



# Weekly Australian Climate, Water and Agricultural Update

No. 2/2023

19 January 2023

## Summary of key issues

- For the week ending 18 January 2023, a broad low-pressure trough remained active over northern Australia and resulted in widespread rainfall and thunderstorms across northern Australia. Meanwhile, onshore flow produced moderate to heavy rainfall in some areas of north-east Queensland. Large areas in the Central Coast district of Queensland received greater than 400 millimetres. However, little to no rainfall was recorded across most of the southern Australia (see section 1.1).
- The persistence of dry condition across cropping regions of Victoria, South Australia and Western Australia would have continued to support the harvesting of winter crops. Across parts of southern Queensland and New South Wales, little rainfall would have allowed access for field work related to the planting and maintenance of summer crops. However, heavy rainfall across the northern Queensland would likely have negative impact on the development of summer crops (see Section 1.1).
- As of the end of December 2022, rainfall was variable for the world's major grain-producing and oilseed-producing regions. As a result, global production conditions have deteriorated compared to those used to formulate ABARES forecasts of global grain supplies and world prices in its December 2022 edition of the Agricultural Commodities Report. As a result, global grain and oilseed production is likely to be lower than that forecast earlier in December (see Section 1.2).
- Over the 8-days to 26 January 2023, widespread rainfall across Australia's tropical north is expected to continue under the influence of a low-pressure system and troughs. Most of central and south-western Australia will likely have clear skies and dry conditions. However, an extending cold front and associated trough are predicted to bring clouds, rainfall, and thunderstorms to the southern and south-eastern Australia (see section 1.3).
- Across most of Australian cropping regions, little to no rainfall is forecast in the next eight days. The continuation of dry conditions will likely further allow saturated soil to drain, however, a flooding risk remains for some areas. Little to no rainfall forecast across most cropping regions is likely to provide favourable conditions for summer crop planting and maintenance (see section 3).
- Water storage levels in the Murray-Darling Basin (MDB) decreased between 11 January 2023 and 18 January 2023 by 143 gigalitres (GL). Current volume of water held in storage is 23 629 GL which represents 94 percent of total capacity. This is 4 percent or 894 GL more than at the same time last year.
- Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$40 per ML on 6 January 2023 to \$36 per ML on 13 January 2023. Prices are lower in the Murrumbidgee and regions above the Barmah choke due to the binding of the Murrumbidgee export limit and Barmah choke trade constraint.

# 1. Climate

## 1.1. Rainfall this week

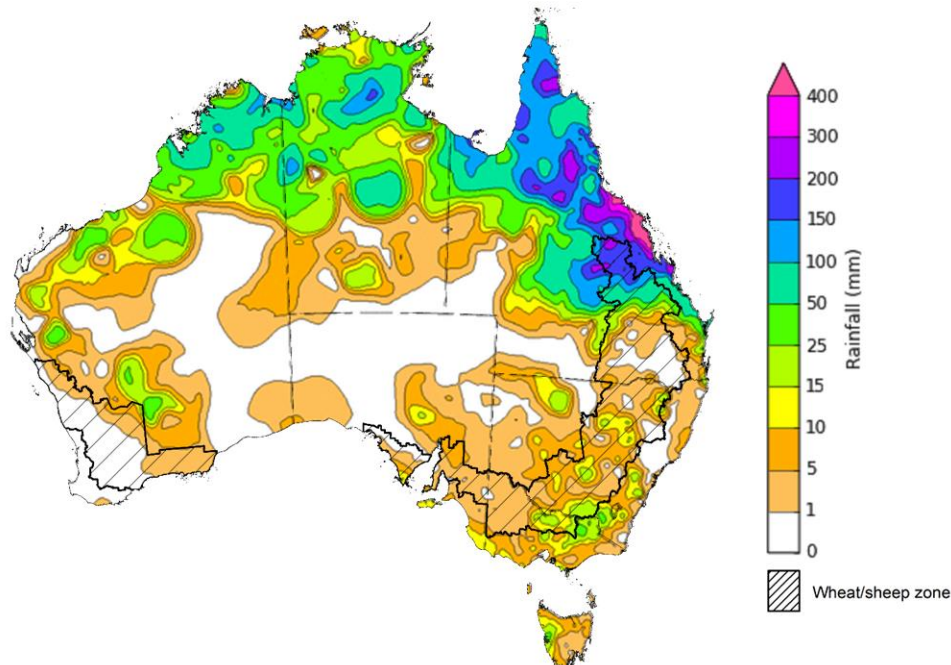
For the week ending 18 January 2023, a broad low-pressure trough remained active over northern Australia and resulted in widespread rainfall and thunderstorms across northern Australia. Meanwhile, onshore flow produced moderate to heavy rainfall in parts of north-east Queensland.

