



Weekly Australian Climate, Water and Agricultural Update

No. 15/2022

21 April 2022

Summary of key issues

- For the week ending 20 April 2022, low-pressure troughs and cold fronts brought rainfall to parts of southern Australia, and tropical lows resulted in heavy rainfall for parts of far northern Australia. Meanwhile, high-pressure systems and weak troughs provided clear, dry conditions for much of central Australia (see Section 1.1).
- Dry conditions across Queensland and northern New South Wales likely allowed harvesting of early sown summer crops to resume, while cotton harvesting in northern cropping regions of Queensland continued. In southern New South Wales, the recent rainfall is expected to have prevented field access for harvesting of summer crops, such as rice, as well as preparation and sowing of winter crops. Nevertheless, upper layer soil moisture levels across central and southern New South Wales, as well as northern Victoria, are well above average, which will provide a promising start to winter cropping.
- Below average rainfall globally during March is likely to result in lower-than-expected winter wheat production potential in the United States, parts of Europe and Canada. Further, the conflict in Ukraine has generated additional levels of uncertainty around wheat production for 2022. Below average rainfall during March has also negatively affected corn and soybean production across parts of Argentina and Brazil. Global production conditions have deteriorated compared to those used to formulate ABARES forecasts of global grain supplies and world prices in its March 2022 edition of the *Agricultural Commodities Report*. As a result, global grain and oilseed production is likely to be lower than that forecast in March (see Section 1.2).
- Over the 8-days to 28 April 2022, low-pressure troughs and onshore winds are expected to result in rainfall across eastern Australia, with a cold front bringing rainfall to the south-west. A high-pressure system to the south of Australia is forecast to bring mostly dry conditions for remaining parts of Western Australia (see Section 1.3).
- Water storage in the Murray–Darling Basin (MDB) decreased by 63 gigalitres (GL) between 13 April 2022 and 20 April 2022. The current volume of water held in storage is 21,452GL, which represents 85 per cent of total capacity. This is 50% or 7,118 GL more than at the same time last year.
- Allocation prices in the Victorian Murray below the Barmah Choke increased from \$63 per ML on 9 April 2022 to \$72 per ML on 14 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

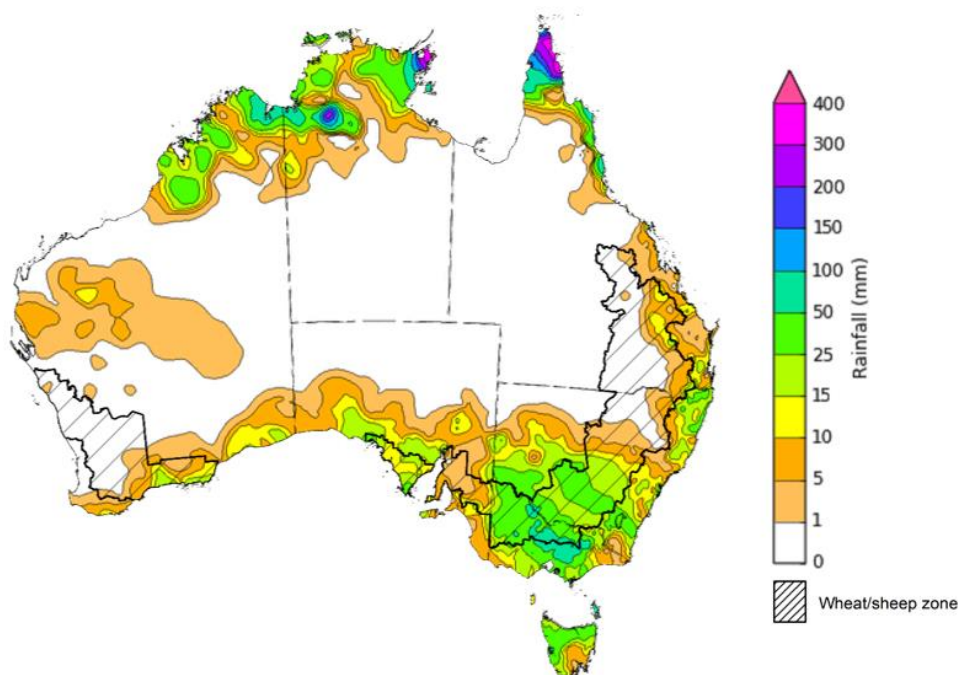
For the week ending 20 April 2022, low-pressure troughs and cold fronts brought rainfall to parts of southern Australia, and tropical lows resulted in heavy rainfall for parts of far northern Australia. Meanwhile, high-pressure systems and weak troughs provided clear, dry conditions for much of central Australia.

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

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

Dry conditions across Queensland and northern New South Wales likely allowed harvesting of early sown summer crops to resume, while cotton harvesting in northern cropping regions of Queensland continued. In southern New South Wales, the recent rainfall is expected to have prevented field access for harvesting of summer crops, such as rice, as well as preparation and sowing of winter crops. Nevertheless, upper layer soil moisture levels across central and southern New South Wales, as well as northern Victoria, are well above average, which will provide a promising start to winter cropping. Meanwhile, the winter cropping season has started with canola planting in Western Australia.

Rainfall for the week ending 20 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: 20/4/2022

1.2. Global production conditions and climate outlook

Crop production is affected by long-term trends in average rainfall and temperature, interannual climate variability, shocks during specific growth stages, and extreme weather events ([IPCC 2012](#)). Some crops are more tolerant than others to certain types of stresses, and at each growth stage, different types of stresses affect each crop species in different ways.

The precipitation anomalies and outlooks presented here give an indication of the current and future state of production conditions for the major grain and oilseed producing countries which are responsible for over 80% of global production. This is an important input to assessing the global grain supply outlook.

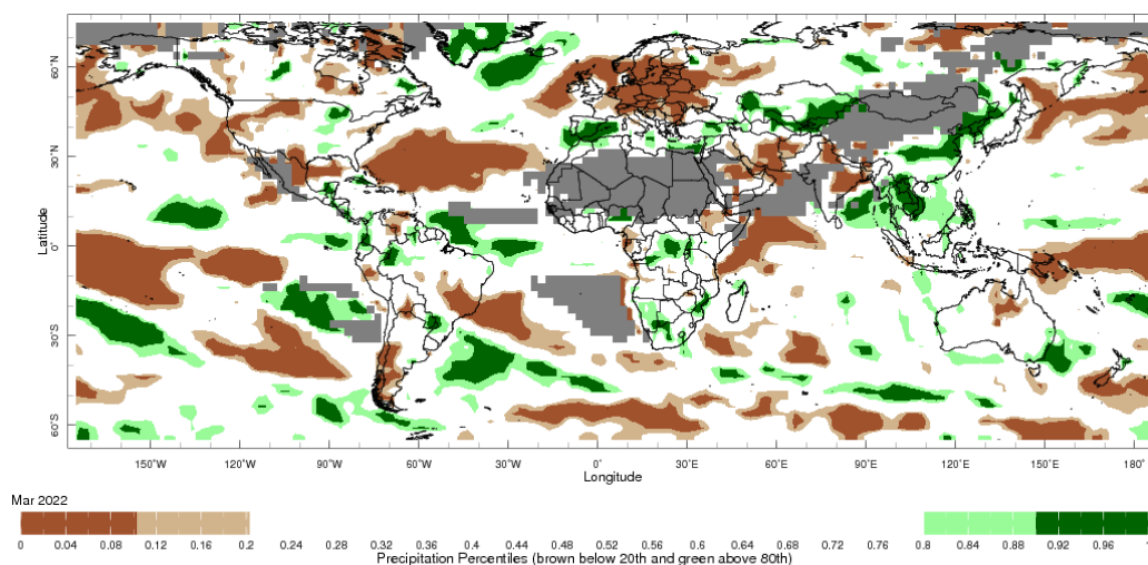
March precipitation percentiles and current production conditions

As of the end of March 2022, rainfall was mixed for the world's major grain-producing and oilseed-producing regions.

In the northern hemisphere, precipitation was below average in northern and western United States, central and northern Europe, Ukraine, north-eastern India and parts of eastern Canada. Precipitation was above average for north-eastern United States, Kazakhstan, central Canada, northern and central China and south-western Europe. Precipitation was close to average across the remainder of the major grain-producing and oilseed-producing regions in the northern hemisphere.

In the southern hemisphere, March precipitation was below average in parts of northern Argentina and Paraguay, as well as parts of Brazil. Precipitation was above average for parts of southern and western Brazil, South Africa and eastern Australia. Precipitation was close to average across the remainder of major grain-producing and oilseed-producing regions in the southern hemisphere.

Global precipitation percentiles, March 2022



Note: The world precipitation percentiles indicate a ranking of precipitation for March, with the driest (0th percentile) being 0 on the scale and the wettest (100th percentile) being 1 on the scale. Percentiles are based on precipitation estimates from the NOAA Climate Prediction Center's [Climate Anomaly Monitoring System Outgoing Precipitation Index](#) dataset. Precipitation estimates for March 2022 are compared with rainfall recorded for that period during the 1981 to 2010 base period.

