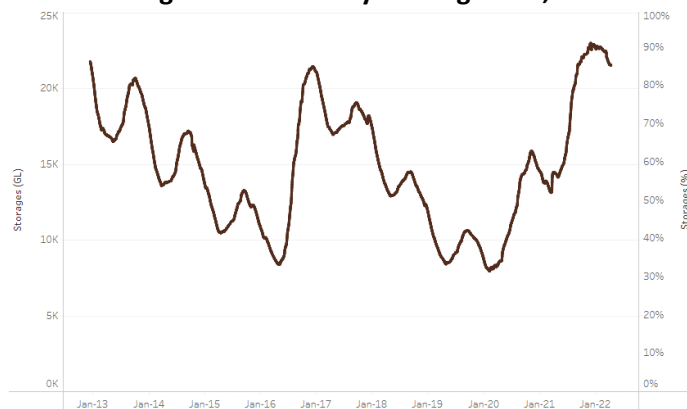
Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

2. Water

2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) decreased by 31 gigalitres (GL) between 6 April 2022 and 13 April 2022. The current volume of water held in storage is 21,511GL, which represents 85 per cent of total capacity. This is 50% or 7,125 GL more than at the same time last year.

Water storages in the Murray-Darling Basin, 2013–2022

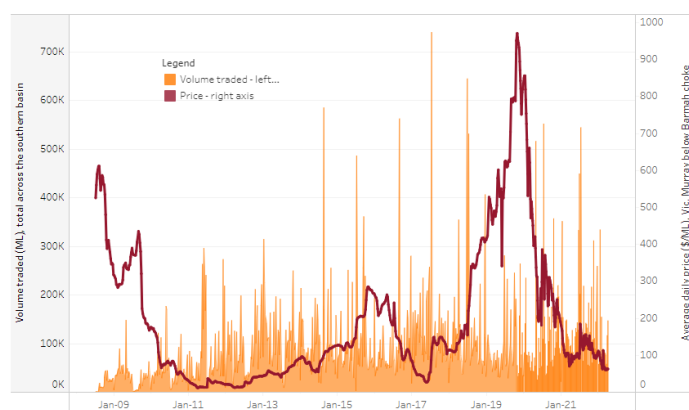


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke remained unchanged at \$62 per ML between 2 April 2022 and 9 April 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	11
NSW Murrumbidgee	9
VIC Goulburn-Broken	44
VIC Murray Below	62

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 14 April 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-140422