Weekly rainfall totals of more than 50 millimetres were recorded in large parts of Queensland, north parts of Northern Territory and the Kimberly region in Western Australia. Areas in the Central Coast district of Queensland received greater than 400 millimetres. Weekly rainfall totals between 10 and 50 millimetres were recorded across scattered areas of New South Wales, eastern Victoria, South Australia, parts of southern Western Australia and western Tasmania. Little to no rainfall was recorded across much of the remainder of southern Australia.

In Australian cropping regions, rainfall totals of between 15 and 300 millimetres were recorded across much of northern Queensland. Scattered small areas of New South Wales and eastern Victoria recorded 10 to 25 millimetres. Little to no rainfall was recorded in remaining cropping regions.

The impact of flooding across the northern Queensland would have slowed sowing of summer crops, degraded some crops and damaged crop production prospects of summer crops in the Queensland. The persistence of dry conditions across cropping regions of Victoria, South Australia and Western Australia will have continued to support the harvesting of winter crops. Across parts of southern Queensland and New South Wales, little rainfall would have allowed access for field work related to the planting and maintenance of summer crops. However, heavy rainfall across northern Queensland would likely have had a negative impact on the development of summer crops.

**Rainfall for the week ending 18 January 2023**



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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.

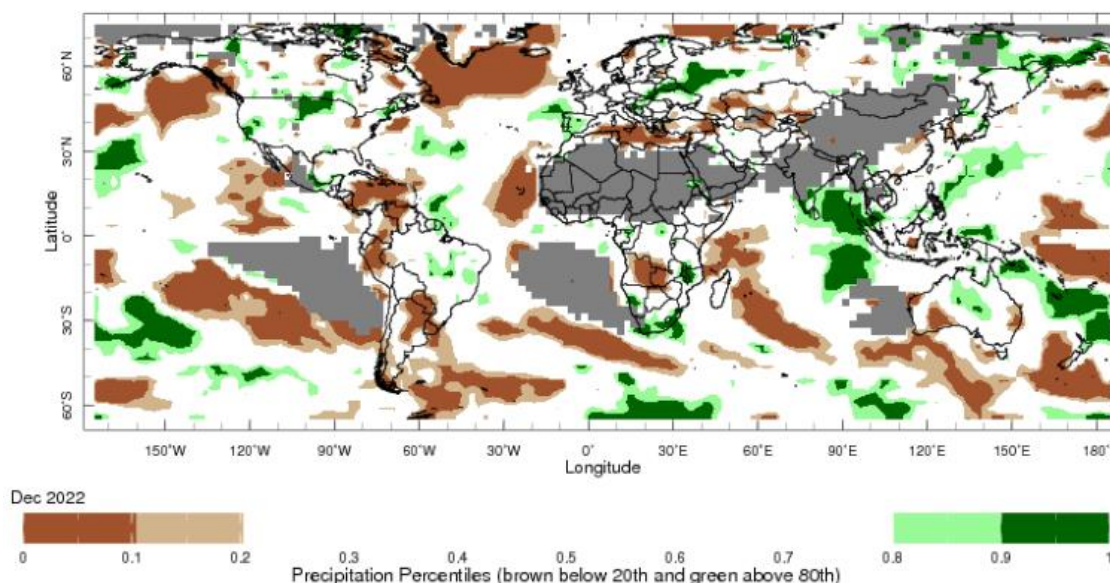
### December precipitation percentiles and current production conditions

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

In the northern hemisphere, precipitation was below average across parts of western and southern Central Asia, Italy, Greece, Turkey, south-western Canada, central areas and the south-west of the Russian Federation, as well as small areas of north-eastern United States. Precipitation was above average for parts of the Russian Federation, parts of northern and south-western United States, western and southern Canada, much of Spain and Portugal, as well as northern Ukraine and Poland. Precipitation was close to average across the remainder of the major northern hemisphere grain-producing and oilseed-producing regions.

