



Weekly Australian Climate, Water and Agricultural Update

No. 10/2022

17 March 2022

Summary of key issues

- For the week ending 16 March 2022, low-pressure troughs across northern and eastern Australia resulted in moderate rainfall. The east coast low-pressure system that resulted in heavy rainfall and flooding across eastern Australia in recent weeks moved offshore. In the south, high-pressure systems resulted in clear, dry conditions for large areas of central and western Australia (see Section 1.1).
- A second week of dry conditions across much of northern New South Wales and southern Queensland has likely allowed harvesting activities of early sown summer crops to resume. The wet conditions in previous weeks have caused grain sprouting in a small proportion of the crop awaiting harvest. Rainfall across northern cropping regions of Queensland has improved soil moisture conditions over the last 7-days and will support late sown summer grain crops through establishment and vegetative growth.
- Below average rainfall globally during February is likely to result in lower-than-expected winter wheat production potential in the United States, parts of Europe and the Ukraine. The conflict in Ukraine has generated high levels of uncertainty around wheat production for 2022. Below average rainfall during February has also negatively affected corn and soybean production across parts of Argentina and Brazil. This is providing, a deterioration in global production conditions compared to those seen back in January 2022, that were used to formulate ABARES forecasts of global grain supplies and the impact on world prices in its March 2022 edition of *Agricultural commodities*. 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 24 March 2022, low-pressure troughs are expected to bring rainfall to eastern and northern Australia. Meanwhile, high pressure systems are expected to bring mostly dry conditions to the remainder of western, central and southern Australia. Recent rainfall across northern New South Wales and Queensland has boosted soil moisture levels which will support establishment and vegetative growth of later sown summer crops during this period of little forecast rainfall (see Section 1.3).
- Water storage in the Murray–Darling Basin (MDB) decreased by 139 gigalitres (GL) between 9 March 2022 and 15 March 2022. The current volume of water held in storage is 22,099 GL, which represents 88 per cent of total capacity. This is 68% or 8,964 GL more than at the same time last year.
- Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$70 per ML on 25 February 2022 to \$67 per ML on 4 March 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

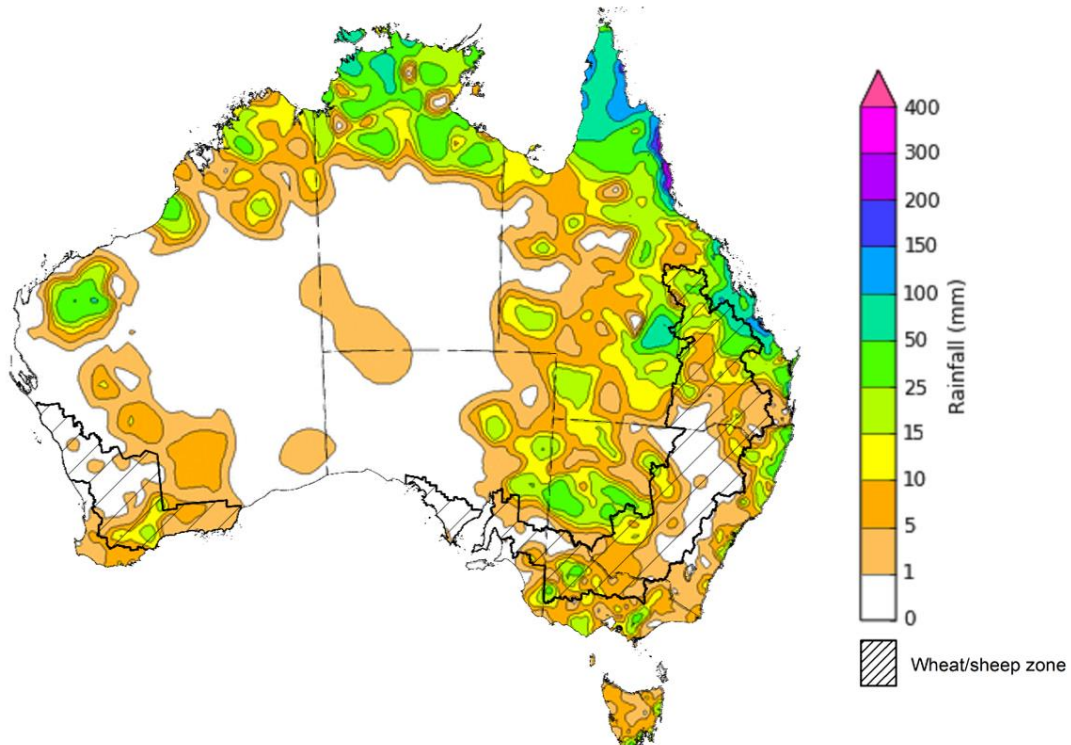
For the week ending 16 March 2022, low-pressure troughs across northern and eastern Australia resulted in moderate rainfall. The east coast low-pressure system that resulted in heavy rainfall and flooding across eastern Australia in recent weeks moved offshore. In the south, high-pressure systems resulted in clear, dry conditions for large areas of central and western Australia.

Rainfall totals of between 10 and 50 millimetres were recorded across north-eastern and western New South Wales, eastern and south-western Queensland, parts of Victoria, eastern South Australia, south-western and northern parts of Western Australia, the north of the Northern Territory and parts of Tasmania. Rainfall totals in excess of 50 millimetres were recorded in parts of eastern and northern Queensland and scattered areas 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 isolated parts of New South Wales, Victoria and Western Australia, as well as northern Queensland. Little to no rainfall was recorded across cropping regions in remaining parts of New South Wales, much of southern Queensland, South Australia and Western Australia.

A second week of dry conditions across much of northern New South Wales and southern Queensland has likely allowed harvesting activities of early sown summer crops to resume. The wet conditions in previous weeks have caused grain sprouting in a small proportion of the crop awaiting harvest. Rainfall across northern cropping regions of Queensland has improved soil moisture conditions over the last 7-days and will support late sown summer grain crops through establishment and vegetative growth.

Rainfall for the week ending 16 March 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. 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.

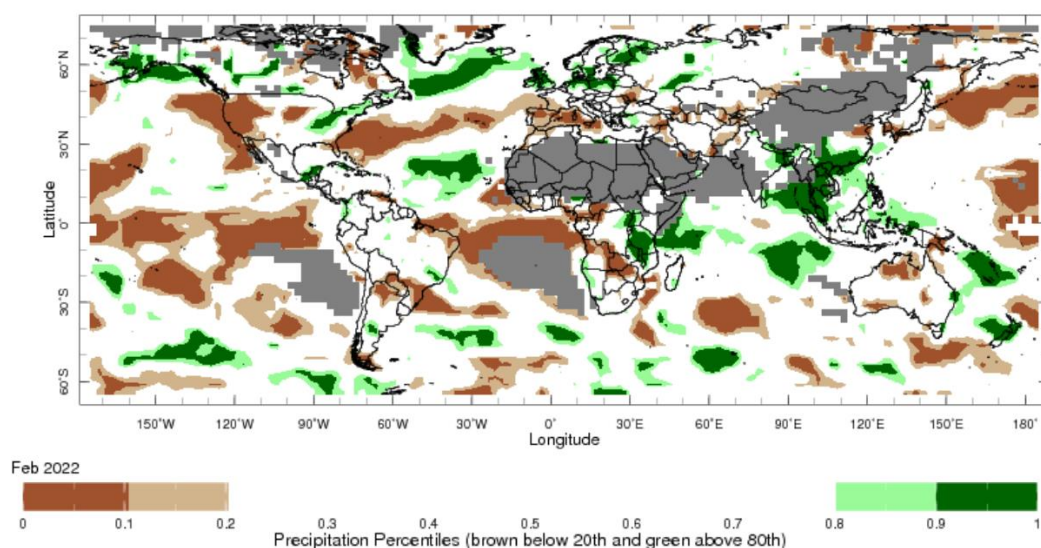
February precipitation percentiles and current production conditions

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

In the northern hemisphere, precipitation was below average in the central and western United States, southern Kazakhstan, western Europe, southern Russia, eastern Ukraine, northern China and parts of eastern Canada. Precipitation was above average for north-eastern United States, the Volga district of the Russian Federation, central and western Canada, southern China and northern 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, February precipitation was below average in northern Argentina, Paraguay, Uruguay, southern Brazil and western Australia. Precipitation was close to average across the remainder of major grain-producing and oilseed-producing regions in the southern hemisphere.