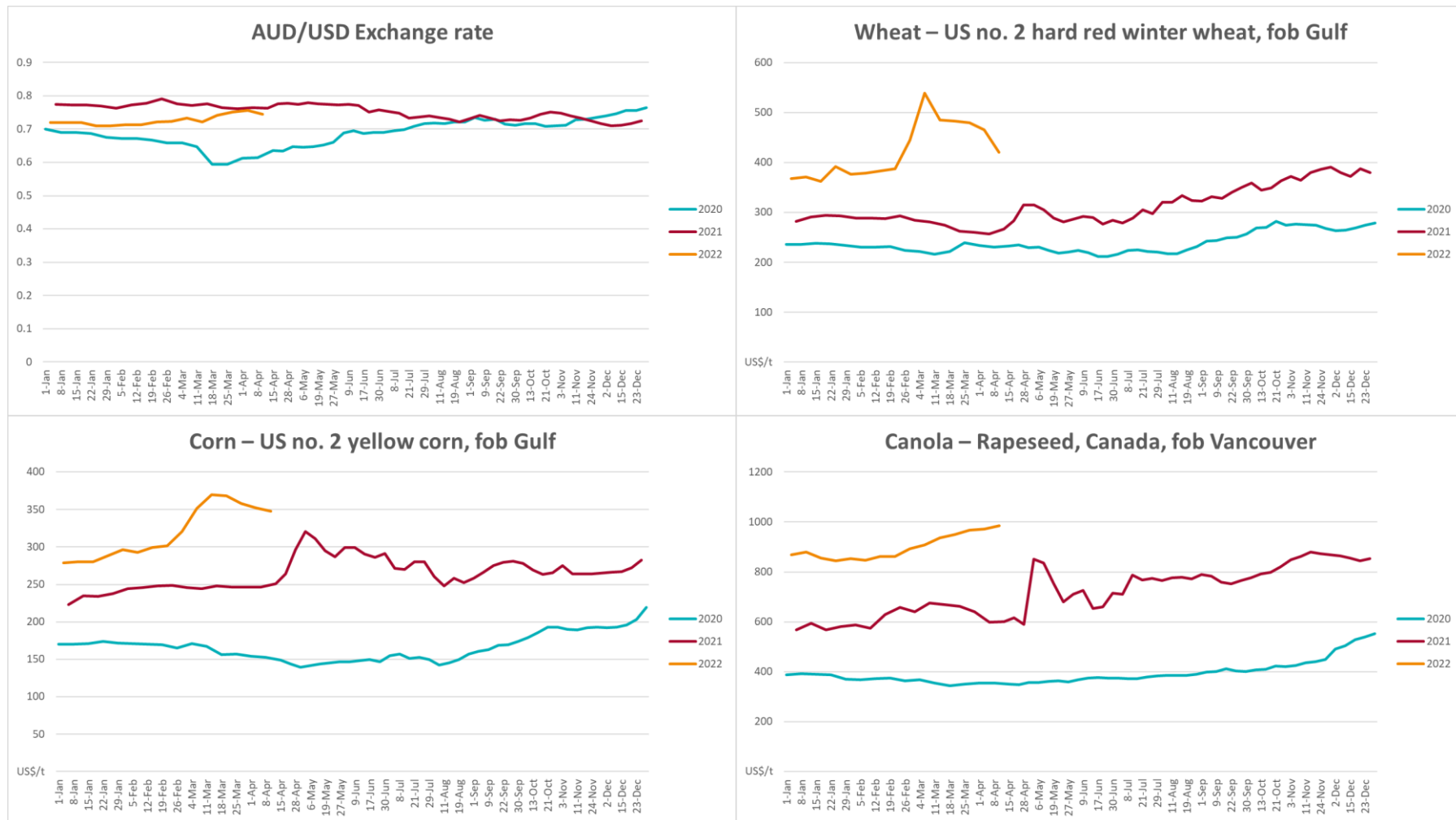
3. Commodities

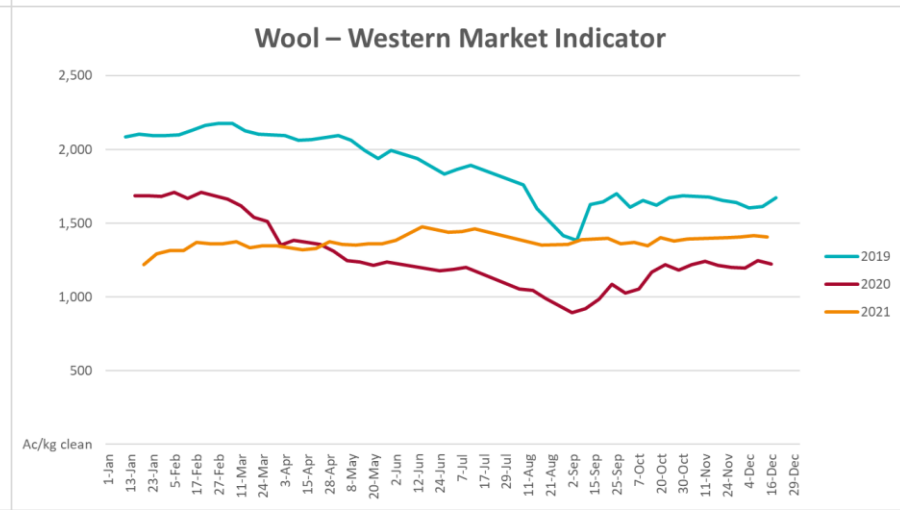
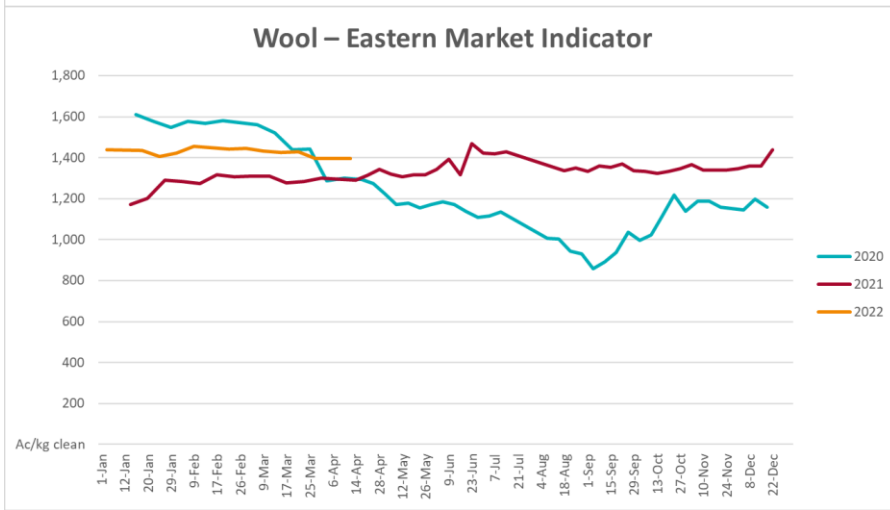
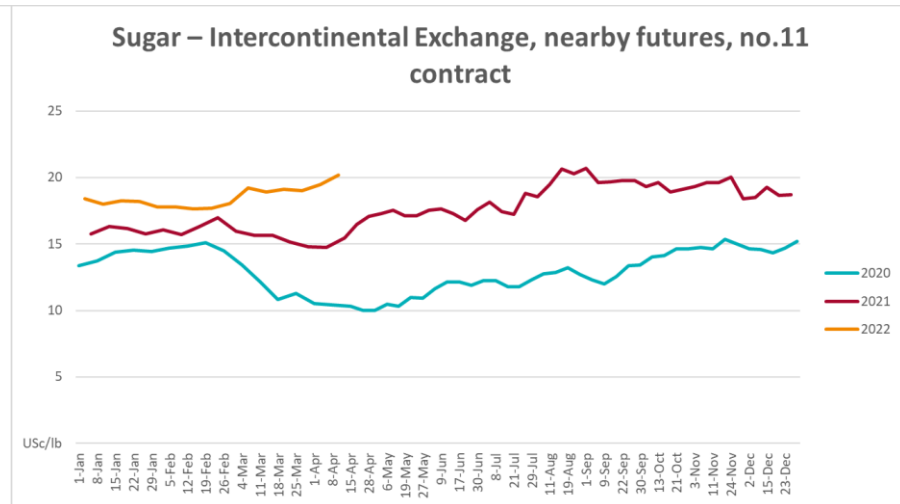
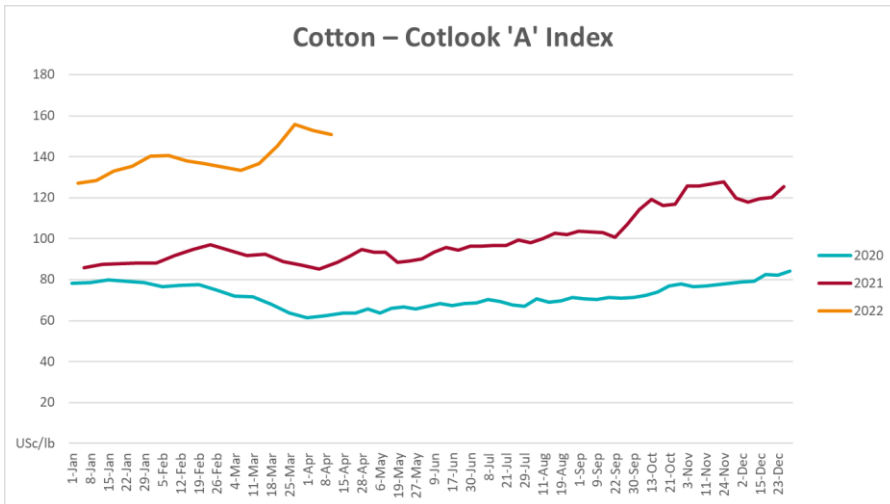
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	13-Apr	A\$/US\$	0.74	0.76	-2%	0.78	-4%
Wheat – US no. 2 hard red winter wheat, fob Gulf	13-Apr	US\$/t	420	465	-10%	284	48%
Corn – US no. 2 yellow corn, fob Gulf	13-Apr	US\$/t	347	352	-1%	264	31%
Canola – Rapeseed, Canada, fob Vancouver	13-Apr	US\$/t	985	972	1%	616	60%
Cotton – Cotlook 'A' Index	13-Apr	USc/lb	151	153	-1%	92	65%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	13-Apr	USc/lb	20.2	19.5	4%	16	23%
Wool – Eastern Market Indicator	8-Apr	Ac/kg clean	1,369	1,375	0%	1,306	5%
Wool – Western Market Indicator	8-Apr	Ac/kg clean	1,421	1,418	0%	1,329	7%
Selected Australian grain export prices							
Milling Wheat – APW, Port Adelaide, SA	13-Apr	A\$/t	529	526	0%	353	50%
Feed Wheat – ASW, Port Adelaide, SA	13-Apr	A\$/t	680	624	9%	351	94%
Feed Barley – Port Adelaide, SA	13-Apr	A\$/t	459	452	2%	293	57%
Canola – Kwinana, WA	13-Apr	A\$/t	1,222	1,200	2%	711	72%
Grain Sorghum – Brisbane, QLD	13-Apr	A\$/t	429	423	1%	348	23%
Selected domestic livestock indicator prices							
Beef – Eastern Young Cattle Indicator	13-Apr	Ac/kg cwt	1,088	1,094	-1%	886	23%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	06-Apr	Ac/kg cwt	570	569	0%	687	-17%
Lamb – Eastern States Trade Lamb Indicator	06-Apr	Ac/kg cwt	788	799	-1%	808	-3%
Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers	30-Mar	Ac/kg cwt	368	357	3%	347	6%
Goats – Eastern States (12.1–16 kg)	05-Jan	Ac/kg cwt	879	879	0%	818	8%
Live cattle – Light steers ex Darwin to Indonesia	23-Mar	Ac/kg lwt	550	550	0%	260	112%
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	06-Apr	US\$/t	4,532	4,596	-1%	2,966	53%
Dairy – Skim milk powder	06-Apr	US\$/t	4,599	4,545	1%	2,840	62%
Dairy – Cheddar cheese	06-Apr	US\$/t	6,472	6,412	1%	4,285	51%
Dairy – Anhydrous milk fat	06-Apr	US\$/t	6,908	7,111	-3%	4,302	61%