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

**Global precipitation percentiles, December 2022**



Note: The world precipitation percentiles indicate a ranking of precipitation for December, with the driest (0<sup>th</sup> percentile) being 0 on the scale and the wettest (100<sup>th</sup> 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 December 2022 are compared with rainfall recorded for that period during the 1991 to 2020 base period.

Source: International Research Institute for Climate and Society

The global climate outlook for January to March 2023 indicates that variable rainfall conditions are expected for the world's major grain-producing and oilseed-producing regions. Outlooks and potential production impacts for the major grain and oilseed producing countries are presented in the table.

#### Rainfall outlook and potential impact on the future state of production conditions between January to March 2023

Region	January to March rainfall outlook	Potential impact on production
<b>Argentina</b>	Below average rainfall is expected in north-eastern Argentina between January and March 2023, while above average rainfall is expected in the north-west and south of the country.	Below average rainfall is likely to adversely affect flowering of soybeans, sorghum, rice, and millet in the February. The dry conditions may also negatively impact yield potentials of those crops.
<b>Black Sea Region</b>	Below average precipitation is forecast for eastern Turkey and southern Kazakhstan. However, above average precipitation is expected across eastern and central parts of the Russian Federation between January and March 2023.	The above average rainfall conditions are likely to support the development of winter wheat and canola, and planting of corn, cotton and sunflower across Russia. However, below average precipitation in parts of Turkey and Kazakhstan may adversely affect the development and planting of these crops.
<b>Brazil</b>	Above average rainfall is expected in northern Brazil and parts of central Brazil between January to March 2023. Some southern areas of Brazil are expected to receive below-average rainfall.	Above average rainfall in northern and central Brazil will benefit the development of soybeans, cotton, rice, sorghum, millet, sunflower, peanuts, and corn prior to the harvesting of some crops beginning in March 2023. Below average rainfall in the south is likely to adversely affect the development and harvesting of crops in that region.
<b>Canada</b>	Above average precipitation is more possible in the southern half of Canada between January to March 2023. Below average rainfall is more likely in the coastal area of northern Canada.	Through January, February and March, winter wheat and canola will progress from dormant to heading. Above average rainfall will likely provide sufficient snowpack to prevent winterkill of winter wheat and canola and support vegetative growth and heading.
<b>China</b>	Below average rainfall is expected across western and south-eastern China in January to March 2023, while above average rainfall is possible in the north-eastern China.	Through January and February, winter wheat and canola will remain dormant. Below average rainfall may increase the risk of winterkill due to limited snowpack during winter.
<b>Europe</b>	Below average precipitation is more likely for most of Europe while above average precipitation is more expected in Switzerland, northern Italy, Romania, Finland, and northwest tips of Sweden between January to March 2023.	Below average rainfall may limit snowpack in parts of central Europe, increasing the risk of winterkill for winter wheat and canola. Meanwhile, above average rainfall in southern Europe should provide favourable conditions for winter wheat.
<b>South Asia (India)</b>	Above average rainfall is expected in far southern India while below average rainfall is expected in the southeast of the northern mountains and plains and in the east of the Deccan Plateau of India.	Below average rainfall in much India may negatively impact vegetative growth and heading of winter wheat and canola between January and February. In the far south, winter crops would be expected to benefit from above average rainfall.
<b>Southeast Asia (SEA)</b>	Above average rainfall is likely across much of northern maritime SEA and Malay Peninsula between January to March 2023, particularly in the Philippines. Southern mainland SEA will likely experience below - to near-average rainfall.	Above average rainfall in SEA likely supports vegetative growth for corn and rice throughout January to February. However, excessive rainfall may result in flooding and crop damage. Below average rainfall for southern mainland SEA may negatively impact the development of spring rice.
<b>The United States of America</b>	Above average precipitation is more likely for the northern half and large areas in the east parts of US while below average precipitation is more likely across much of the southern half the US.	Above average precipitation expected across the north is likely to provide sufficient snow cover through winter to protect wheat and canola through dormancy. Below average rainfall may adversely impact crop development and planting in the southern.