Global precipitation percentiles, February 2022



Note: The world precipitation percentiles indicate a ranking of precipitation for February, 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 February 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 February 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. It has been reported that, in China extremely heavy rainfall late last year delayed the planting of about one-third of the normal wheat acreage, with the condition of wheat

Rainfall outlook and potential impact on the future state of production conditions between April 2022 to June 2022

Region	April-June rainfall outlook	Potential impact on production
Argentina	Below average rainfall is more likely across major production areas of Argentina between April and June 2022.	Below average rainfall is expected to adversely affect the development and yield potential of sorghum, rice, millet, soybeans, corn, sunflower, cotton and nuts, and the planting of wheat.
Black Sea Region	Below average rainfall is forecast for southern parts of Kazakhstan and much of Turkey. Ukraine is likely to receive above average rainfall, while the Russian Federation is more likely to record close to average rainfall between April and June 2022.	Below average rainfall in parts of Kazakhstan and Turkey may adversely affect winter wheat and canola development, as well as cotton, corn and sunflower planting from April 2022. Average or better rainfall across Ukraine and the Russian Federation is likely to support similar crops in the south and the planting and development of spring wheat planting in the north from April 2022.
Brazil	Above average rainfall is more likely across central and western Brazil and below average rainfall is more likely across much of southern Brazil between April and June 2022.	Above average rainfall across central and western Brazil is likely to support the development of cotton and corn but may impede soybean harvesting. Below average rainfall in the south may support the maturing and harvesting of rice, sorghum, millet, sunflower, soybeans, cotton, nuts and corn, but may delay the planting of wheat in May 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 April and June 2022.	Below average rainfall is likely to negatively impact winter wheat development in Canada from April 2022, as well as the planting and establishment of spring wheat, canola, corn, soybeans and sunflower from May 2022.
China	Above average rainfall is more likely across much of central China and below average rainfall is more likely across isolated parts of northern and south-eastern China.	Above average rainfall across much of China is likely to support the development of winter wheat and canola and the planting and development of early rice, single rice, cotton, spring wheat, corn, sorghum, soybeans, sunflower and nuts from April 2022.
Europe	Above average rainfall is more likely for northern Europe, and below average rainfall is more likely for southern and eastern Europe. Average rainfall is expected for remaining parts of Europe between April and June 2022.	Above average rainfall across much of northern Europe is likely to support winter wheat and canola development and the planting and development of corn, soybeans and sunflower. Below average rainfall in the south and eastern Europe may adversely affect the development of winter wheat, corn and cotton between April and June 2022.
South Asia (India)	Above average rainfall is more likely across much of India, although below average rainfall is more likely in the north-west.	Above average rainfall may delay the harvesting of wheat and canola, as well as planting of cotton, corn, groundnuts, millet, rice, sorghum and sunflower between April and June 2022.
Southeast Asia (SEA)	Above average rainfall is more likely for most SEA countries. The rainfall outlook is mixed for Indonesia, with scattered areas of below and above average rainfall more likely between April and June 2022.	Average or better rainfall across most of Southeast Asia is likely to benefit corn and rice planting, development and harvesting. Below average rainfall in parts of Indonesia may adversely impact rice, corn and soybean production.
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 and western parts of the US between April and June 2022.	Average or better rainfall in the north-eastern US is likely to support winter wheat as it comes out of dormancy, as well as the planting and development of spring wheat, canola, corn, cotton, rice, soybeans and nuts. Below average rainfall in the southern US may adversely impact the development of winter wheat and the planting and development of corn, cotton, nuts, rice and soybeans.

1.3. Rainfall forecast for the next eight days

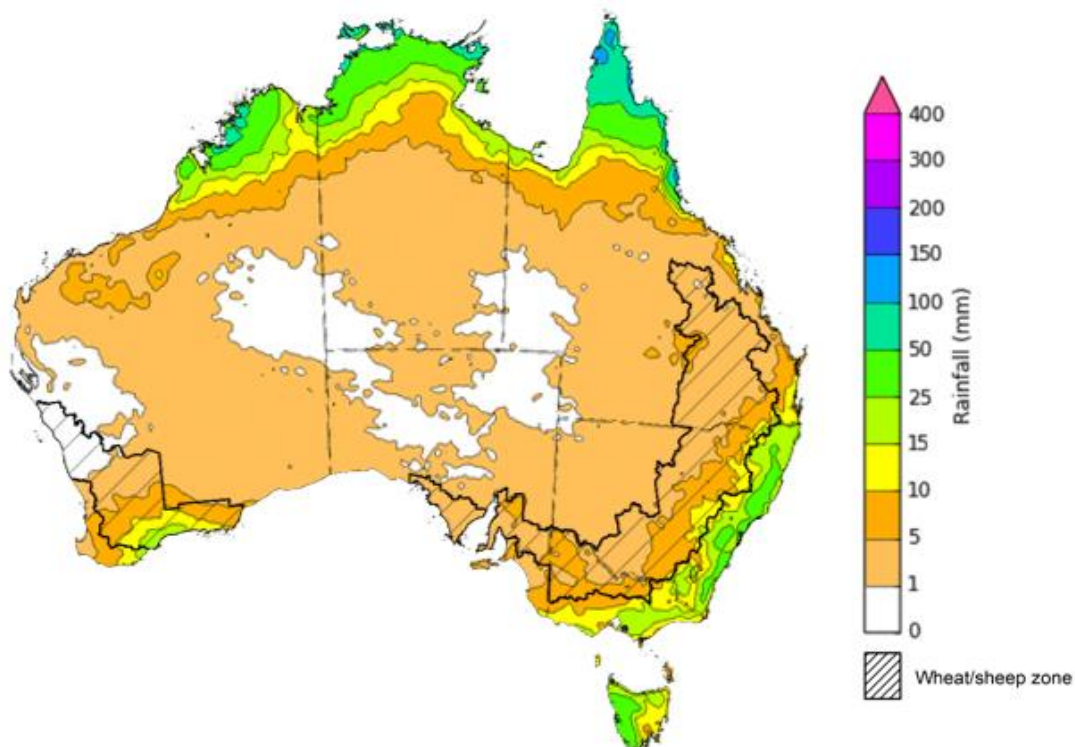
Over the 8-days to 24 March 2022, low-pressure troughs are expected to bring rainfall to eastern and northern Australia. Meanwhile, high pressure systems are expected to bring mostly dry conditions to the remainder of western, central and southern Australia.

Rainfall totals of between 10 and 50 millimetres are forecast for eastern New South Wales, northern parts of Queensland and the Northern Territory, much of southern Victoria, as well as parts of northern and southern Western Australia and most of Tasmania. Rainfall in excess of 100 millimetres is expected for parts of northern Queensland, Western Australia and the Northern Territory.

In Australian cropping regions, rainfall totals of between 5 and 25 millimetres are expected across eastern New South Wales, parts of Victoria and southern Western Australia. Little to no rainfall is forecast for all remaining cropping regions during the next 8-days.

The dry conditions forecast across northern New South Wales and southern Queensland will allow for the continued harvesting of early sown summer crops. Recent rainfall has boosted soil moisture levels which will support establishment and vegetative growth of later sown summer crops during this period of little forecast rainfall. For early sown summer crops with longer growth periods, such as cotton, root zone soil moisture levels across most summer cropping regions are average to above average and will help support them through critical stages of flowering and boll filling.

Total forecast rainfall (mm) for the period 17 March to 24 March 2022



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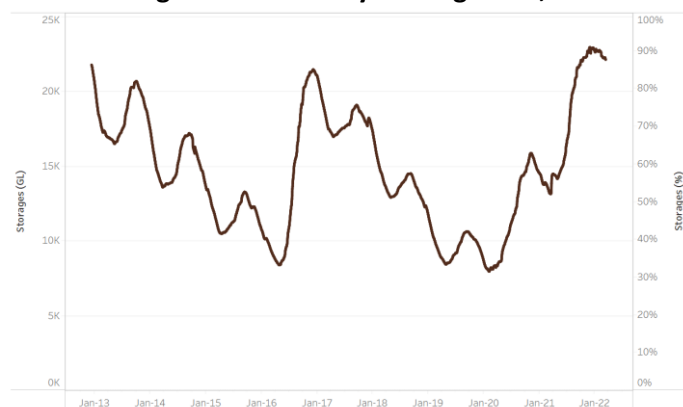
Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

2. Water

2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) decreased by 139 gigalitres (GL) between 9 March 2022 and 15 March 2022. The current volume of water held in storage is 22,099 GL, which represents 88 per cent of total capacity. This is 68% or 8,964 GL more than at the same time last year.