Source: International Research Institute for Climate and Society

As at 28 March 2022 global production conditions were mixed for the production of wheat, corn, rice and soybean.

In the northern hemisphere production conditions for wheat have been mixed. Climatic conditions have been favourable for wheat development in India, the Russian Federation, Turkey and the United Kingdom. Production is mixed in Canada, the European Union and the United States due to dryness in some areas. Flooding along the Yellow River in China last year delayed and reduced sowing of winter wheat in autumn, which is expected to negatively impact production. The conflict

Rainfall outlook and potential impact on the future state of production conditions between May 2022 to July 2022

Region	May-July rainfall outlook	Potential impact on production
Argentina	Below average rainfall is more likely across major production areas of Argentina, with isolated areas of above average rainfall, between May and July 2022.	Below average rainfall will facilitate the harvesting of sorghum, rice, millet, soybeans, corn, sunflower, cotton and nuts. However, the dry conditions are likely to negatively impact the germination and establishment of wheat.
Black Sea Region	Below average rainfall is forecast for most of Kazakhstan, Turkey and southern regions in the Russian Federation. The rainfall outlook for Ukraine is mixed, while average rainfall is expected for remaining parts of Russia between May and July 2022.	Below average rainfall in parts of Kazakhstan, Turkey and southern Russia may adversely affect grain filling of wheat and canola, as well as cotton, corn and sunflower from July 2022. Average rainfall across much of the Russian Federation is likely to support similar crops in the south and the heading of spring wheat in the north from June 2022.
Brazil	Above average rainfall is more likely across northern and western Brazil and below average rainfall is more likely across much of southern Brazil between May and July 2022.	Above average rainfall across central and western Brazil may interrupt the harvesting of cotton and corn. Below average rainfall in the south is likely to impede the germination and establishment of wheat in June and July 2022.
Canada	Below average rainfall is forecast for southern parts of the Canadian prairies, while average rainfall is more likely across remaining parts of Canada between May and July 2022.	Below average rainfall is likely to negatively impact yield potentials of winter wheat as they enter critical reproductive phases from July 2022, as well as the growth and development of corn, soybeans and sunflower.
China	Above average rainfall is more likely across much of northern and central China, while below average rainfall is more likely across south-eastern China.	Above average rainfall across much of China is likely to support the flowering of cotton, corn, groundnuts, single rice, soybeans, sorghum, sunflower and spring wheat. The wet conditions may also delay the harvest of early sown rice in July 2022.
Europe	Above average rainfall is more likely for parts of northern Europe, and below average rainfall is more likely for southern, western and eastern Europe. Average rainfall is expected for remaining parts of Europe between May and July 2022.	Above average rainfall across much of northern Europe is likely to support corn, soybeans, sunflower, canola and winter wheat through critical reproductive stages. Below average rainfall in the south, west and eastern Europe may adversely affect the yield potentials of sorghum, corn and cotton between May and July 2022.
South Asia (India)	Above average rainfall is more likely across much of India, although below average rainfall is expected in the west.	Above average rainfall may delay the planting of cotton, corn, groundnuts, millet, rice, sorghum and sunflower in May and June 2022. However, the increased soil moisture levels will support their germination and establishment.
Southeast Asia (SEA)	Above average rainfall is more likely for most countries in SEA between May and July 2022.	Above average rainfall across most of Southeast Asia is likely to benefit the growth, development and flowering of corn and rice.
The United States of America	Above average rainfall is more likely for parts of the north-eastern US and below average rainfall is more likely for the southern, central and western parts of the US between May and July 2022.	Average or better rainfall in the north-eastern US is likely to support yield potentials of spring wheat as it enters critical reproductive stages. Below average rainfall in the southern US may adversely impact the growth and development of corn, cotton, groundnuts, millet, rice, soybeans and sunflower.

1.3. Rainfall forecast for the next eight days

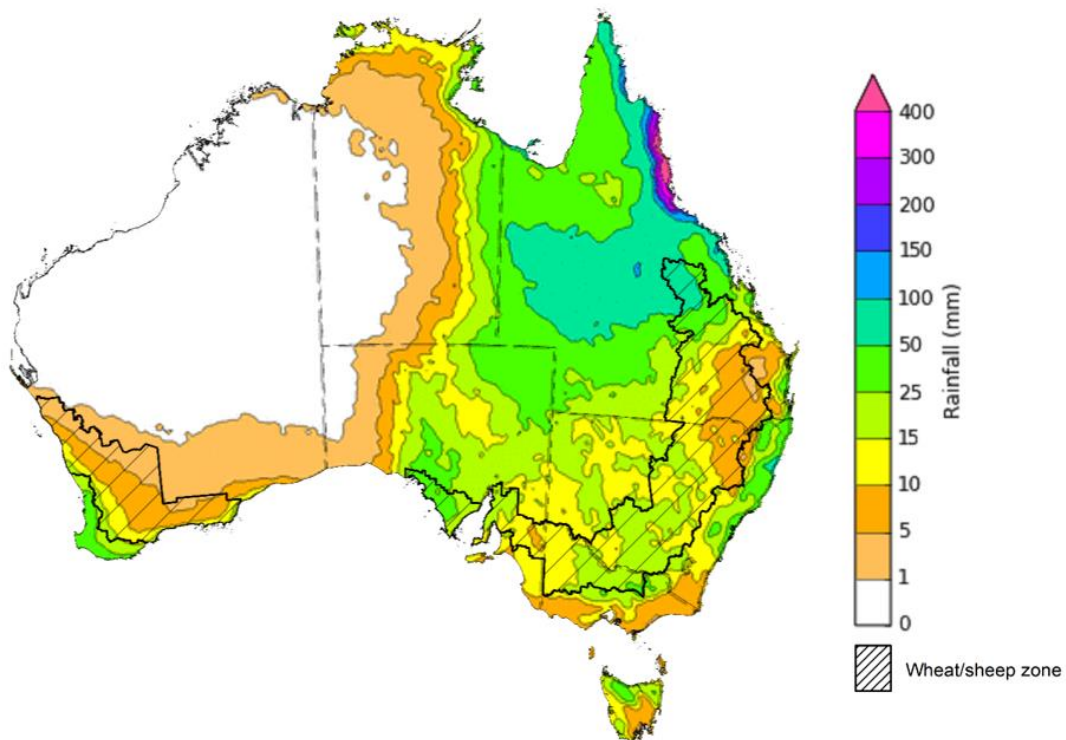
Over the 8-days to 28 April 2022, low-pressure troughs and onshore winds are expected to result in rainfall across eastern Australia, with a cold front bringing rainfall to the south-west. A high-pressure system to the south of Australia is forecast to bring mostly dry conditions for remaining parts of Western Australia.

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

In Australian cropping regions, rainfall totals of between 10 and 50 millimetres are expected across most of New South Wales, Victoria and South Australia, as well as western and northern Queensland, and parts of south-western Western Australia. Little to no rainfall is forecast for all remaining cropping regions during the next 8-days.

Relatively dry conditions across southern Queensland and northern New South Wales should allow for summer harvesting and winter planting activities to proceed. In Central Queensland, the expected rainfall may delay cotton harvesting activities but provide additional soil moisture for late sown summer crops. Upper soil moisture levels across southern New South Wales, Victorian and South Australian cropping regions are already above average, with the forecast rainfall to further boost soil moisture levels. These conditions will delay field access for the harvesting of summer crops, as well as planting of winter crops. For growers that dry sowed winter crops in recent weeks, the soil moisture conditions will support germination and establishment. However, most growers will be waiting for a break in the weather before the winter cropping season kicks off in earnest.

Total forecast rainfall (mm) for the period 21 April to 28 April 2022



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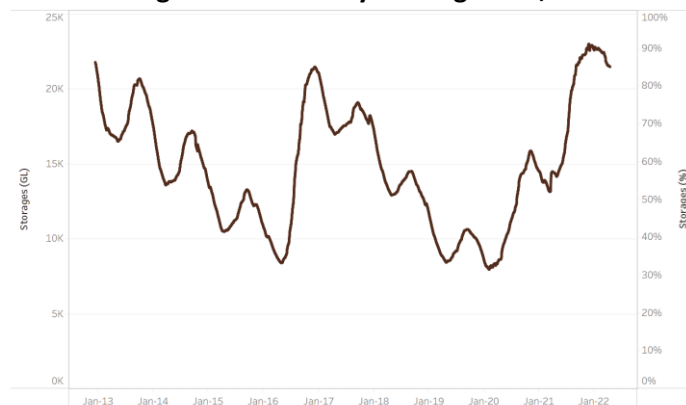
Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

2. Water

2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) decreased by 63 gigalitres (GL) between 13 April 2022 and 20 April 2022. The current volume of water held in storage is 21,452GL, which represents 85 per cent of total capacity. This is 50% or 7,118 GL more than at the same time last year.