### 1.3. Rainfall forecast for the next eight days

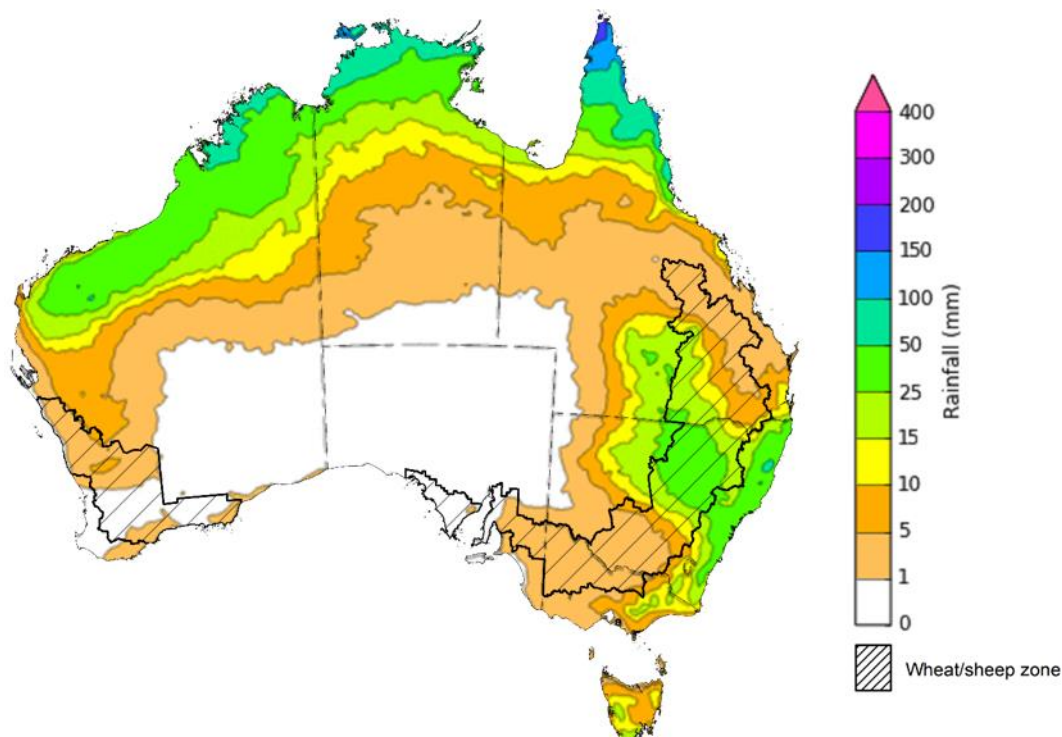
Over the 8-days to 26 January 2023, widespread rainfall across Australia's tropical north is expected to continue under the influence of low-pressure system and troughs. Most of central and south-western Australia will likely have clear skies and dry conditions in the next eight days. However, an extending cold front and associated trough are predicted to bring clouds, rainfall, and thunderstorms to the southern and south-eastern Australia.

Rainfall totals exceeding 10 millimetres are expected across Cape York, the northeast coast area and the south of Queensland, north-eastern and central eastern New South Wales, eastern Victoria, the north of the Northern Territory, and the Kimberley and north-western Western Australia, as well as most of Tasmania. Rainfall of more than 100 millimetres is forecast the far north and north-eastern coast area of Cape York, and small area of north-eastern New South Wales. Little to no rainfall is forecast for the remaining area of Australia for the next eight days.