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

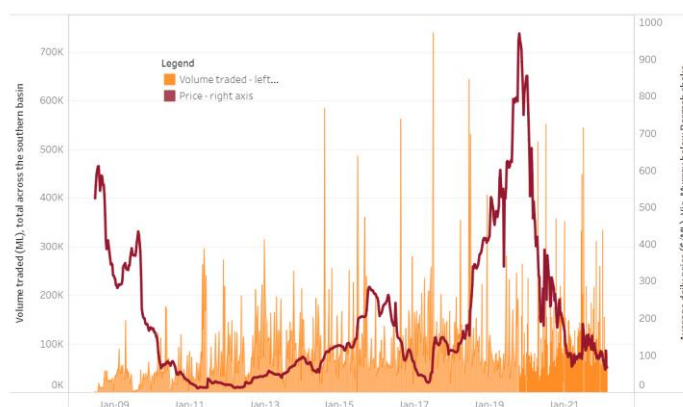


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$70 per ML on 25 February 2022 to \$67 per ML on 4 March 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	31
NSW Murrumbidgee	18
VIC Goulburn-Broken	50
VIC Murray Below	67

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 17 March 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-170322

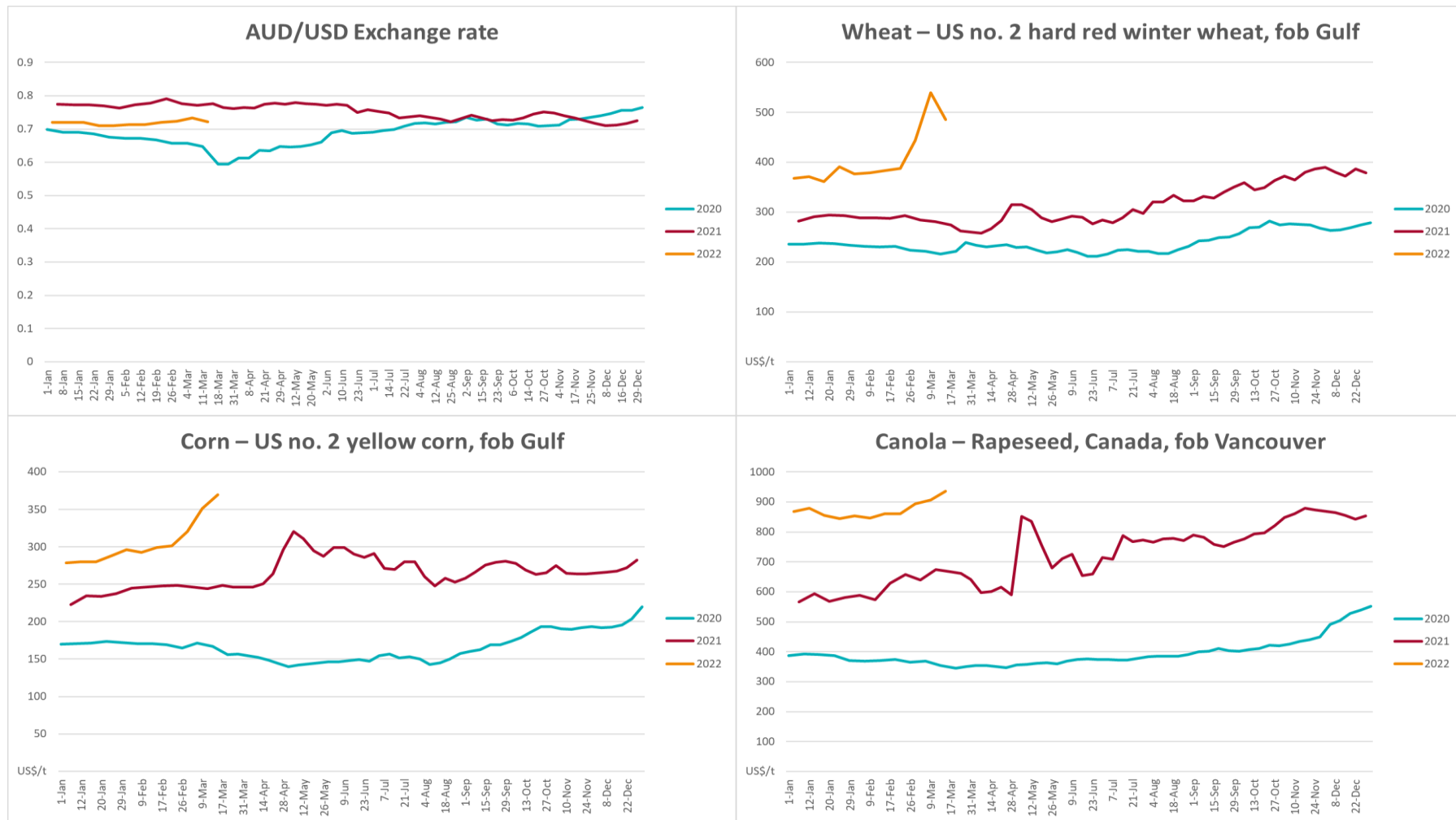
3. Commodities

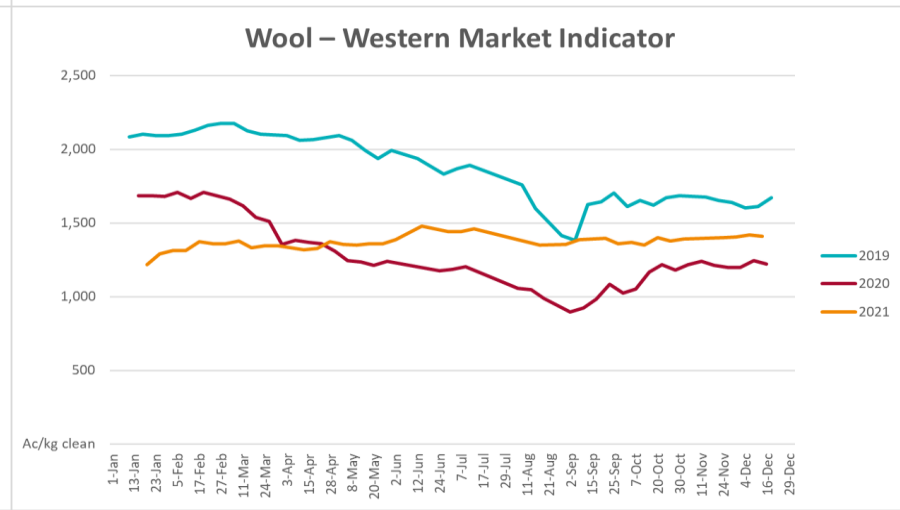
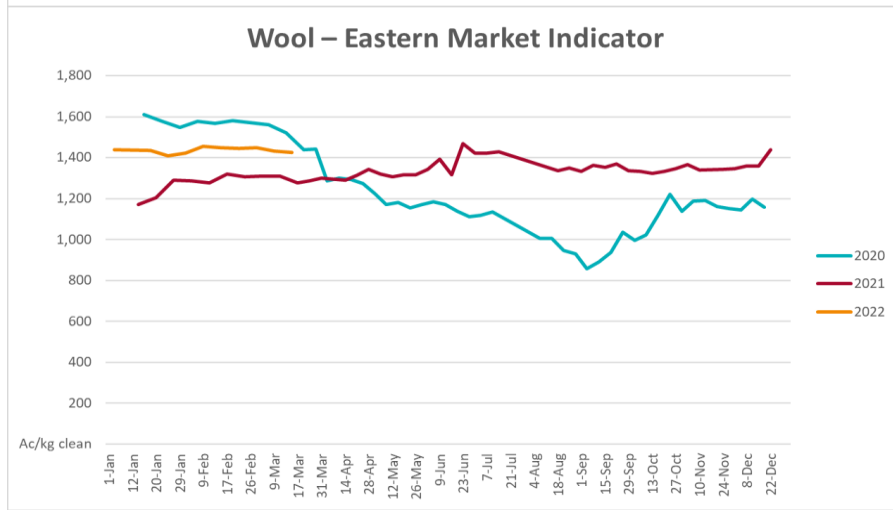
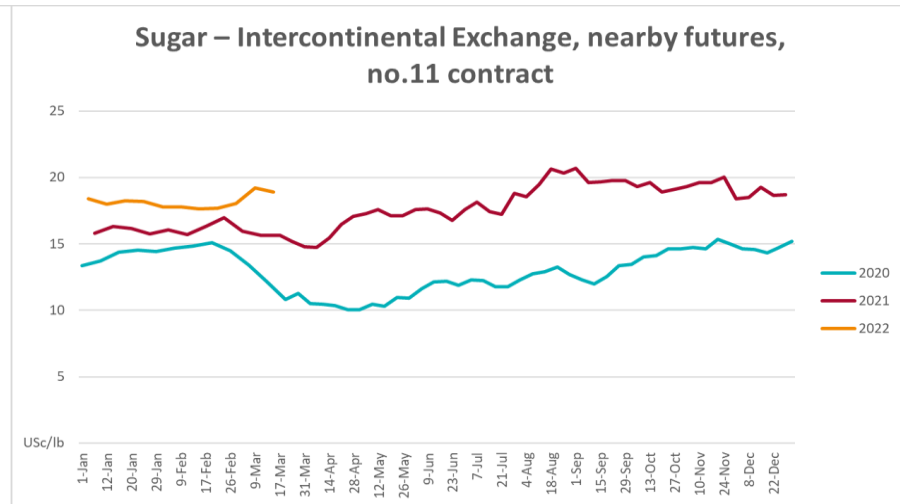
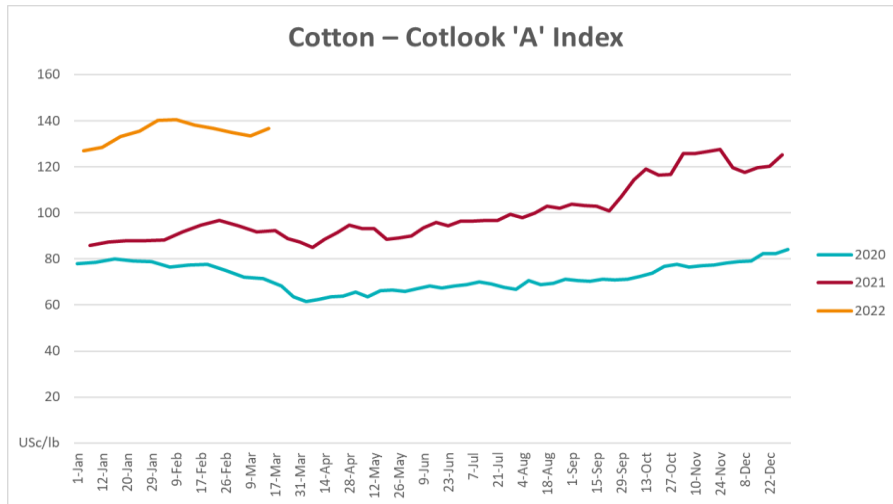
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	16-Mar	A\$/US\$	0.72	0.73	-2%	0.76	-6%
Wheat – US no. 2 hard red winter wheat, fob Gulf	16-Mar	US\$/t	485	539	-10%	262	85%
Corn – US no. 2 yellow corn, fob Gulf	16-Mar	US\$/t	369	351	5%	246	50%
Canola – Rapeseed, Canada, fob Vancouver	16-Mar	US\$/t	936	907	3%	662	41%
Cotton – Cotlook 'A' Index	16-Mar	USc/lb	137	133	2%	89	54%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	16-Mar	USc/lb	18.9	19.2	-2%	15	25%
Wool – Eastern Market Indicator	16-Mar	Ac/kg clean	1,424	1,432	-1%	1,291	10%
Wool – Western Market Indicator	02-Feb	Ac/kg clean	1,443	1,455	-1%	1,024	41%
Selected Australian grain export prices							
Milling Wheat – APW, Port Adelaide, SA	16-Mar	A\$/t	586	551	6%	352	66%
Feed Wheat – ASW, Port Adelaide, SA	16-Mar	A\$/t	547	522	5%	350	56%
Feed Barley – Port Adelaide, SA	16-Mar	A\$/t	441	431	2%	300	47%
Canola – Kwinana, WA	16-Mar	A\$/t	1,175	1,116	5%	661	78%
Grain Sorghum – Brisbane, QLD	16-Mar	A\$/t	376	375	0%	361	4%
Selected domestic livestock indicator prices							
Beef – Eastern Young Cattle Indicator	16-Mar	Ac/kg cwt	1,129	1,112	2%	859	31%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	16-Mar	Ac/kg cwt	562	592	-5%	674	-17%
Lamb – Eastern States Trade Lamb Indicator	16-Mar	Ac/kg cwt	807	807	0%	870	-7%
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	16-Mar	Ac/kg lwt	550	550	0%	350	57%
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	16-Mar	US\$/t	4,596	4,757	-3%	3,039	51%
Dairy – Skim milk powder	16-Mar	US\$/t	4,545	4,481	1%	2,907	56%
Dairy – Cheddar cheese	16-Mar	US\$/t	6,412	6,394	0%	4,526	42%
Dairy – Anhydrous milk fat	16-Mar	US\$/t	7,111	7,048	1%	4,379	62%