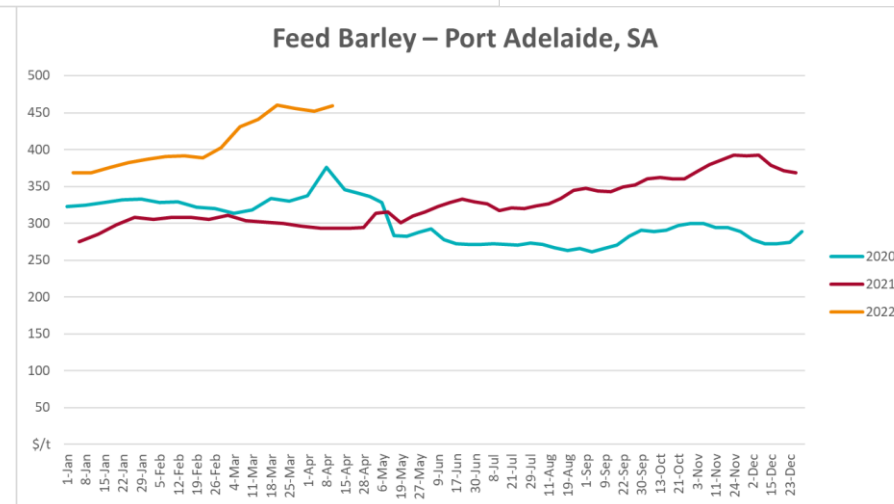
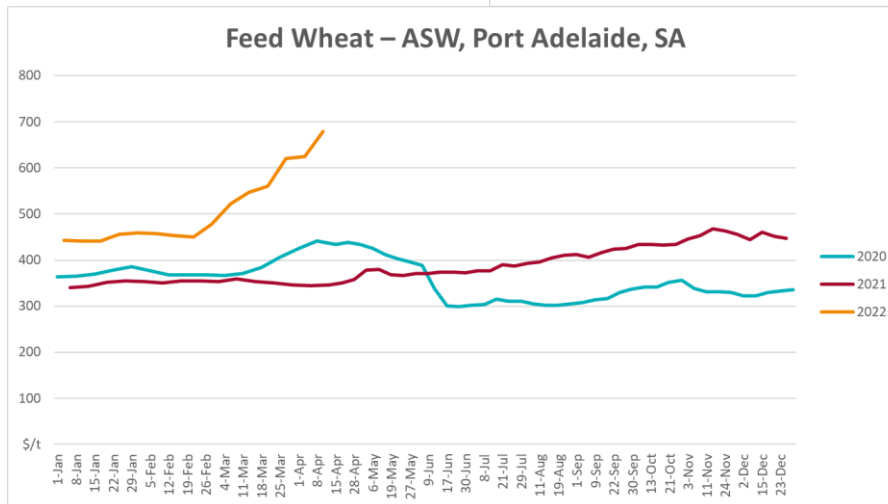
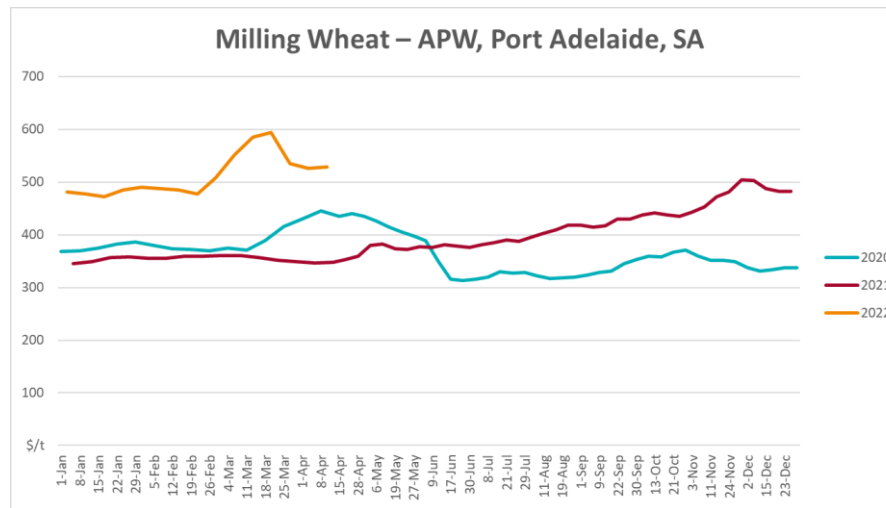
^a Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