Across most of Australian cropping regions, little to no rainfall is forecast in the next eight days. However, rainfall between 10 and 50 millimetres is expected for the south-western and southern Queensland and northern New South Wales.

Low rainfall in flood-affected cropping regions of northern Queensland is expected to allow floodwaters to recede, reduce the risk of waterlogging and improve the access to fields for planting activities. The continuation of dry conditions in flood-affected cropping regions of south-western New South Wales and western Victoria will likely further allow saturated soil to drain. Little to no rainfall forecast across most other cropping regions will provide favourable conditions for summer crop planting and maintenance. However, major flooding has been continuing across the Murray Darling Basin. A flood risk exists in some areas from the cold front bringing thunderstorms in the next eight days.

**Total forecast rainfall for the period 19 January to 26 January 2023**



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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.

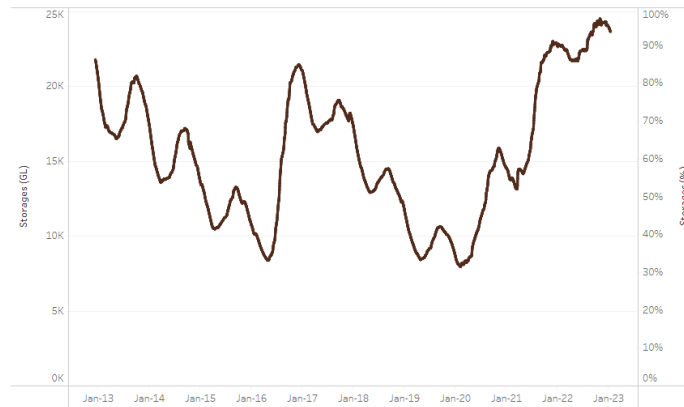
Issued 19/01/2023

## 2. Water

### 2.1. Water markets – current week

Water storage levels in the Murray-Darling Basin (MDB) decreased between 11 January 2023 and 18 January 2023 by 143 gegalitres (GL). Current volume of water held in storage is 23 629 GL which represents 94 percent of total capacity. This is 4 percent or 894 GL more than at the same time last year.

**Water storages in the Murray-Darling Basin, 2013–2023**

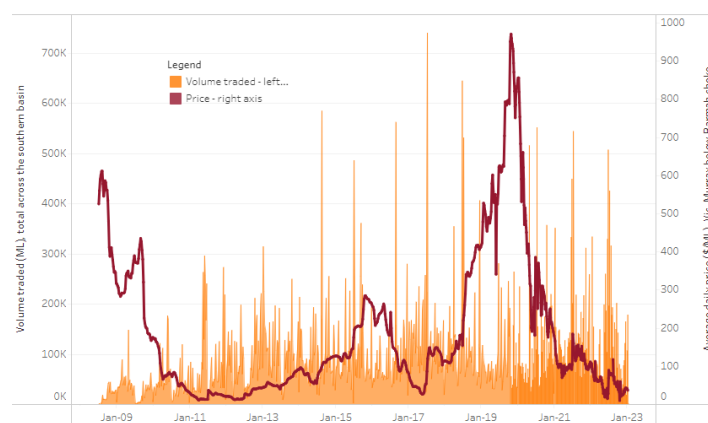


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$40 per ML on 6 January 2023 to \$36 per ML on 13 January 2023. Prices are lower in the Murrumbidgee and regions above the Barmah choke due to the binding of the Murrumbidgee export limit and Barmah choke trade constraint.