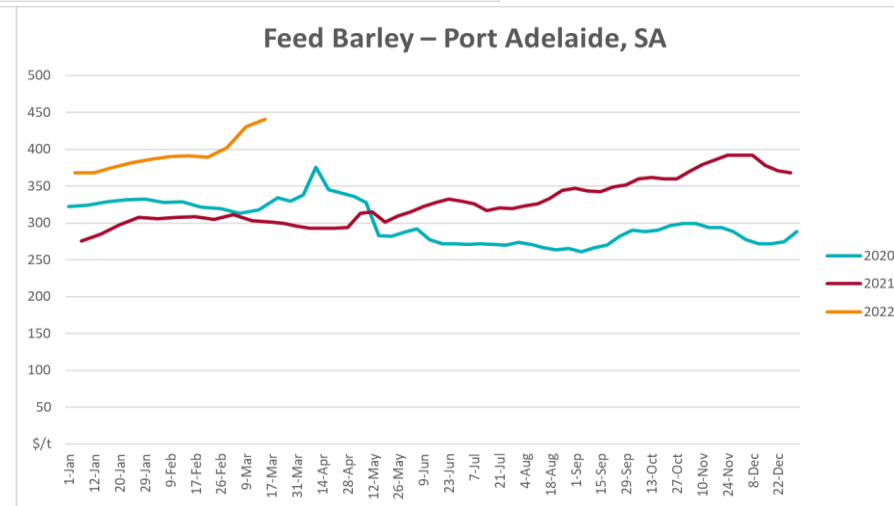
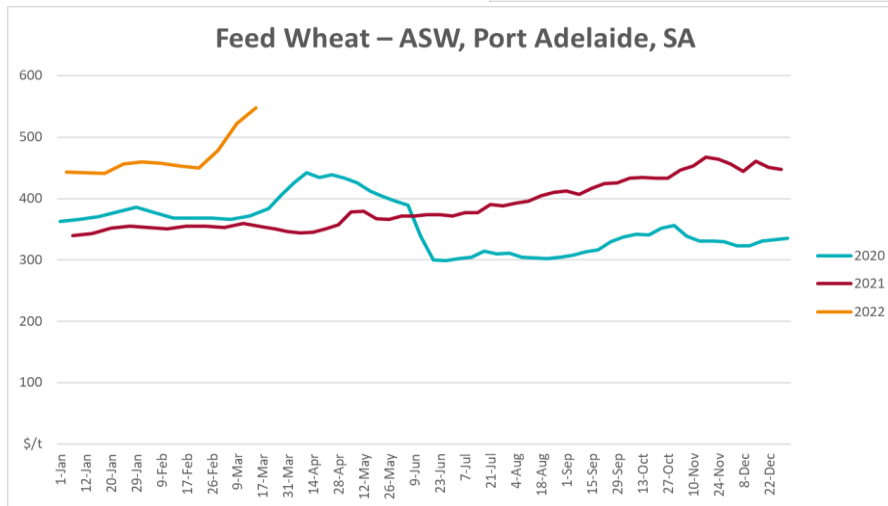
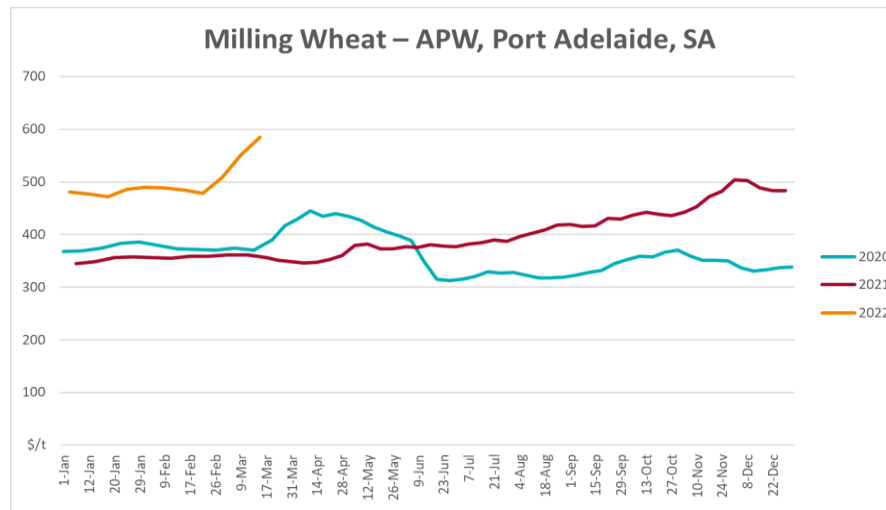
^a Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