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

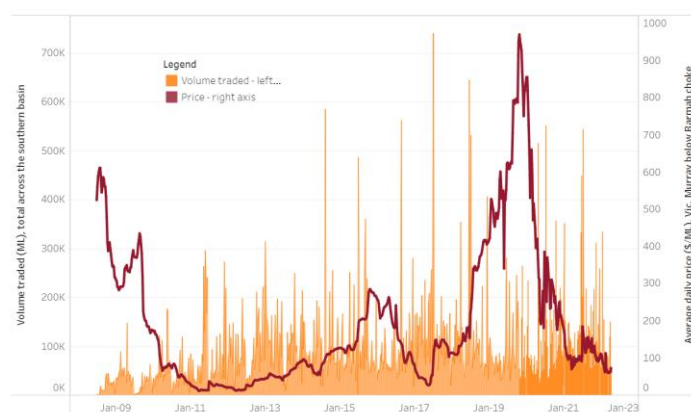


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke increased from \$63 per ML on 9 April 2022 to \$72 per ML on 14 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	9
NSW Murrumbidgee	11
VIC Goulburn-Broken	41
VIC Murray Below	72

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 21 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-210422

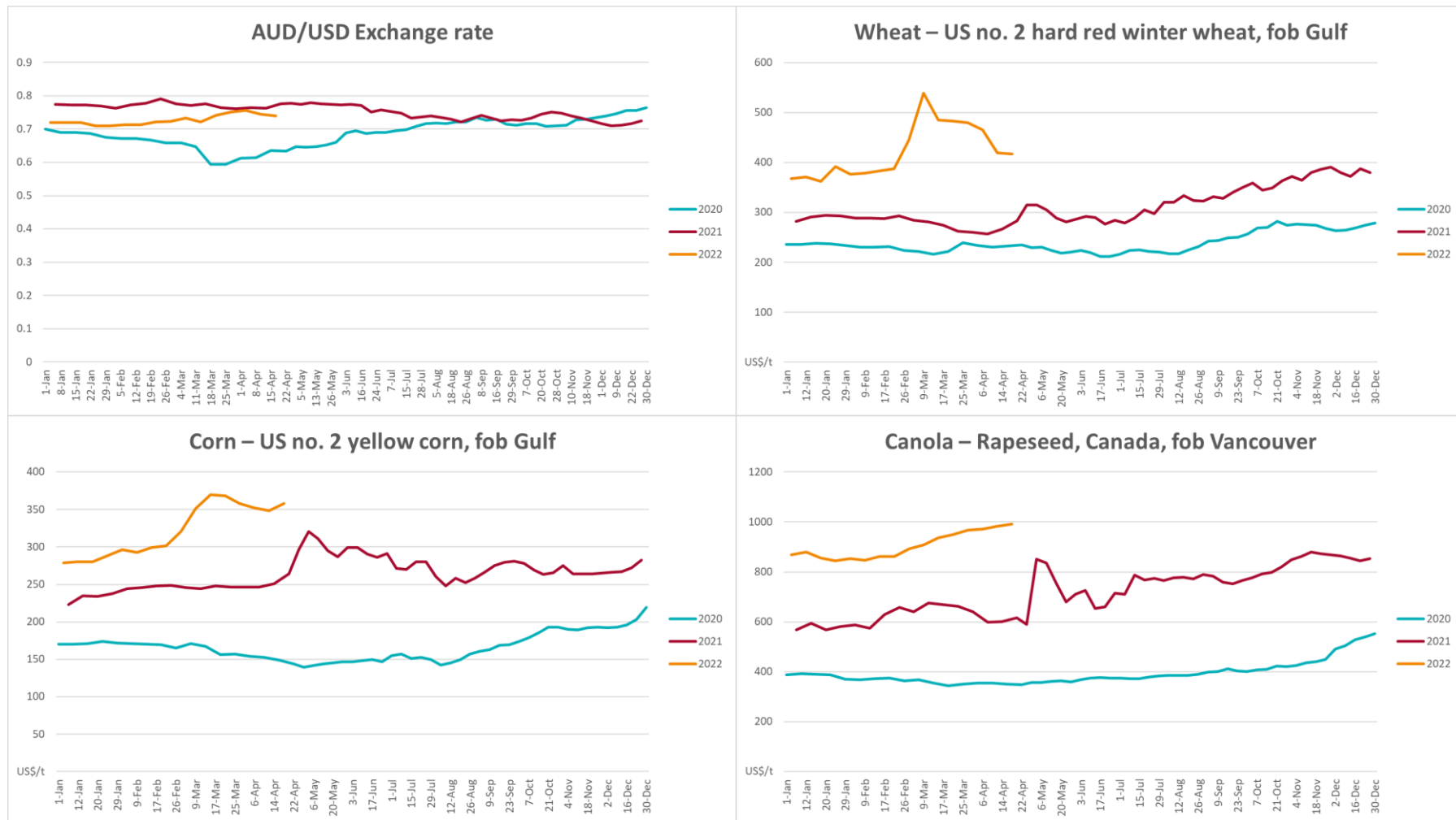
3. Commodities

Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	20-Apr	A\$/US\$	0.74	0.74	-1%	0.78	-5%
Wheat – US no. 2 hard red winter wheat, fob Gulf	20-Apr	US\$/t	417	419	-1%	315	32%
Corn – US no. 2 yellow corn, fob Gulf	20-Apr	US\$/t	358	348	3%	296	21%
Canola – Rapeseed, Canada, fob Vancouver	20-Apr	US\$/t	990	982	1%	590	68%
Cotton – Cotlook 'A' Index	20-Apr	USc/lb	162	154	5%	95	71%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	20-Apr	USc/lb	19.9	20.1	-1%	17	17%
Wool – Eastern Market Indicator	20-Apr	Ac/kg clean	1,395	1,395	0%	1,310	6%
Wool – Western Market Indicator	06-Apr	Ac/kg clean	1,417	1,421	0%	1,222	16%
Selected Australian grain export prices							
Milling Wheat – APW, Port Adelaide, SA	20-Apr	A\$/t	528	527	0%	360	47%
Feed Wheat – ASW, Port Adelaide, SA	20-Apr	A\$/t	697	682	2%	357	95%
Feed Barley – Port Adelaide, SA	20-Apr	A\$/t	463	460	1%	294	58%
Canola – Kwinana, WA	20-Apr	A\$/t	1,238	1,225	1%	717	73%
Grain Sorghum – Brisbane, QLD	20-Apr	A\$/t	426	427	0%	347	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%

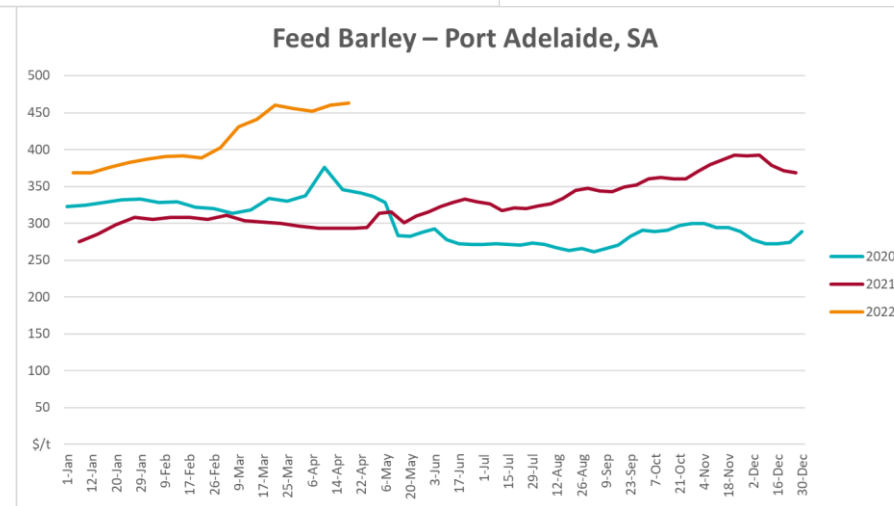
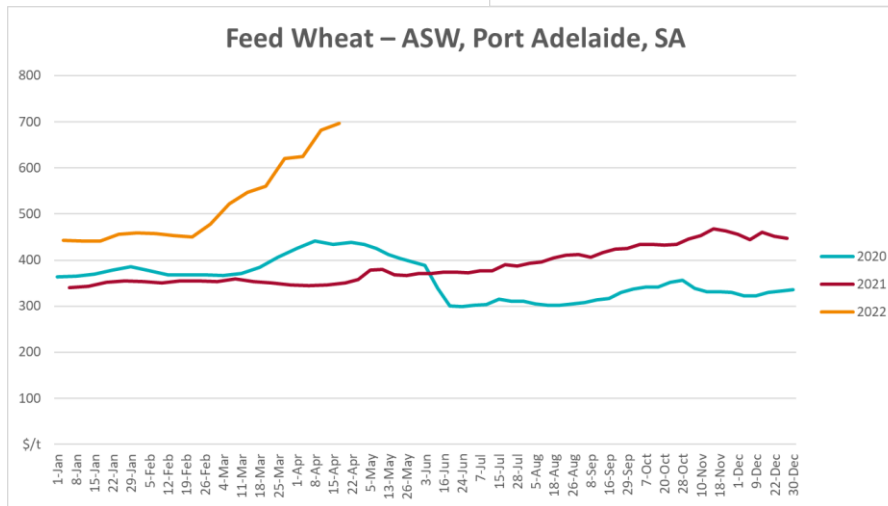
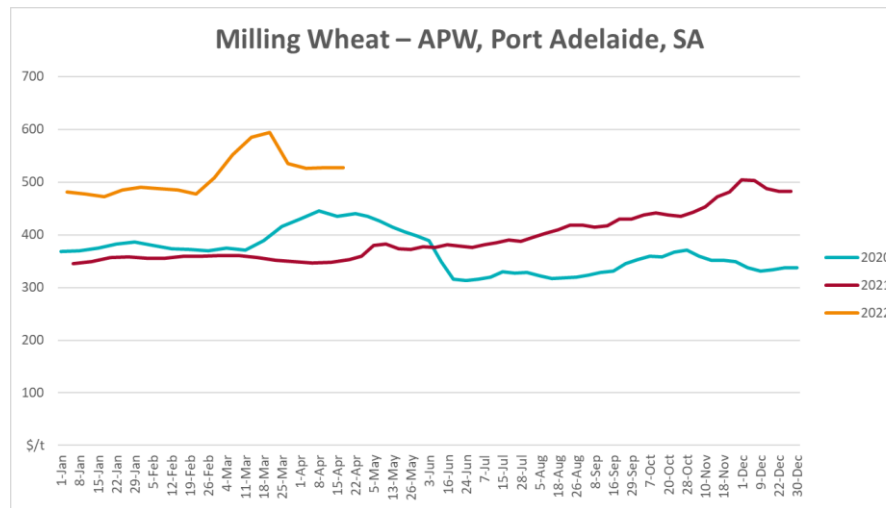
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Global Dairy Trade (GDT) weighted average prices ^a							
Dairy – Whole milk powder	20-Apr	US\$/t	4,207	4,532	-7%	2,952	43%
Dairy – Skim milk powder	20-Apr	US\$/t	4,408	4,599	-4%	2,747	60%
Dairy – Cheddar cheese	20-Apr	US\$/t	6,185	6,472	-4%	4,398	41%
Dairy – Anhydrous milk fat	20-Apr	US\$/t	6,802	6,908	-2%	4,331	57%