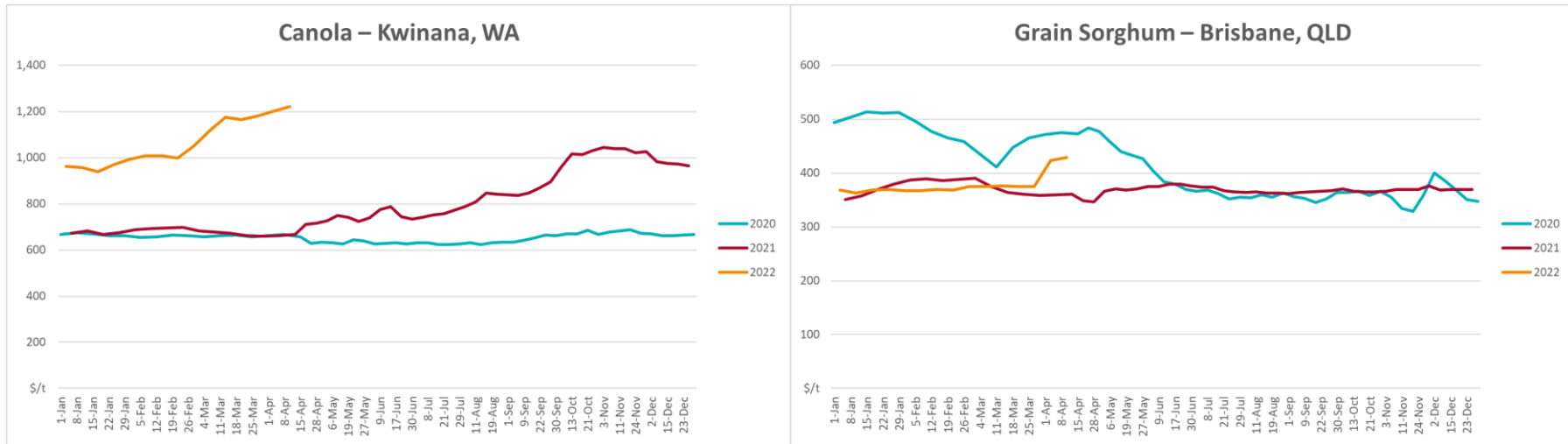
3.1. Selected world indicator prices



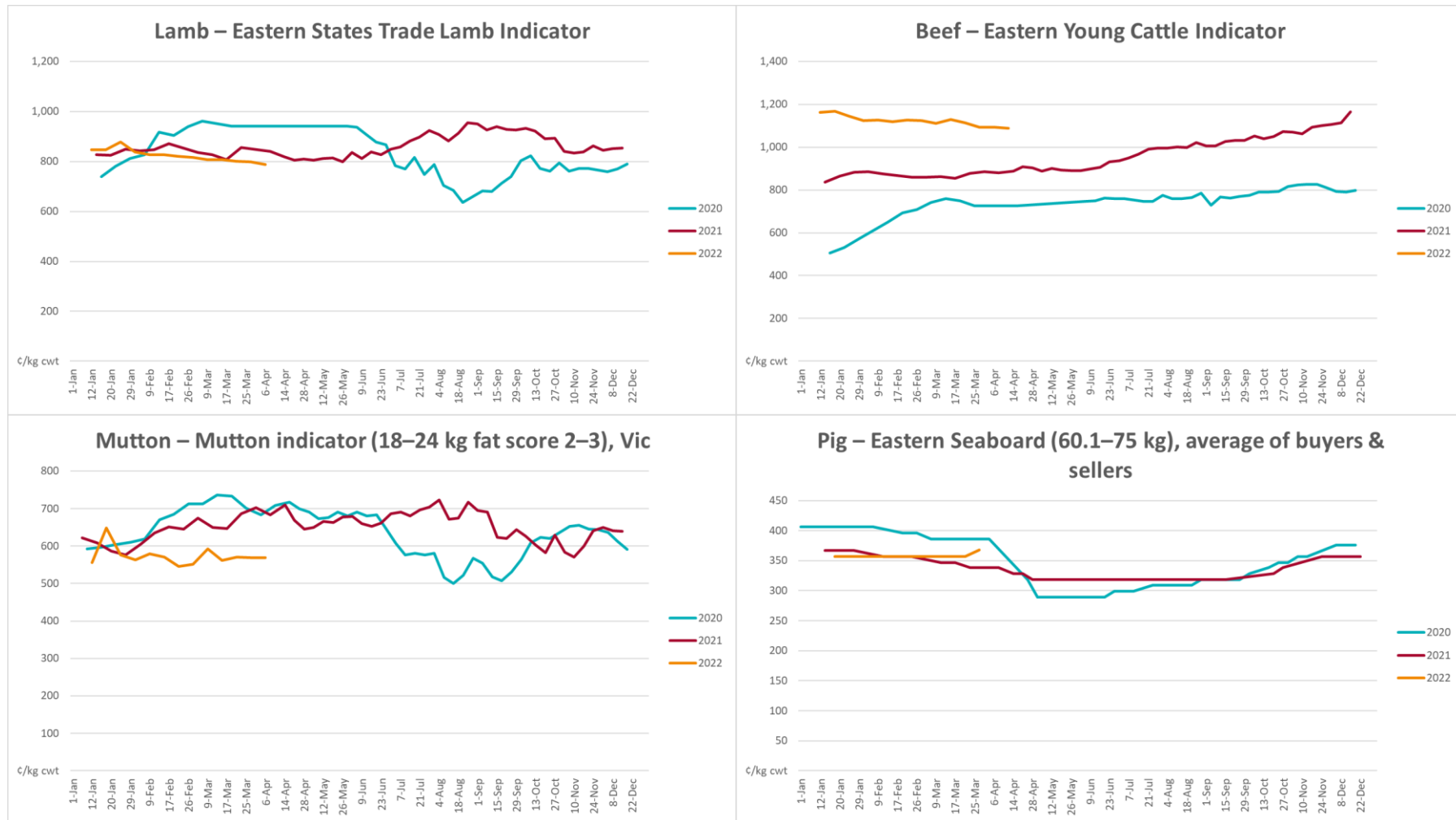


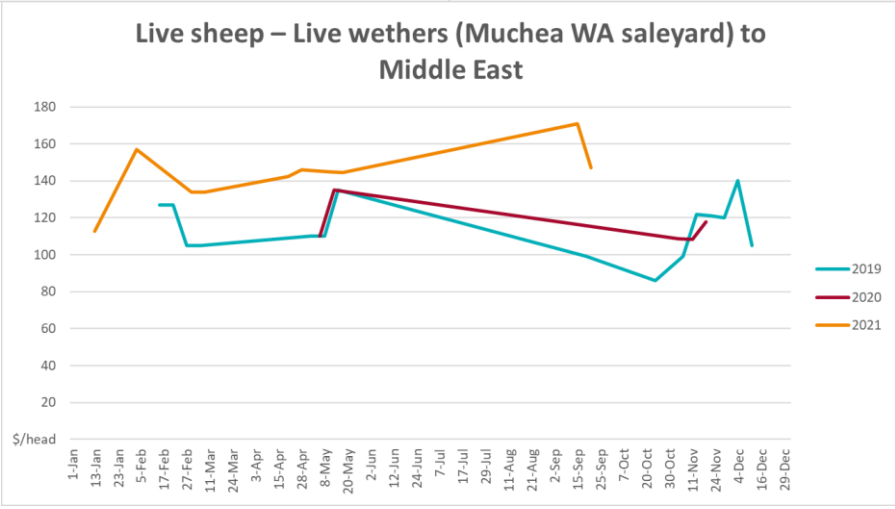
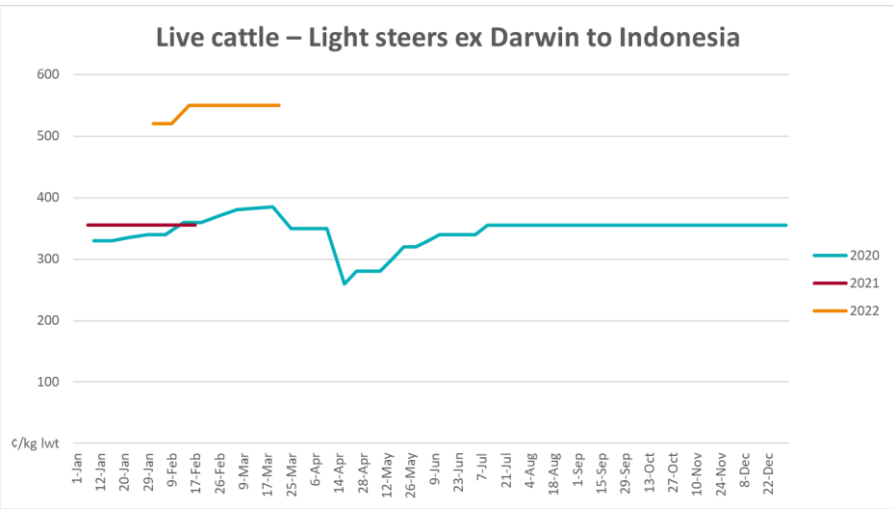
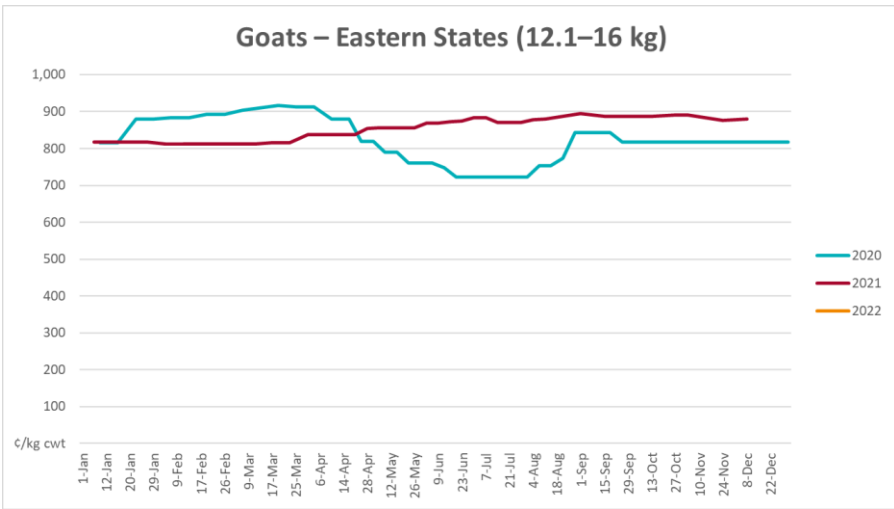
3.2. Selected domestic crop indicator prices