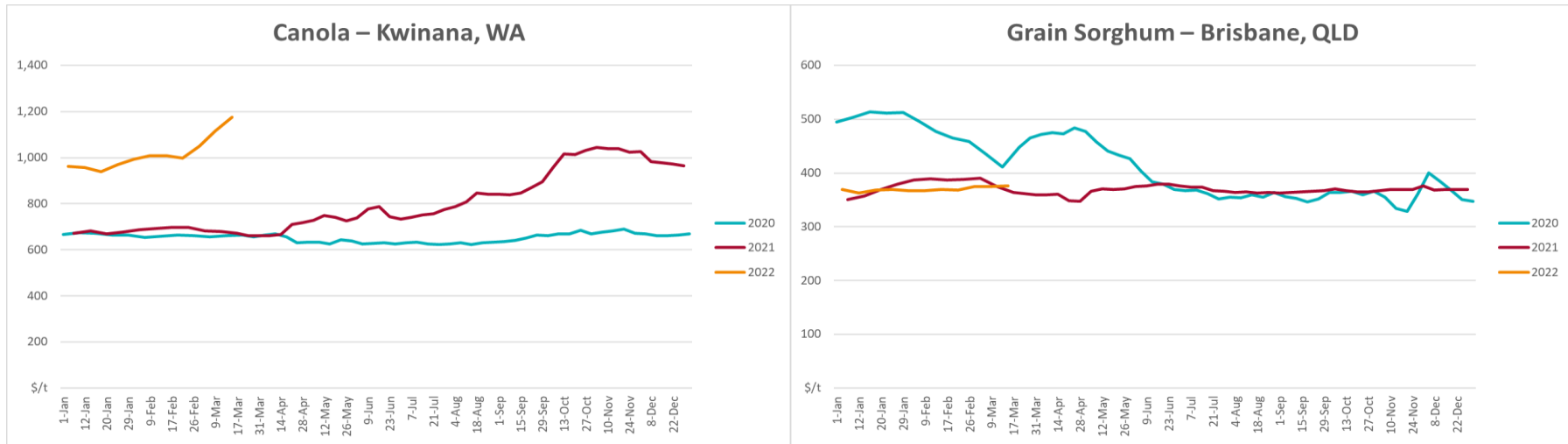
3.1. Selected world indicator prices



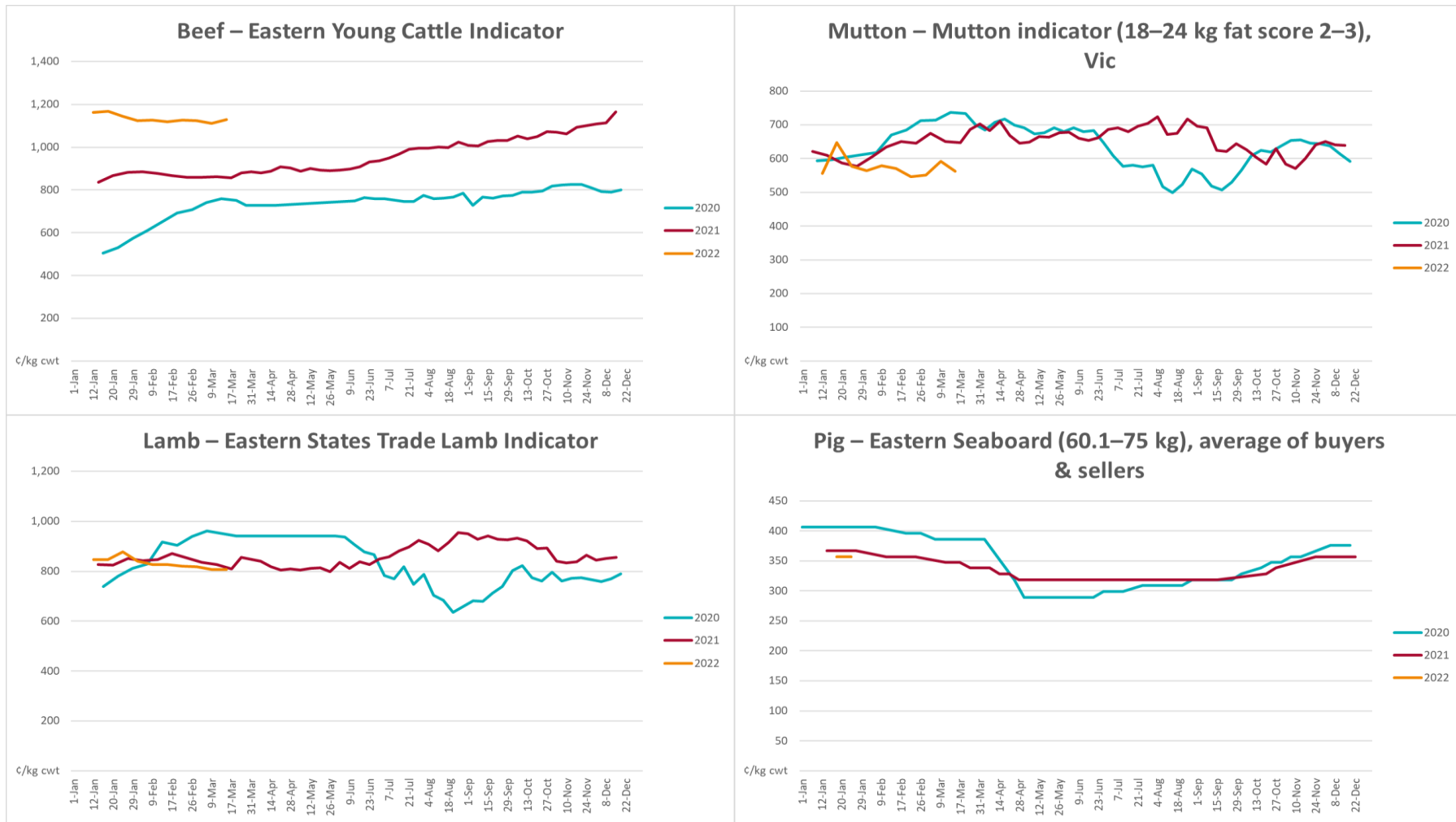


3.2. Selected domestic crop indicator prices

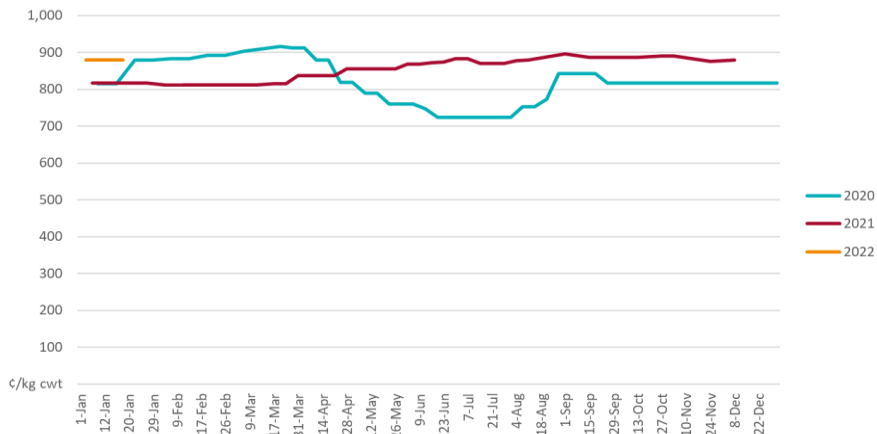




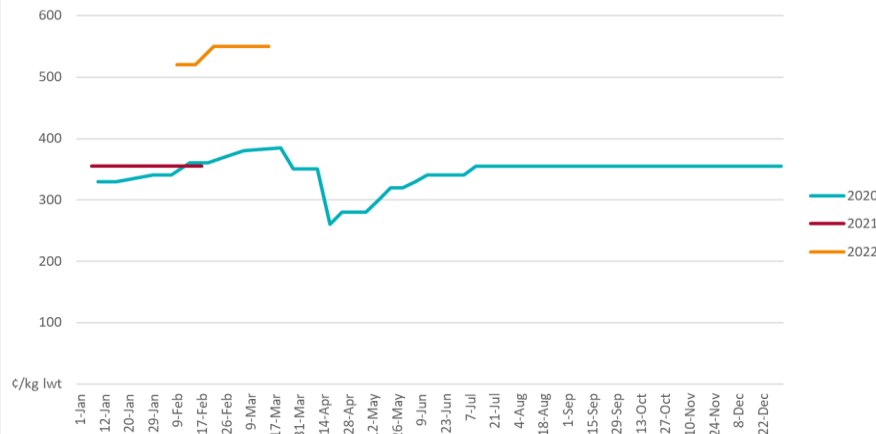
3.3. Selected domestic livestock indicator prices



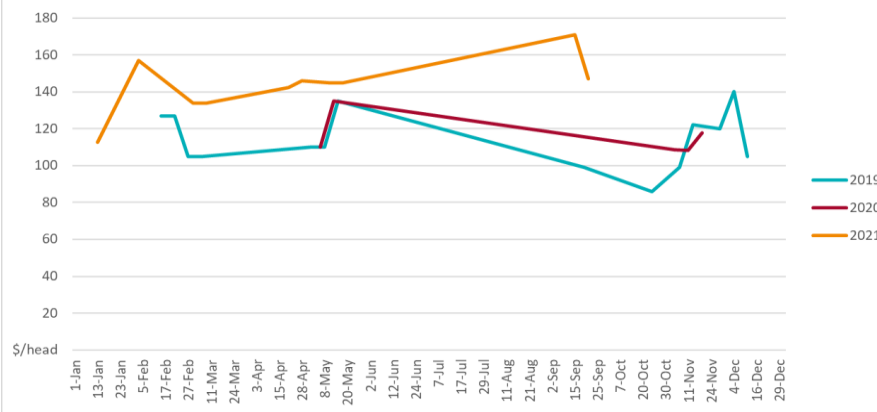
Goats – Eastern States (12.1–16 kg)