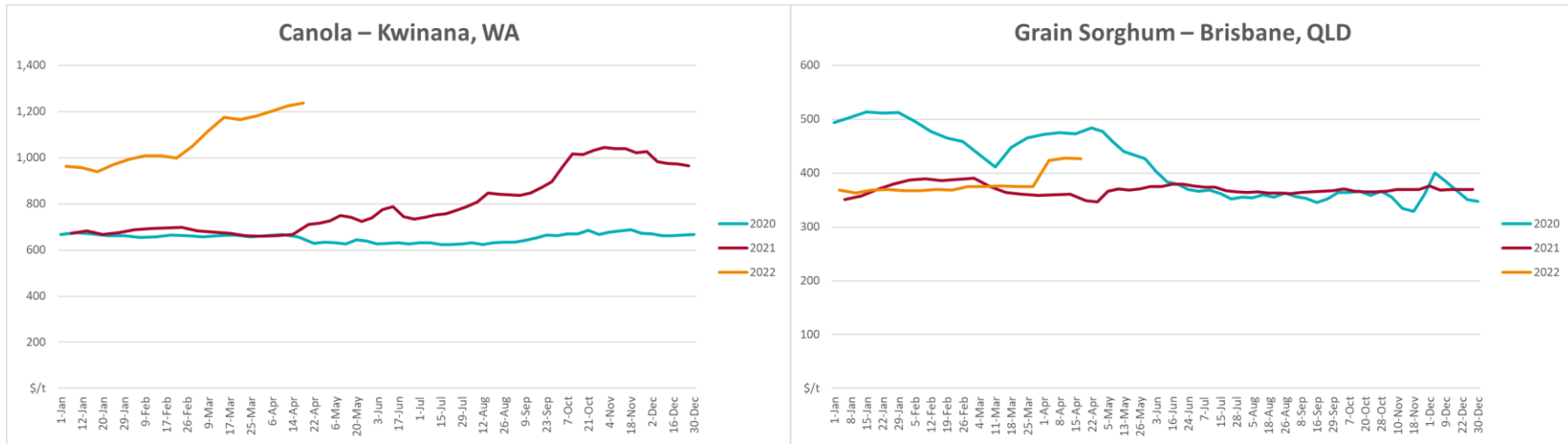
^a Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