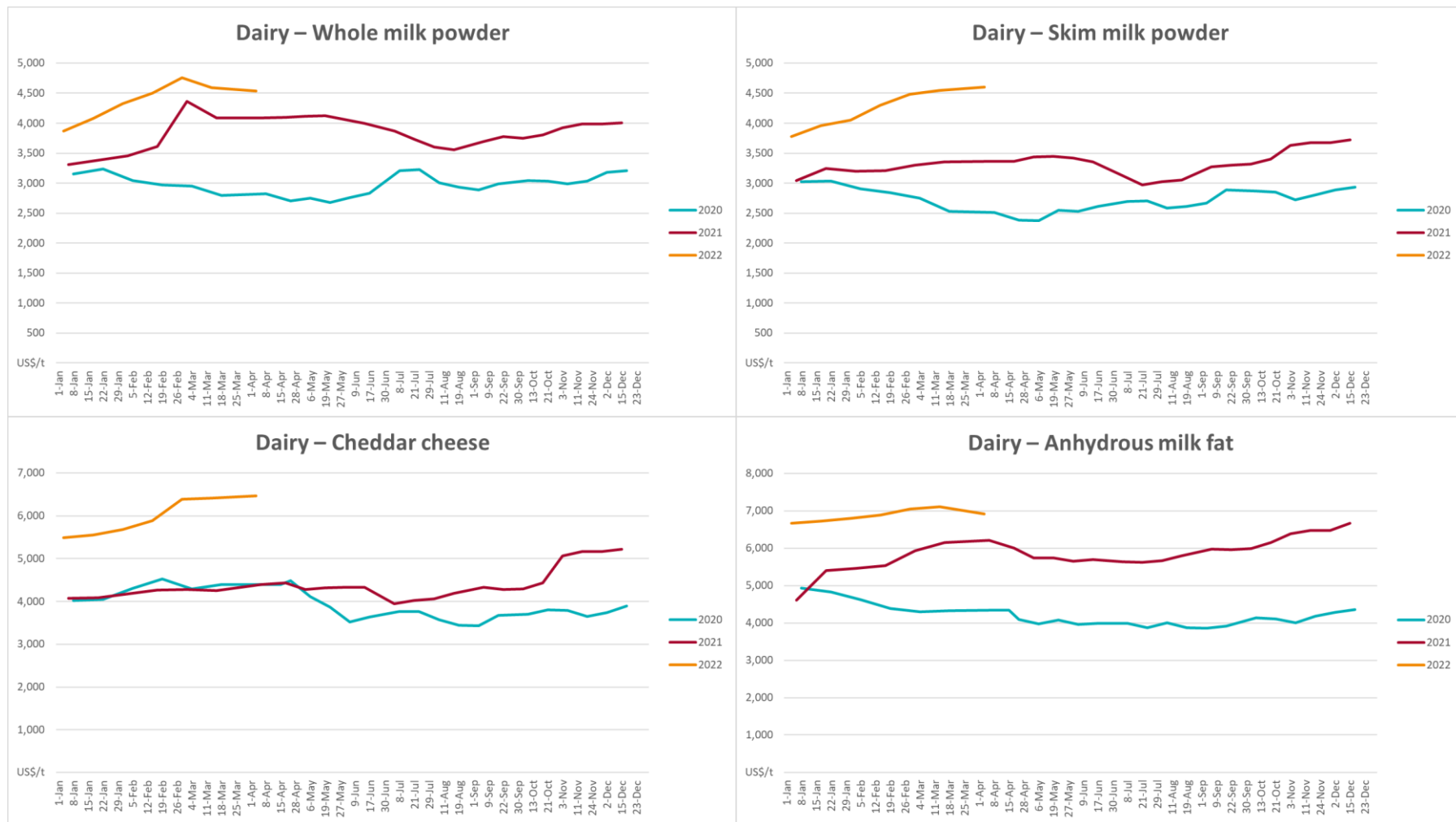


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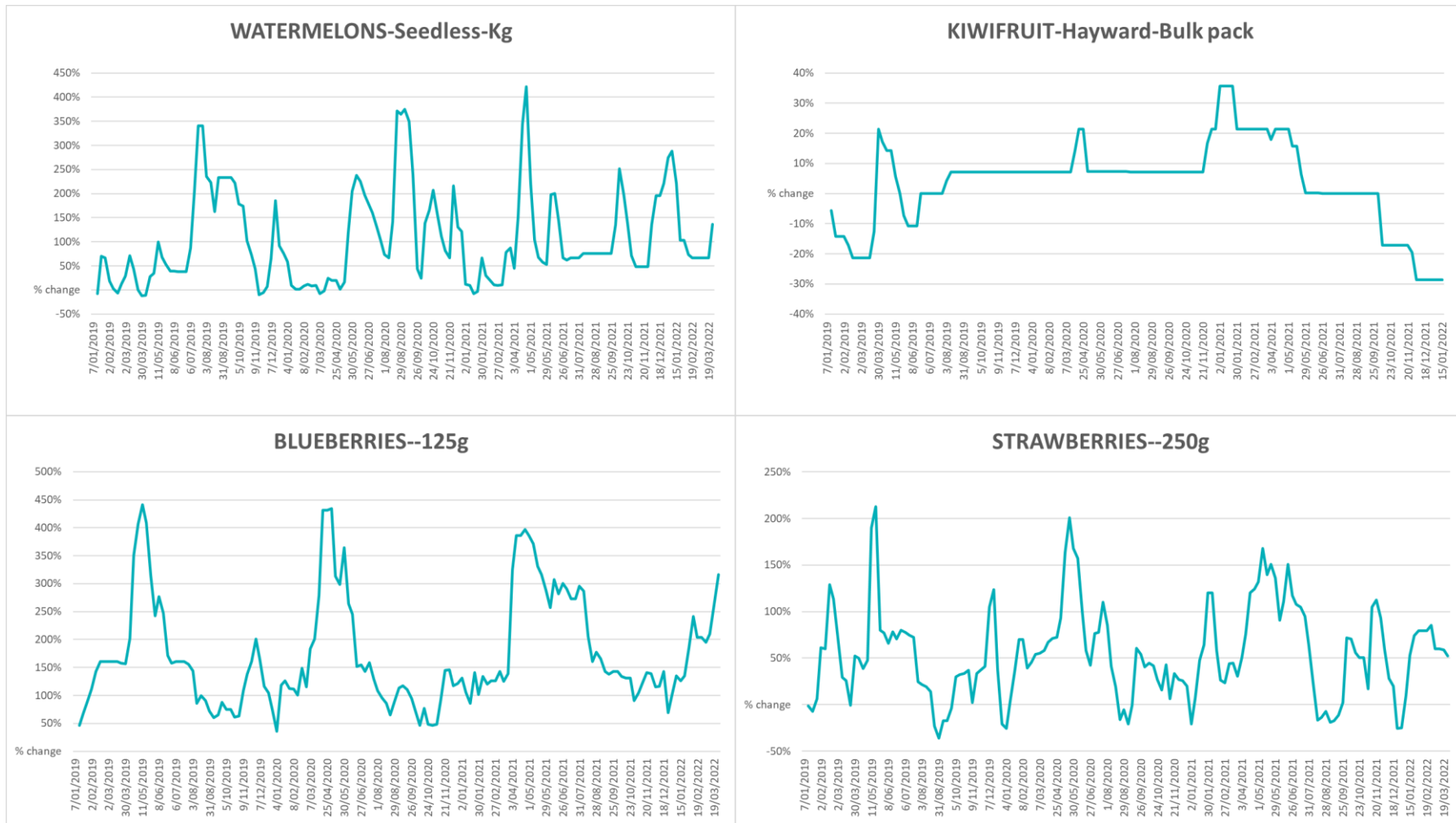