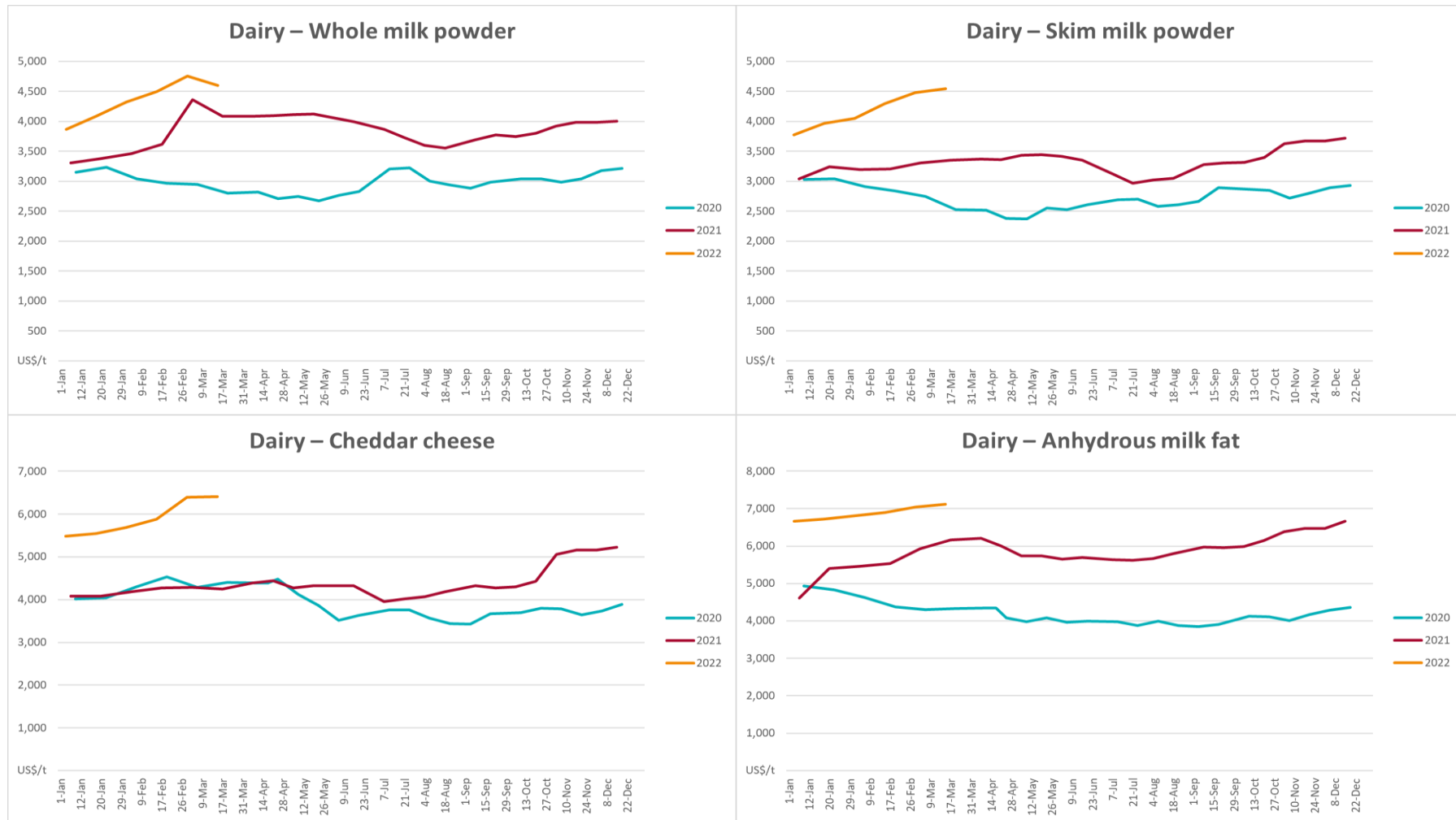
Live cattle – Light steers ex Darwin to Indonesia



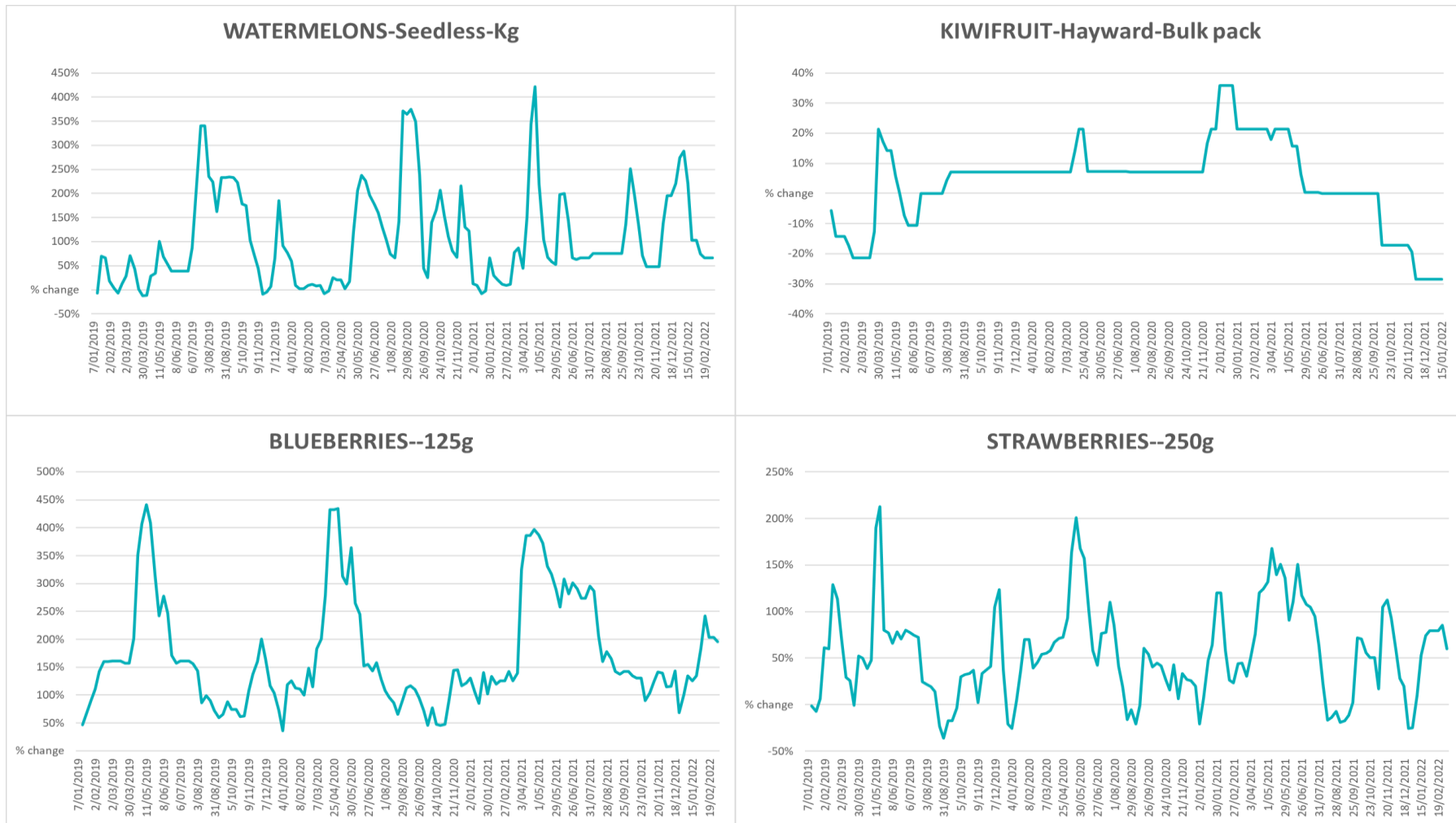
Live sheep – Live wethers (Muechea WA saleyard) to Middle East