3.1. Selected world indicator prices

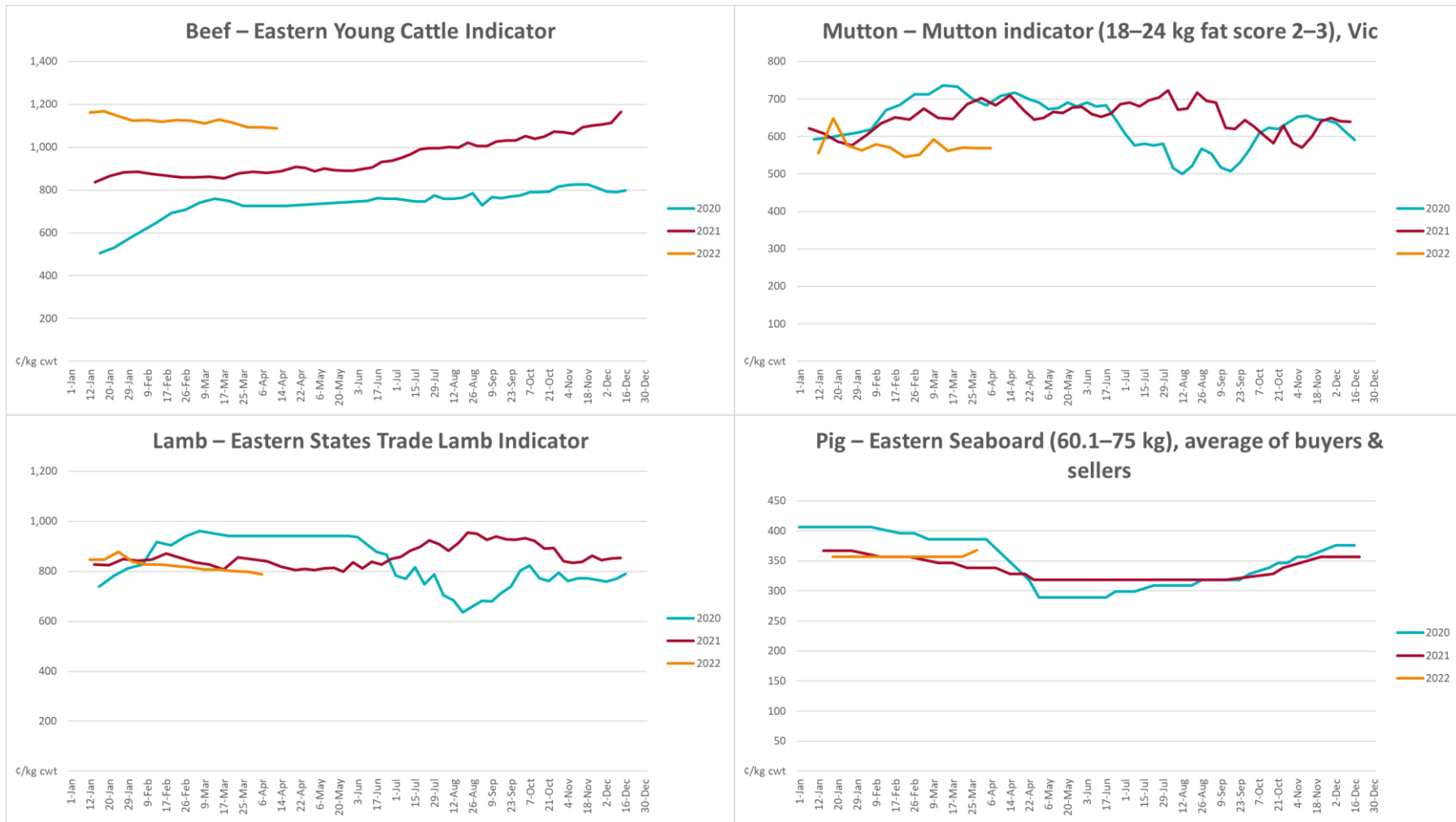


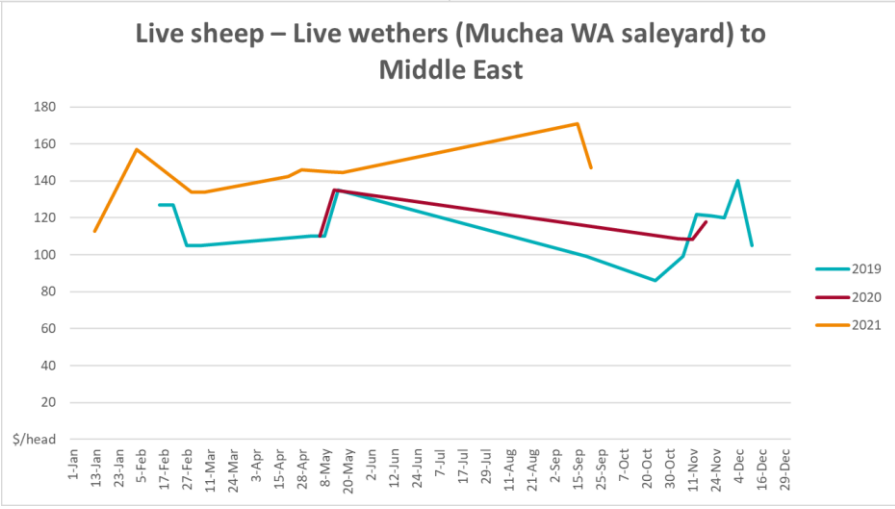
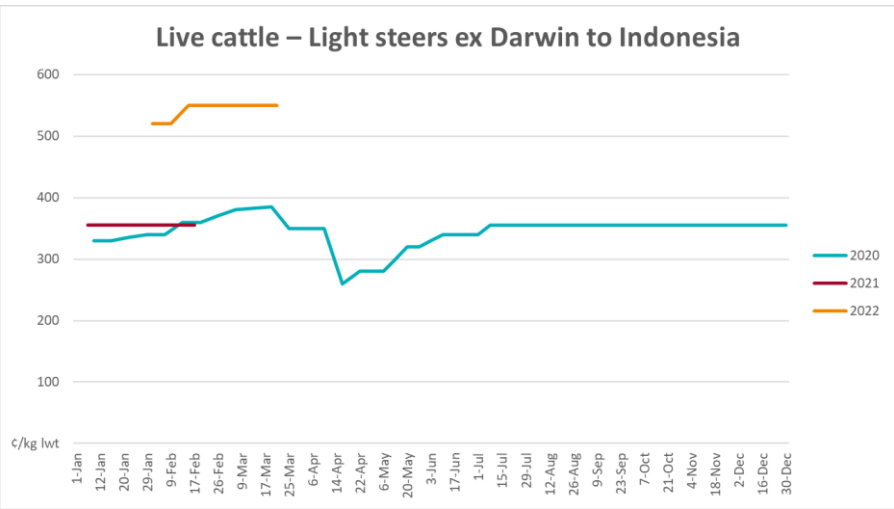
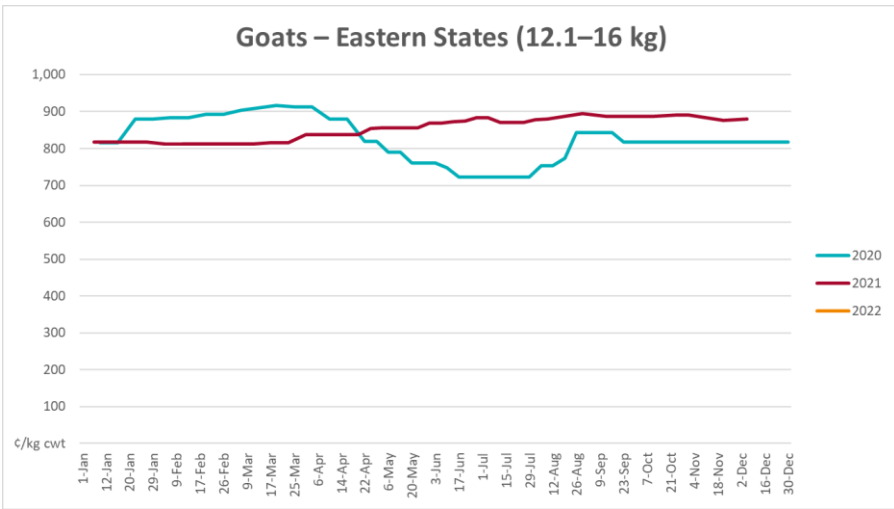
3.2. Selected domestic crop indicator prices