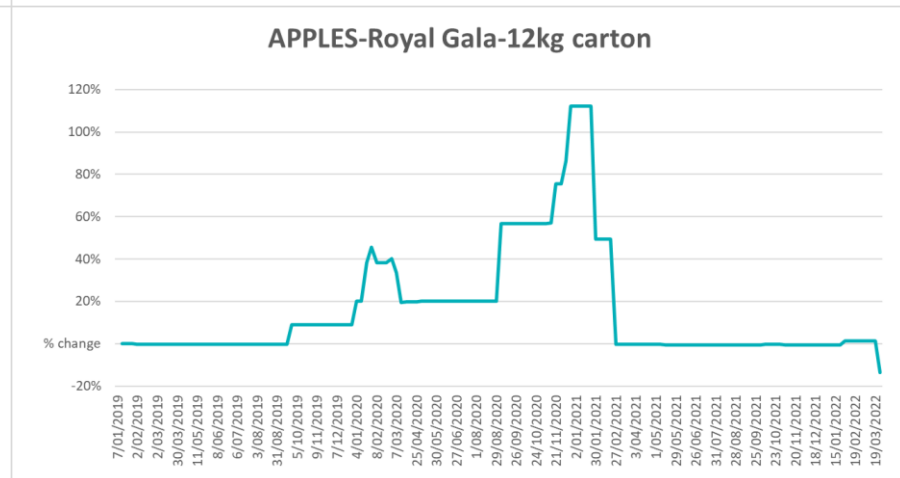
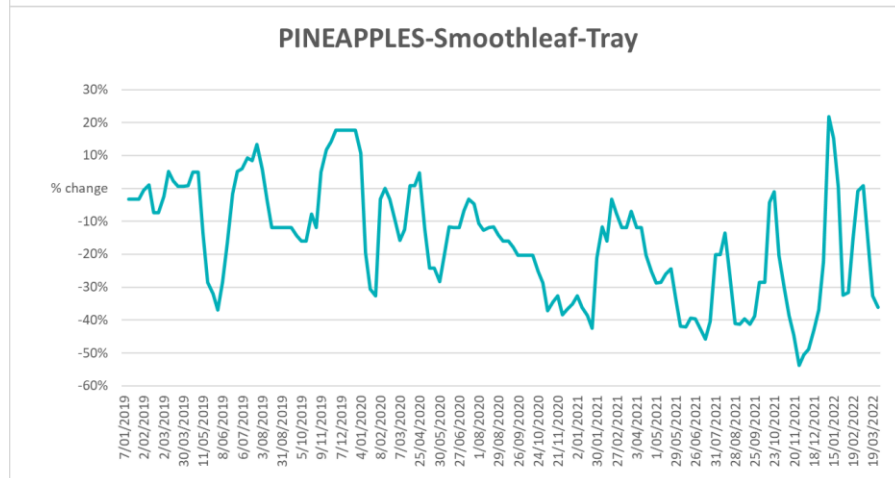
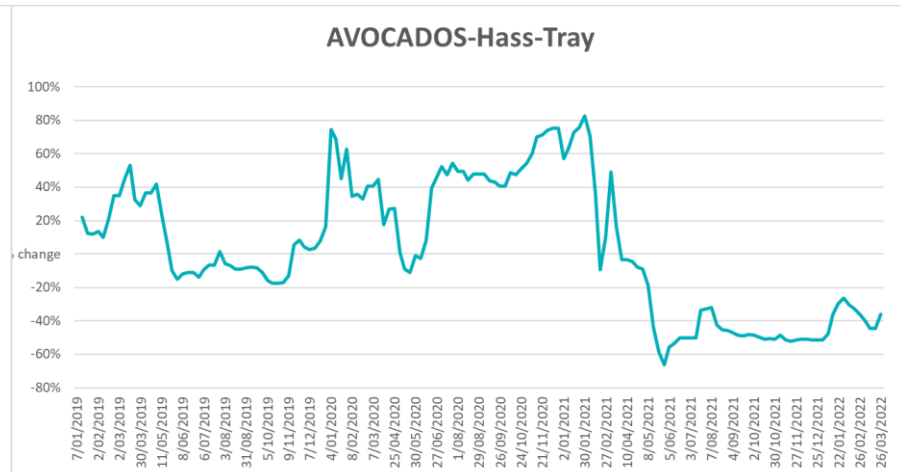
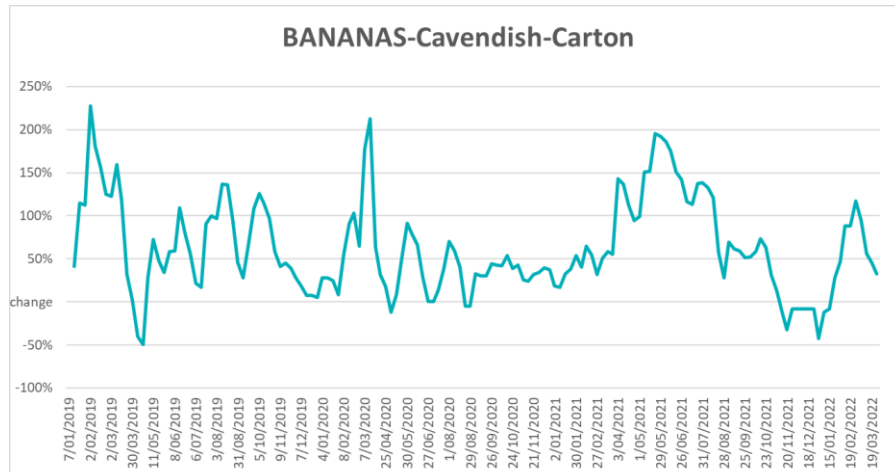