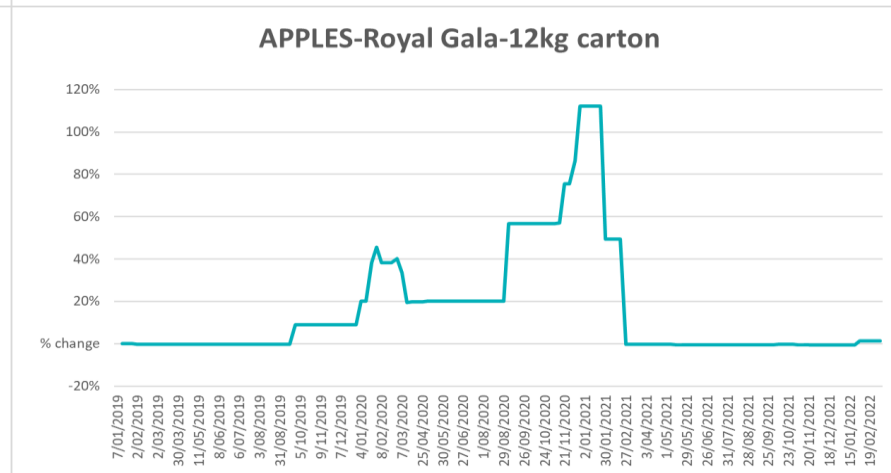
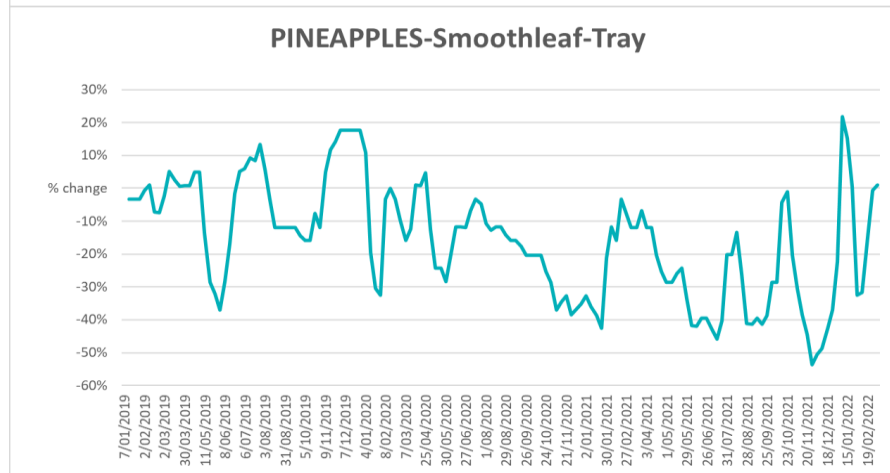
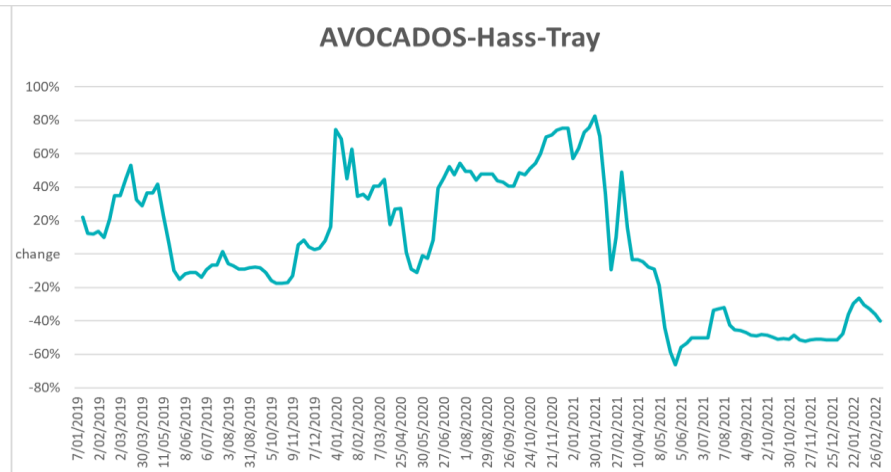
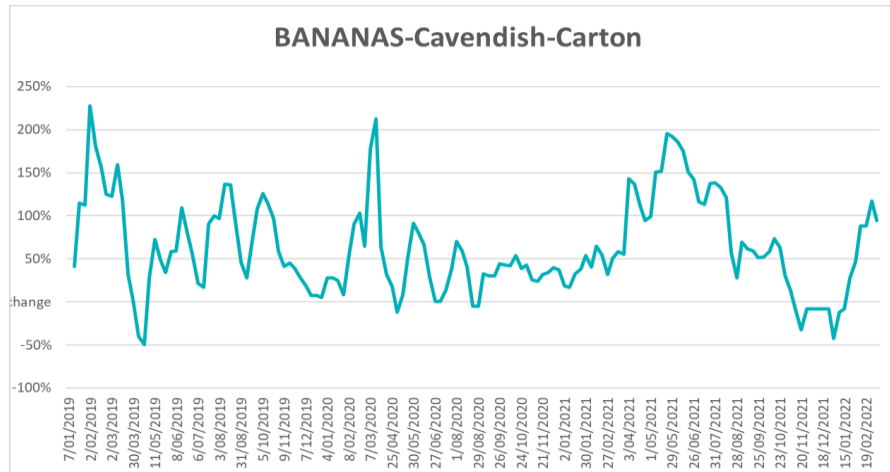


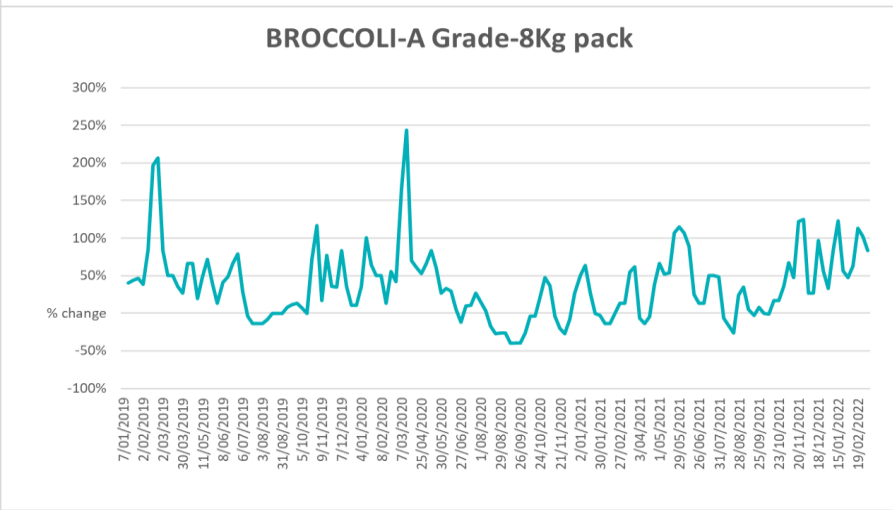
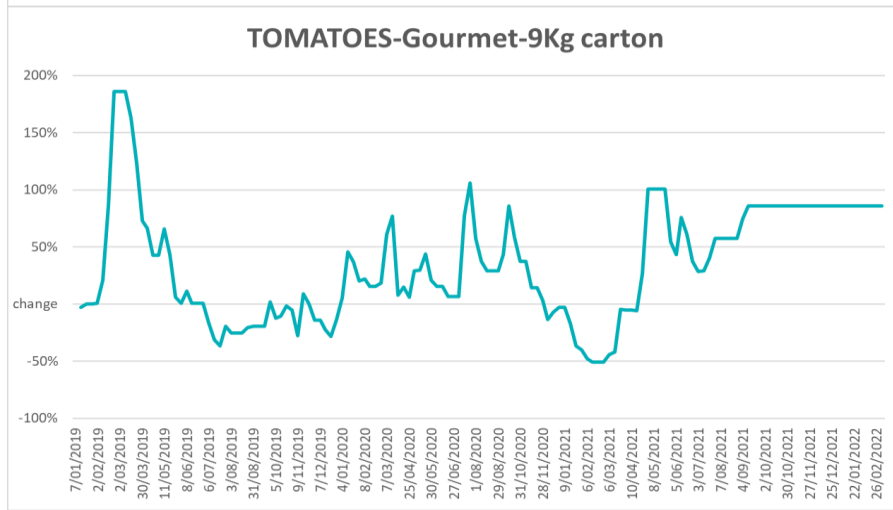
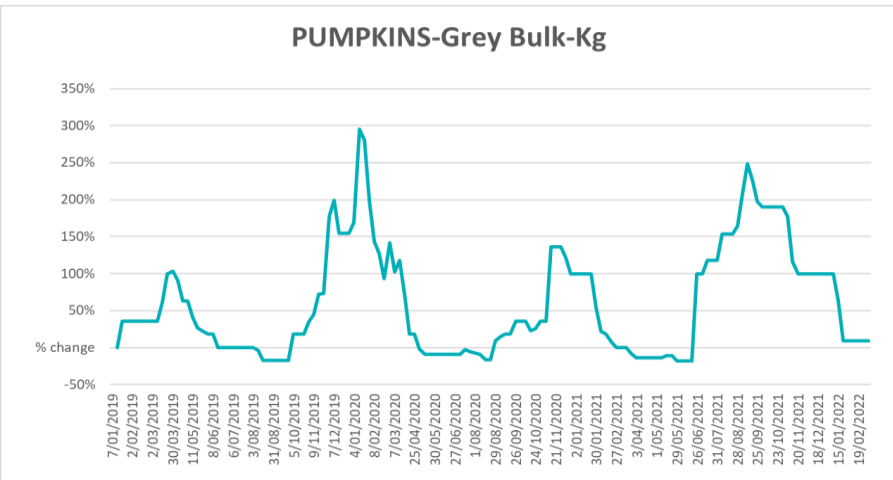
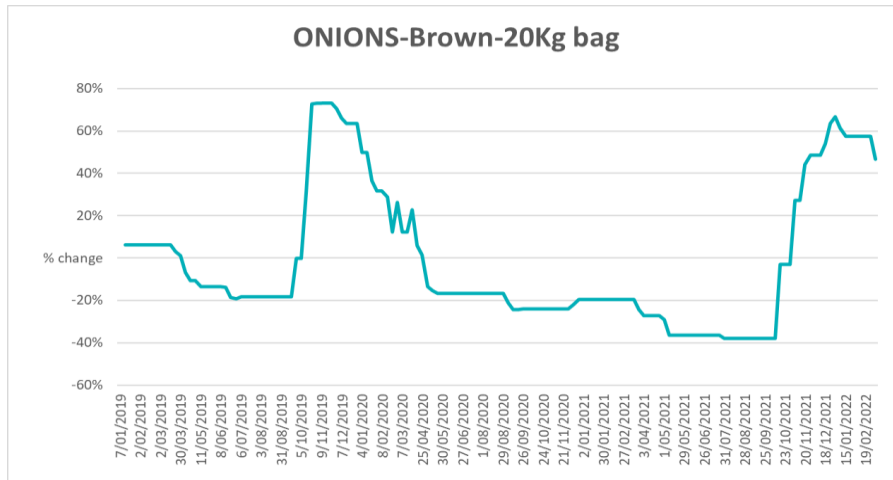
3.4. Global Dairy Trade (GDT) weighted average prices