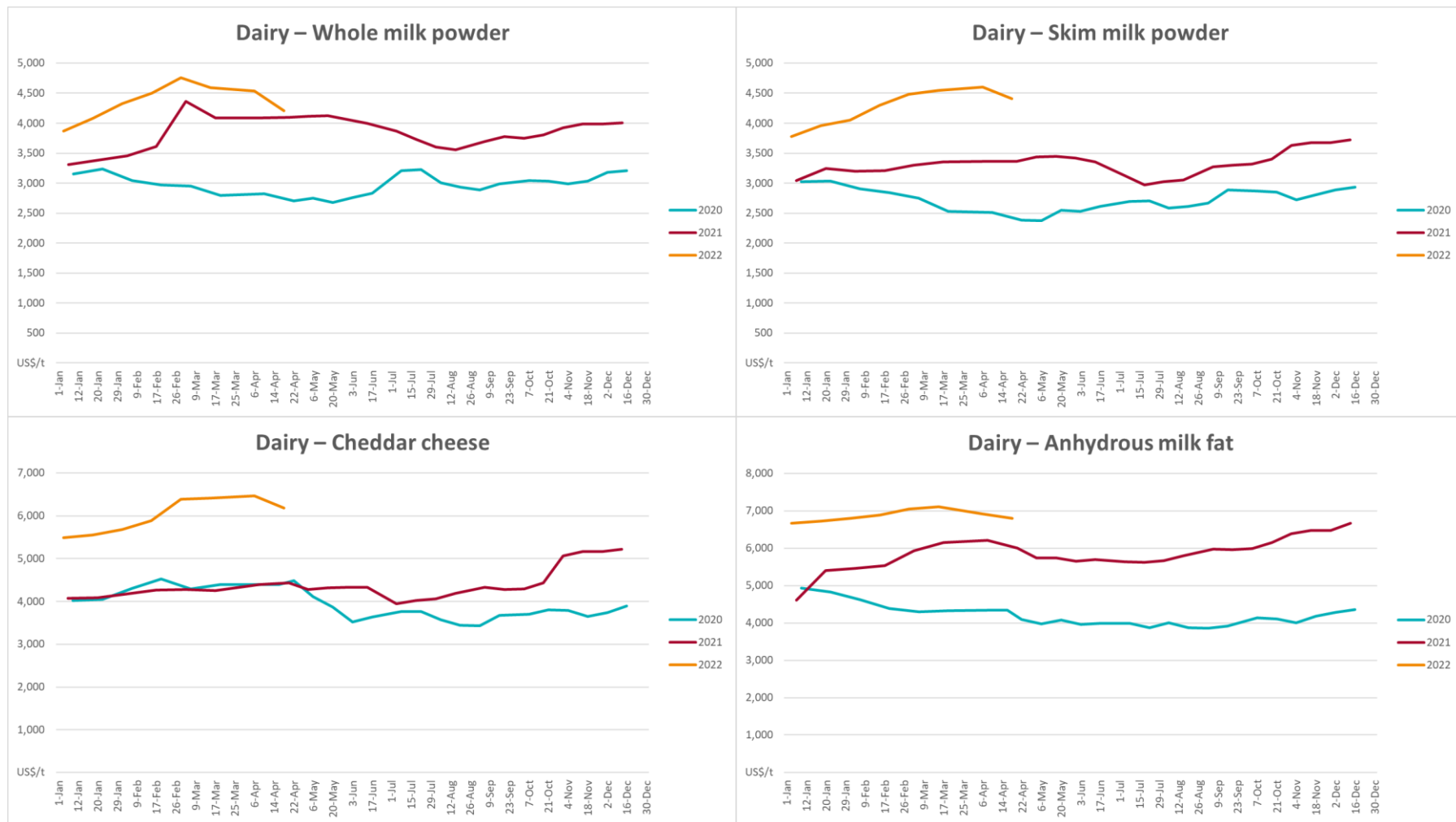


3.3. Selected domestic livestock indicator prices

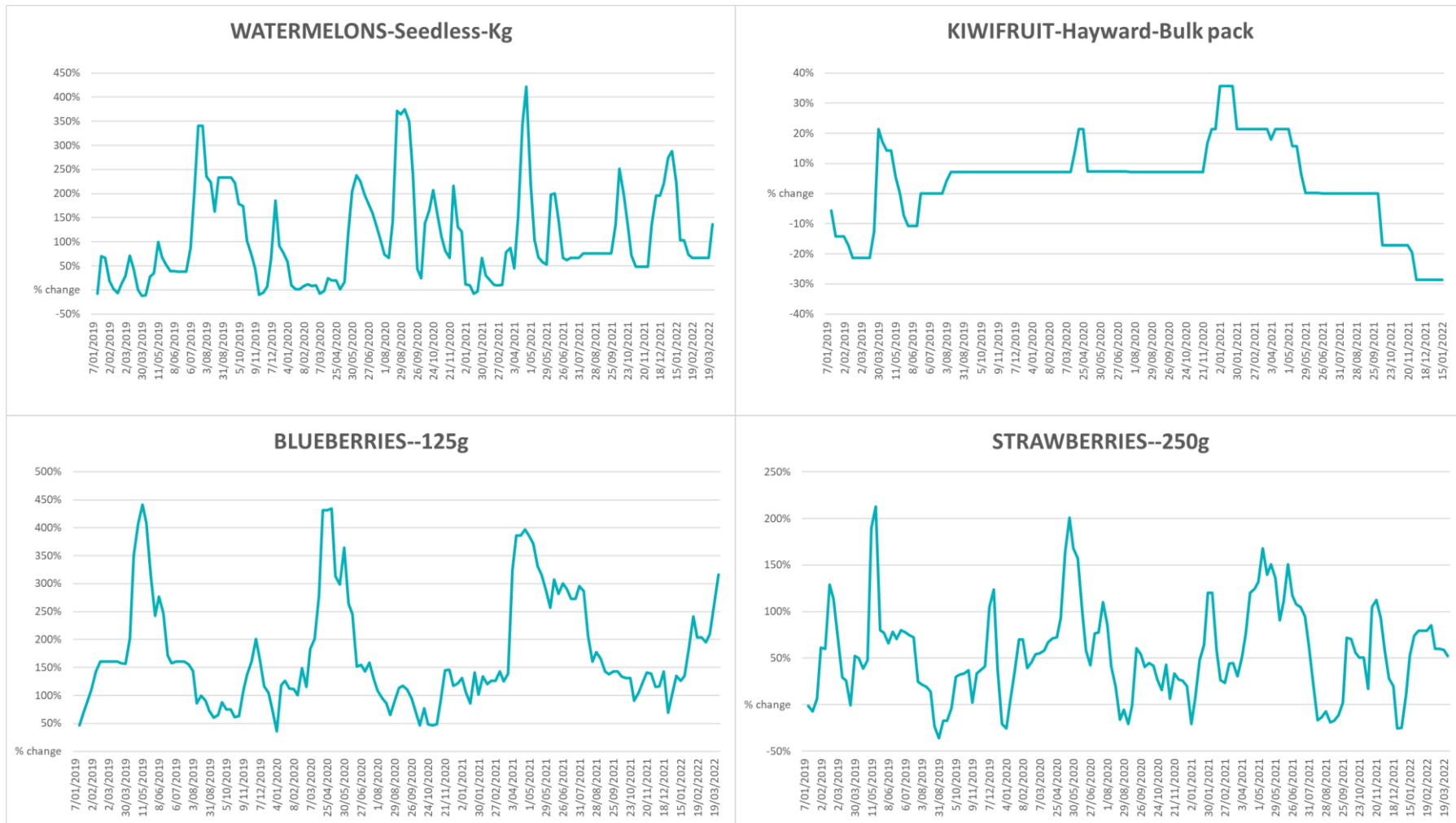


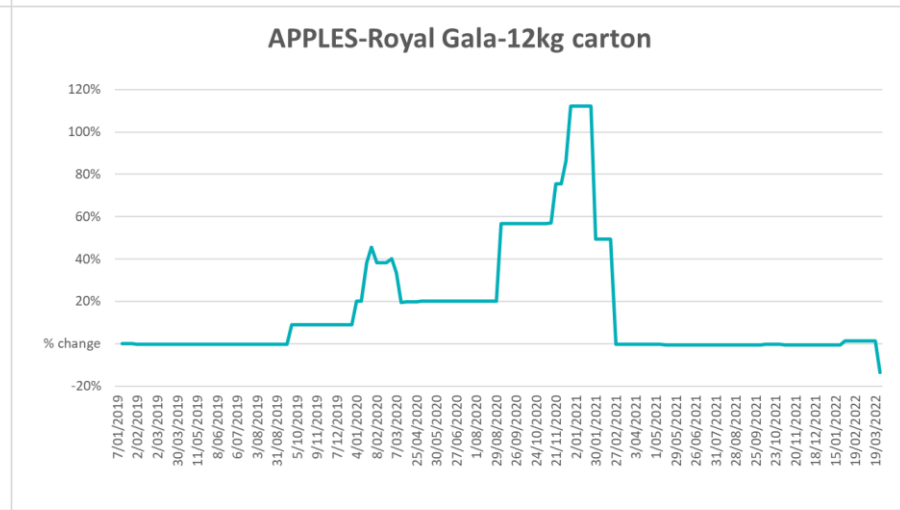
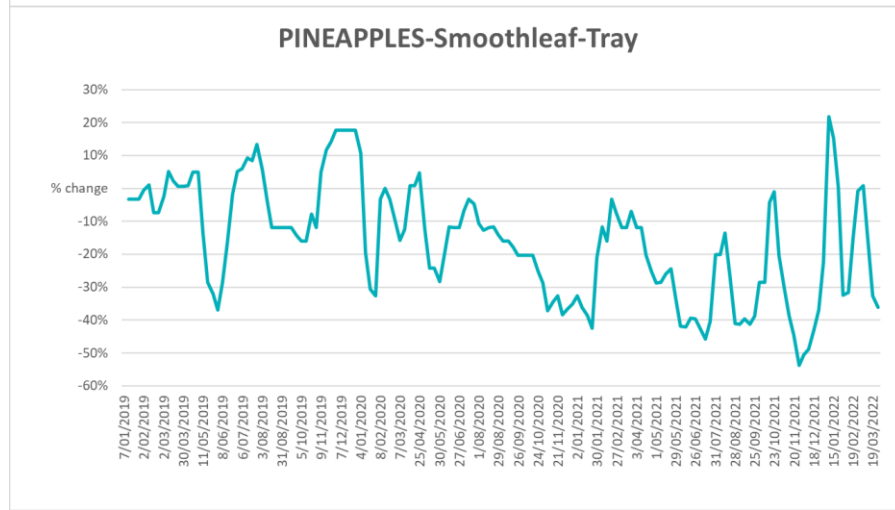
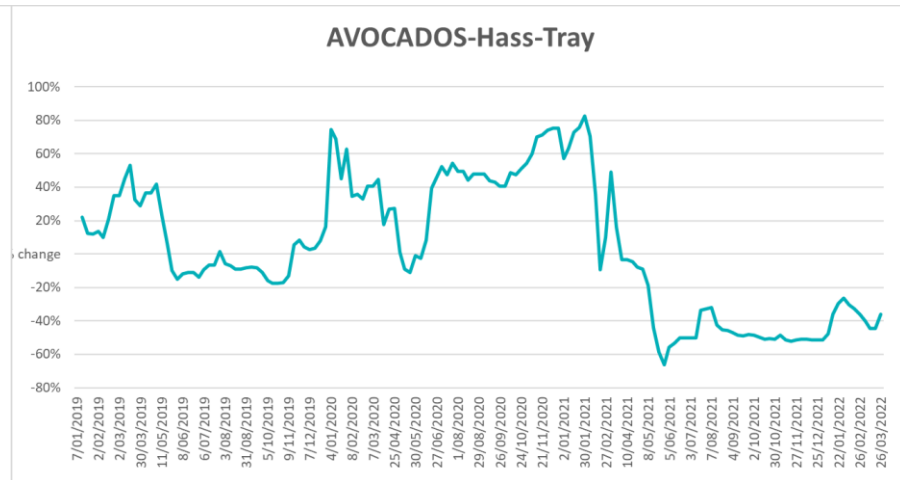
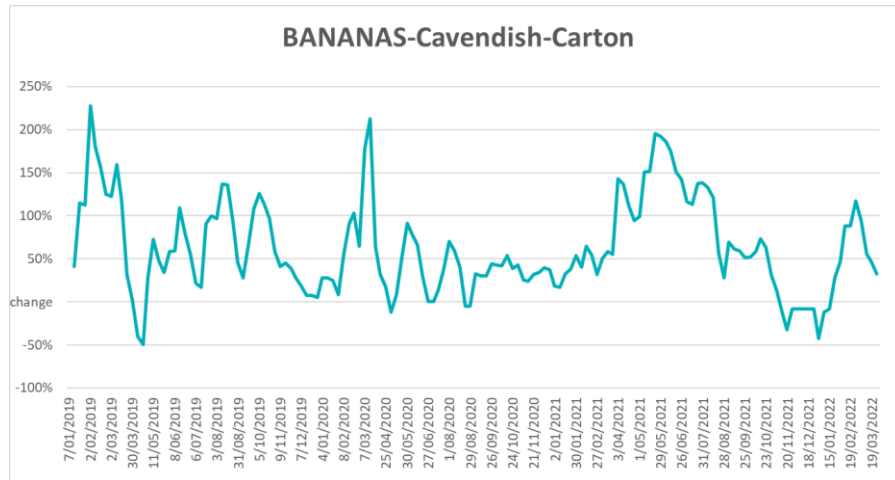