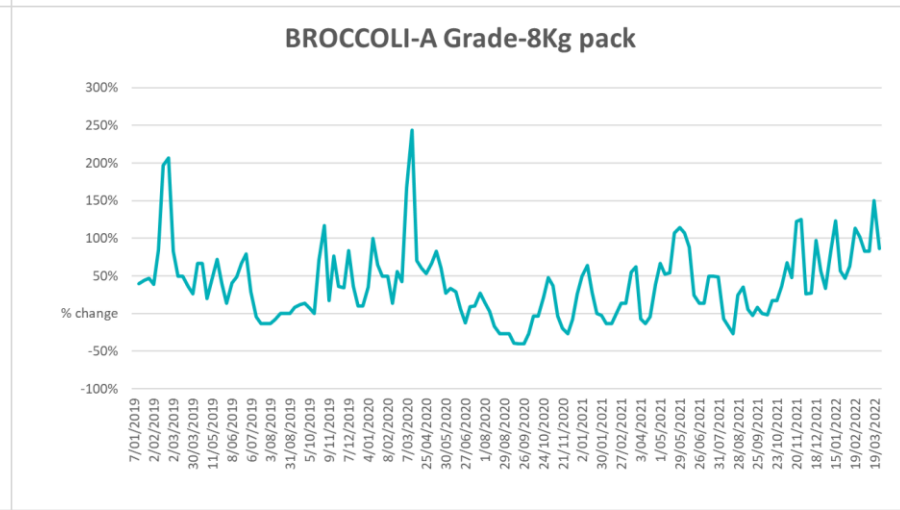
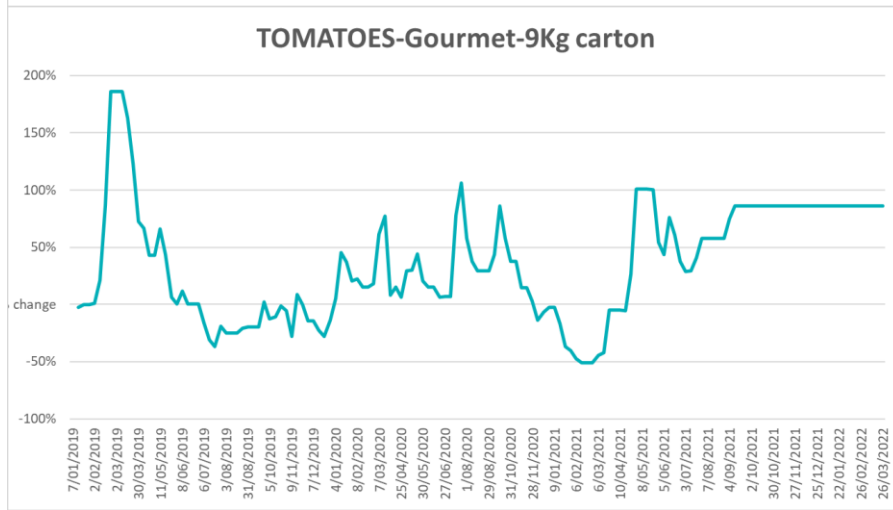
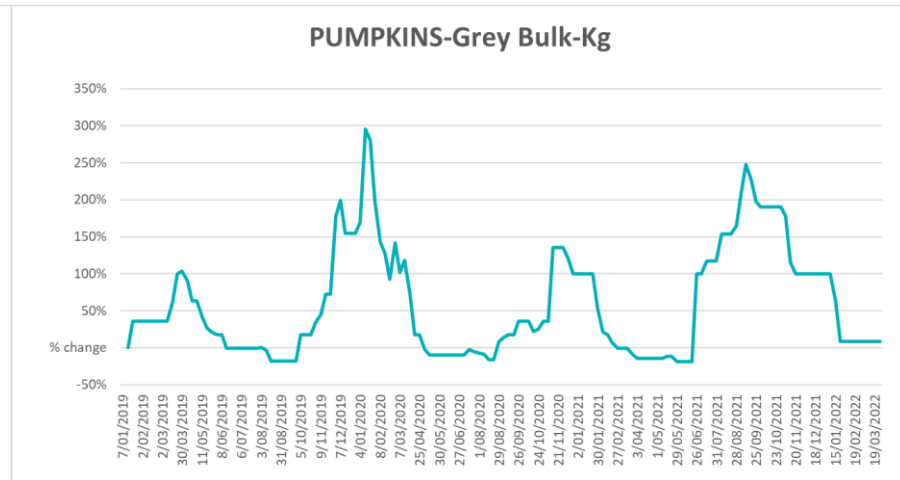
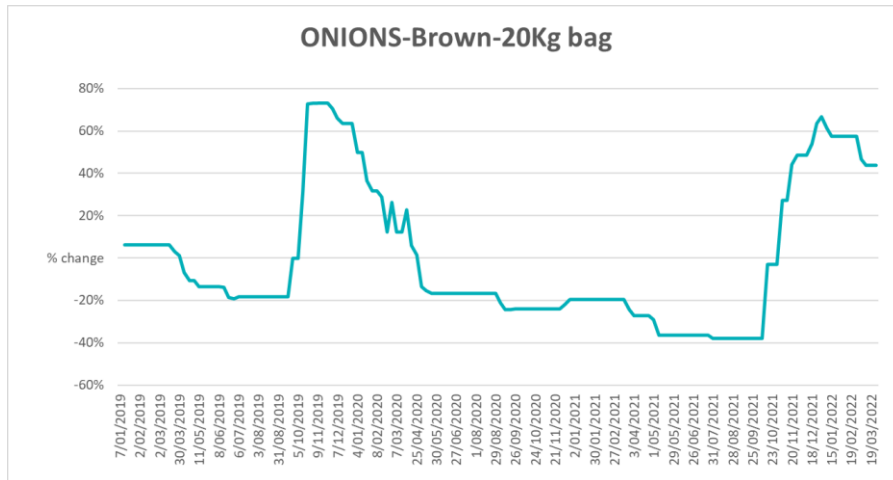
3.4. Global Dairy Trade (GDT) weighted average prices



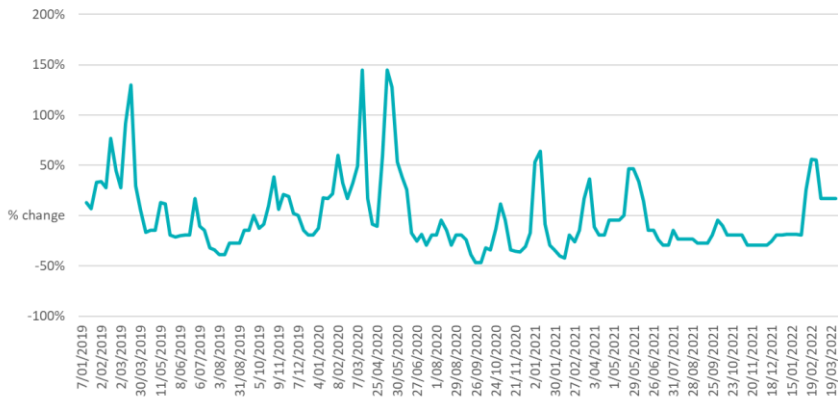
3.5. Selected fruit and vegetable prices