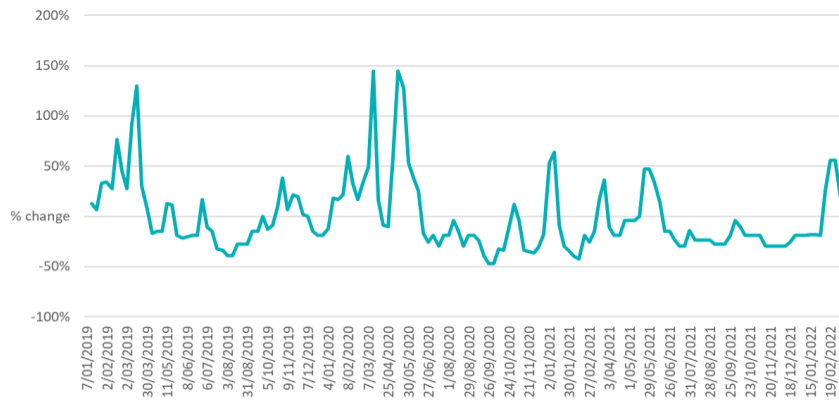
3.5. Selected fruit and vegetable prices



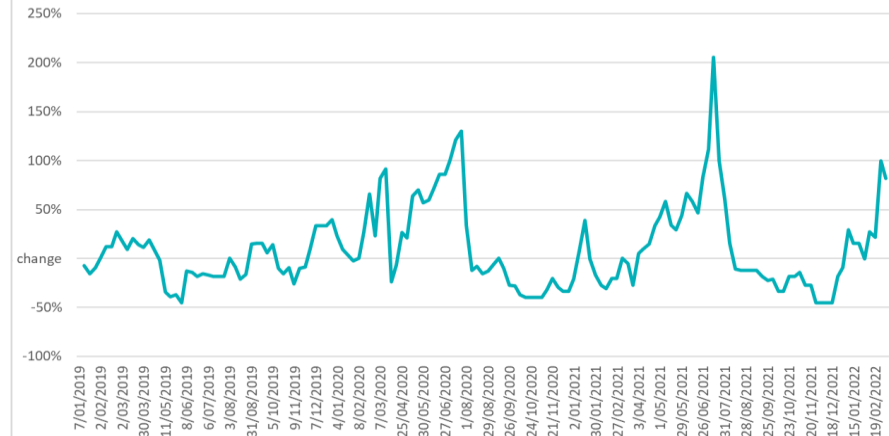




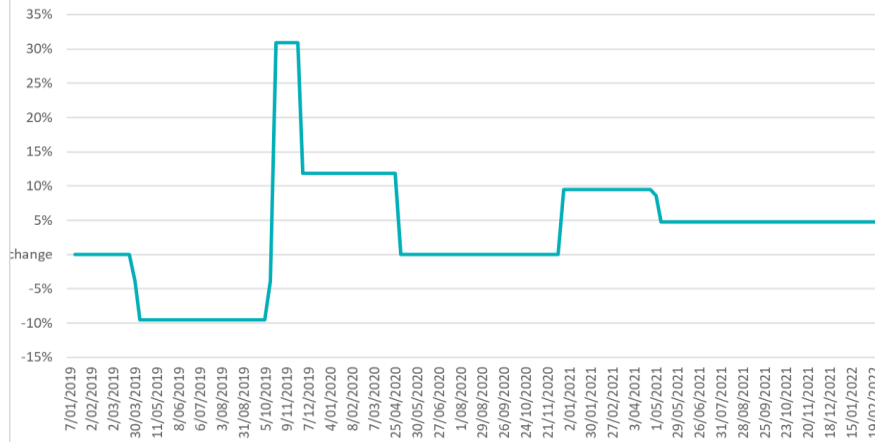
CAULIFLOWERS--Carton



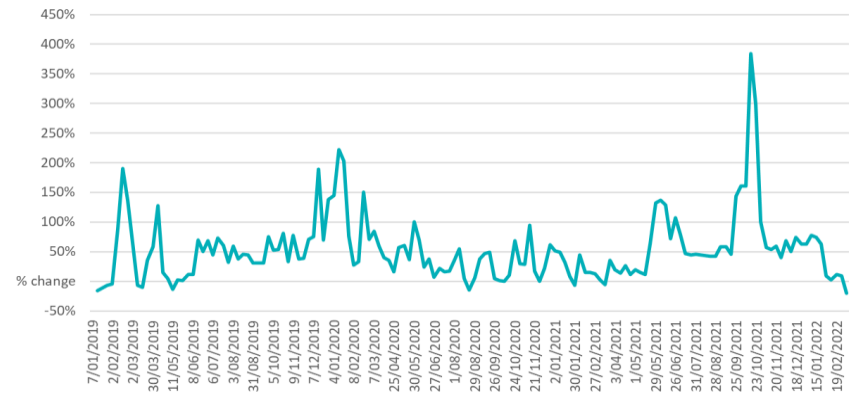
LETTUCE-Iceberg-Carton



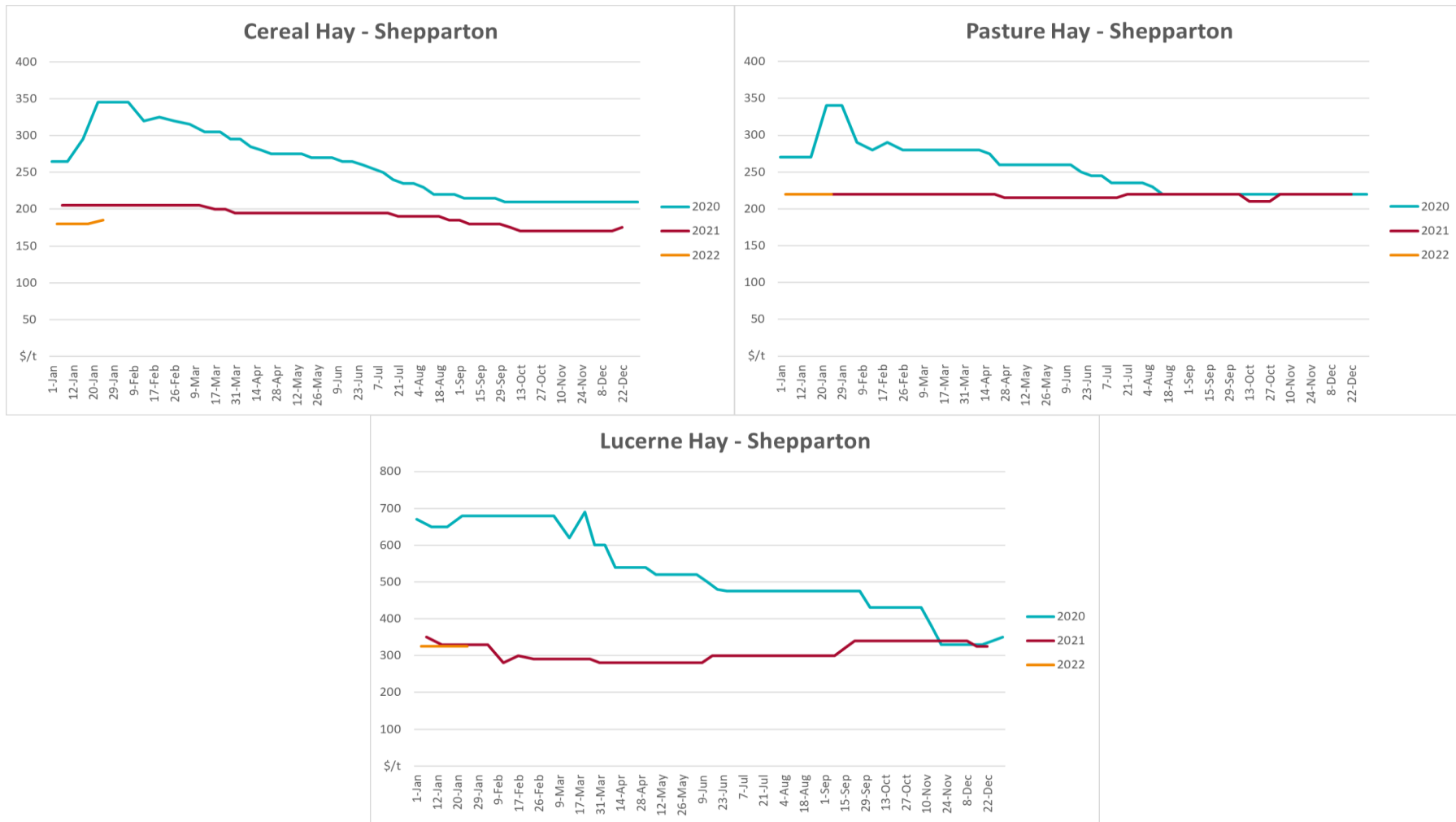
POTATOES-Brushed White-20Kg bag



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

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