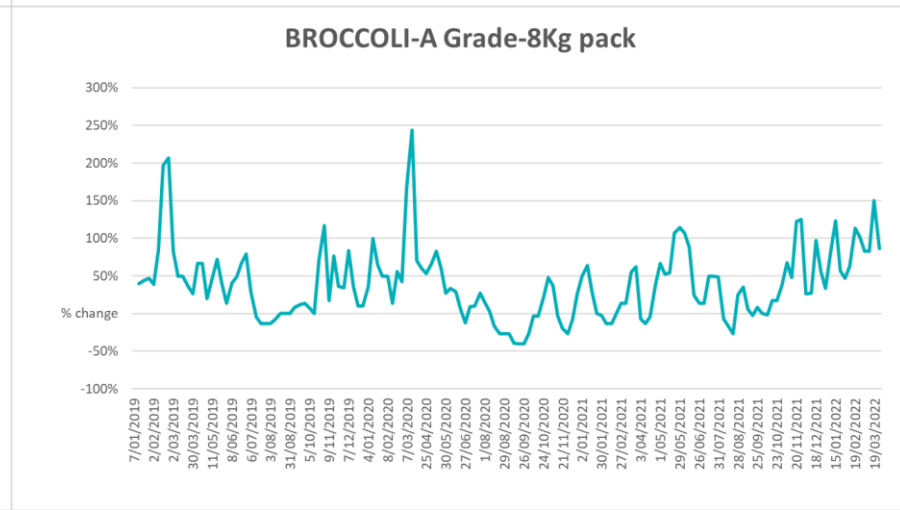
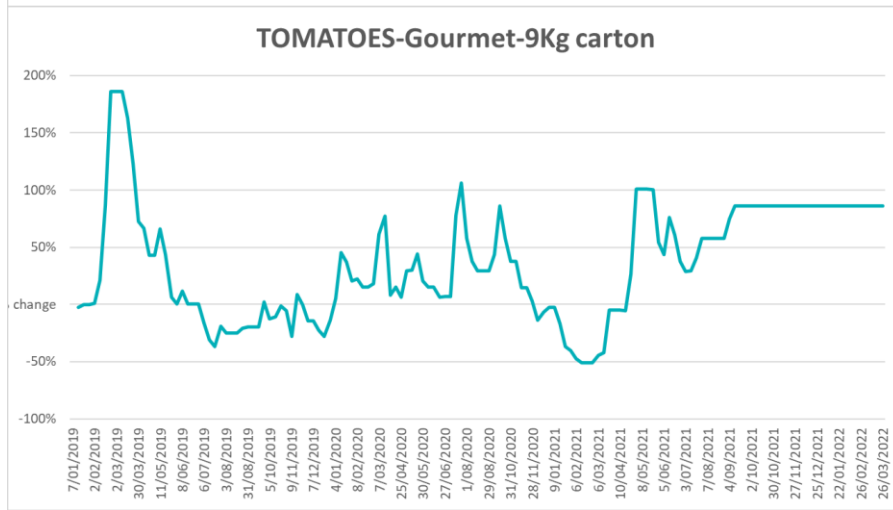
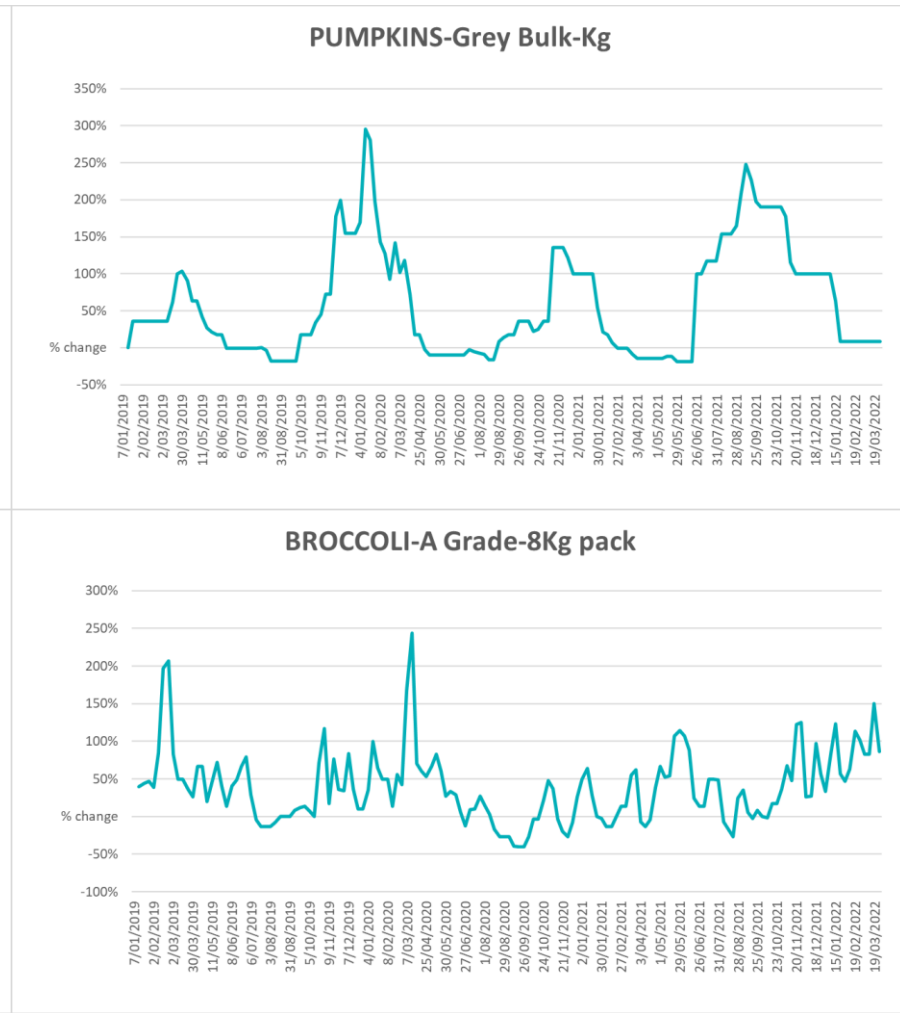
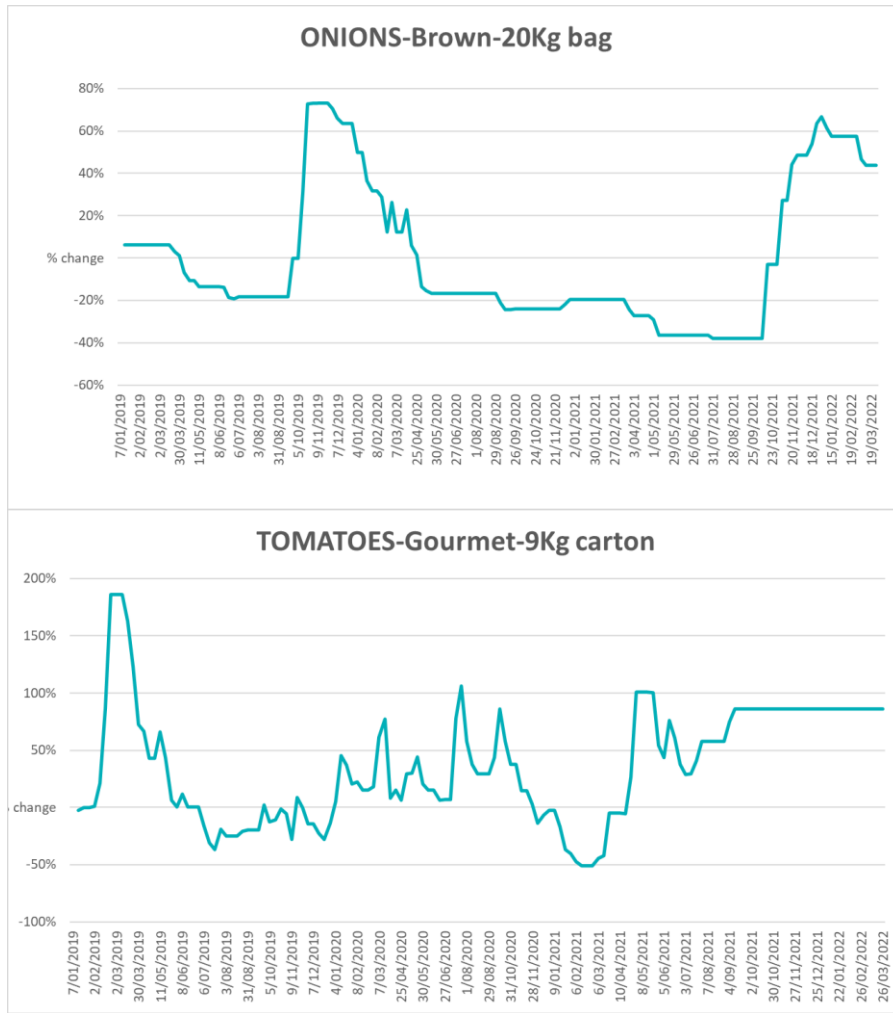
3.4. Global Dairy Trade (GDT) weighted average prices