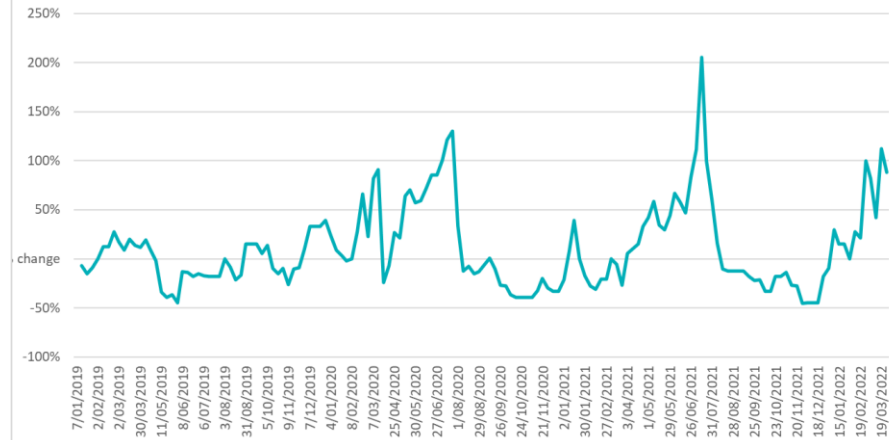




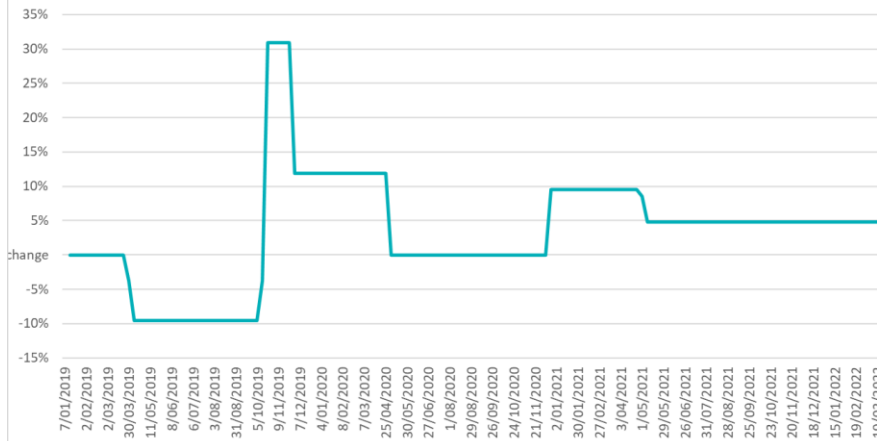
CAULIFLOWERS--Carton



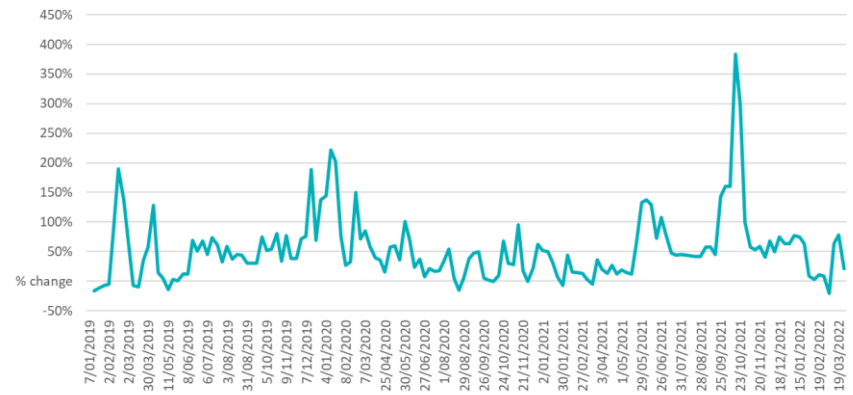
LETTUCE-Iceberg-Carton



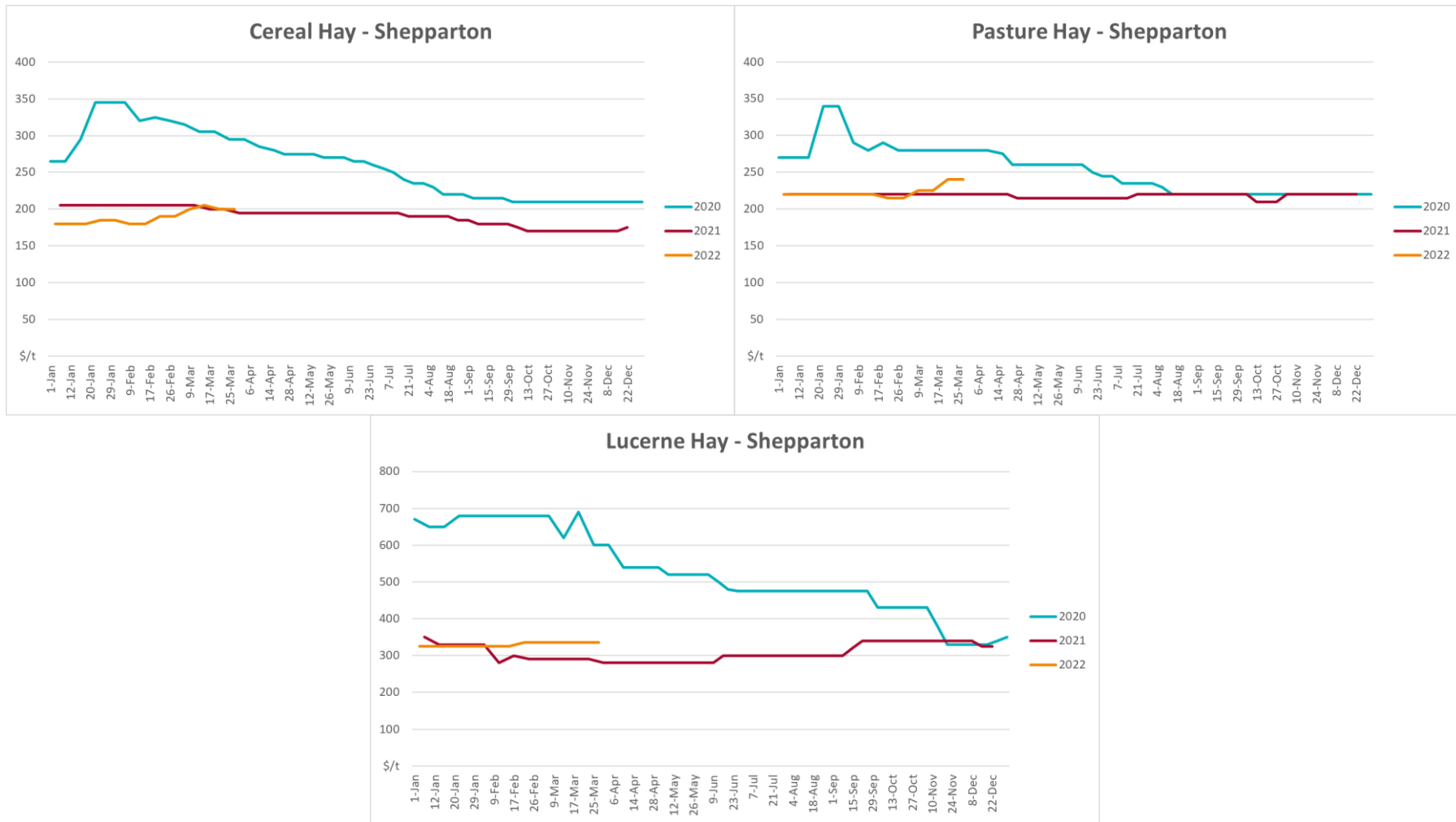
POTATOES-Brushed White-20Kg bag



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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