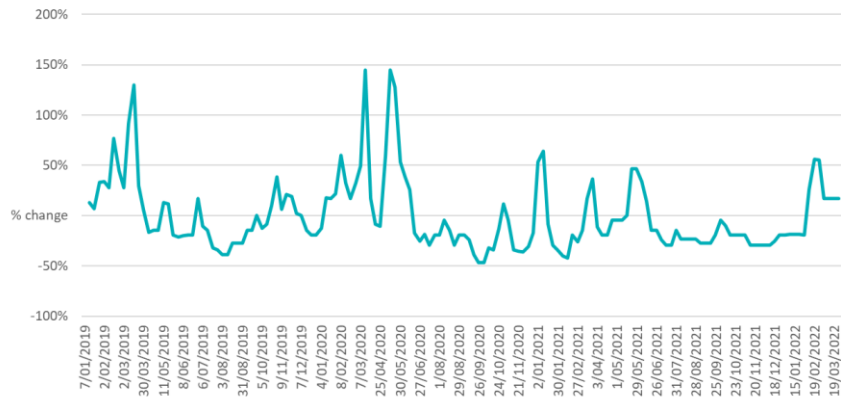
3.5. Selected fruit and vegetable prices



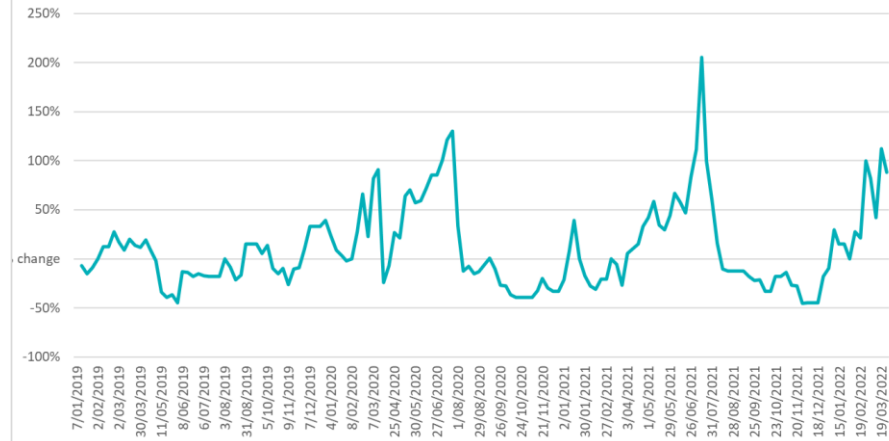




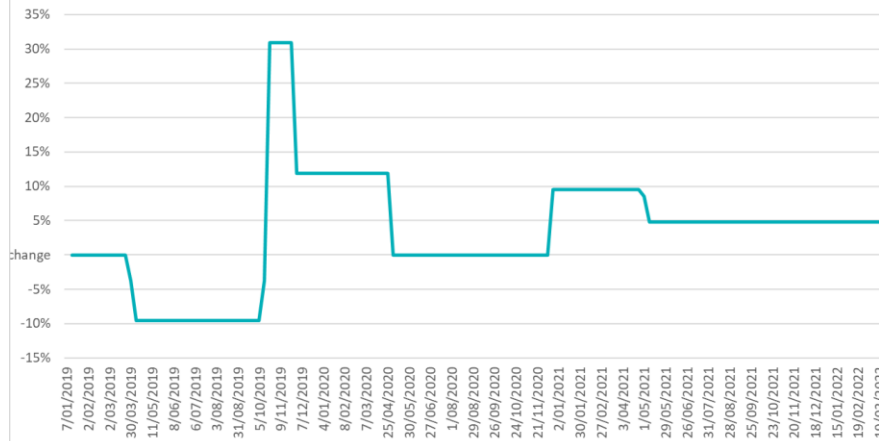
CAULIFLOWERS--Carton



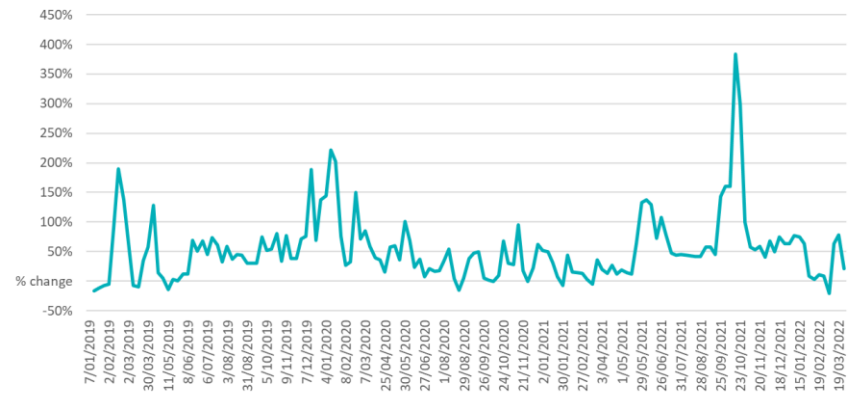
LETTUCE-Iceberg-Carton



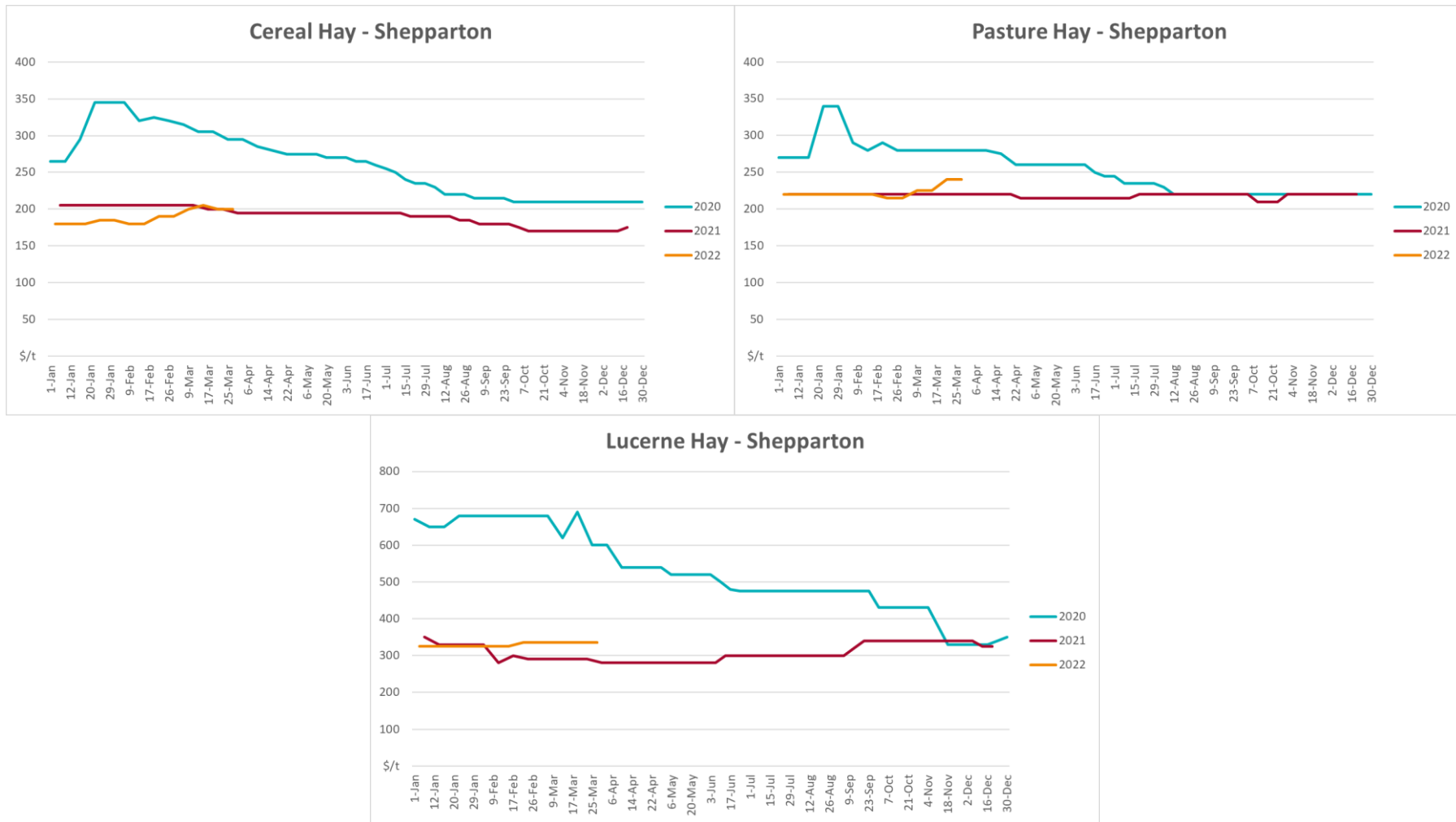
POTATOES-Brushed White-20Kg bag



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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