Region	\$/ML
NSW Murray Above	13
NSW Murrumbidgee	15
VIC Goulburn-Broken	91
VIC Murray Below	36

**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 on 19 January 2023.

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-190123](http://www.agriculture.gov.au/abares/products/weekly_update/weekly-update-190123)

### 3. Commodities

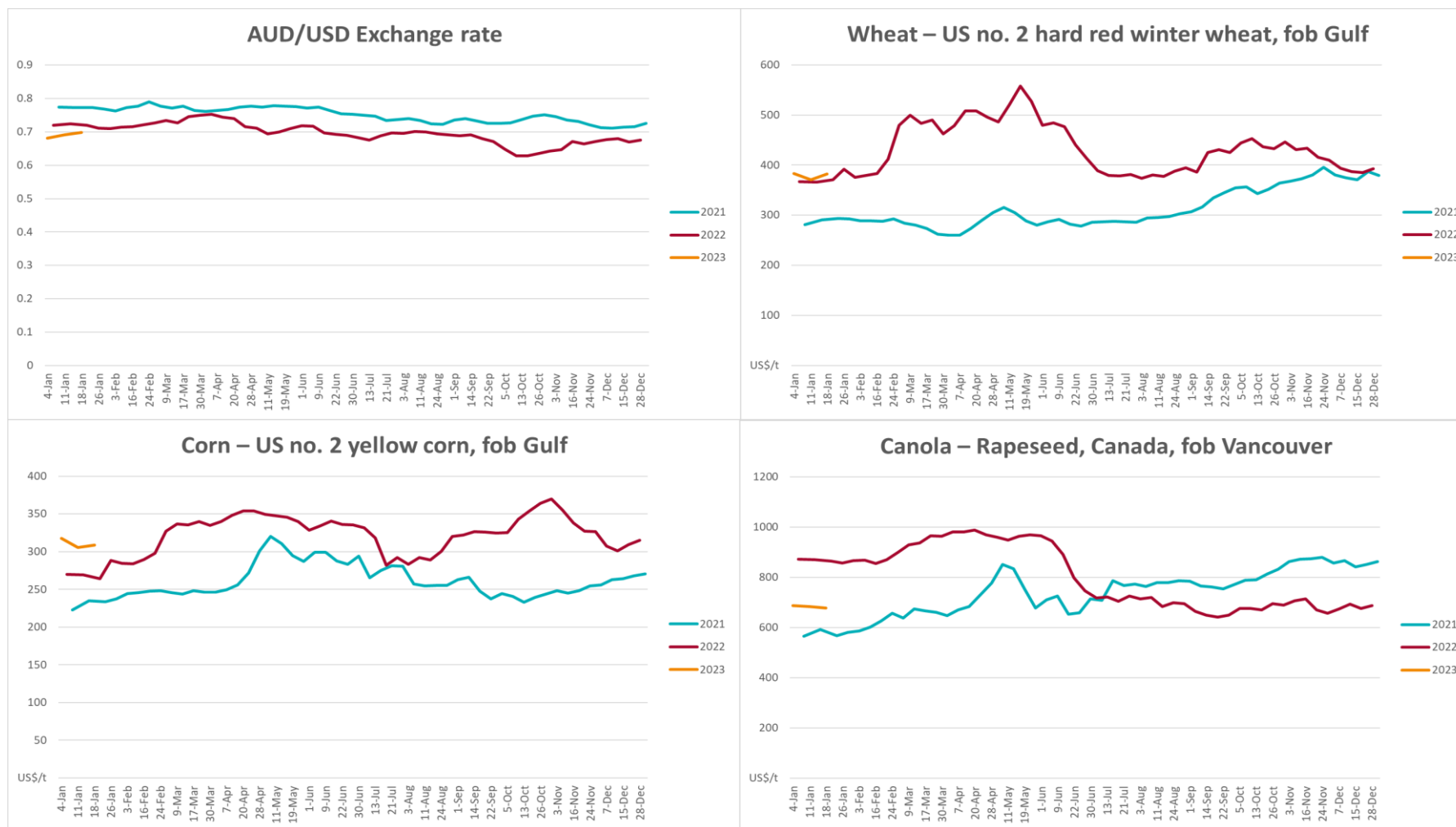
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
<b>Selected world indicator prices</b>							
AUD/USD Exchange rate	18-Jan	A\$/US\$	0.70	0.69	1%	0.71	-2%
Wheat – US no. 2 hard red winter wheat, fob Gulf	18-Jan	US\$/t	382	371	3%	392	-3%
Corn – US no. 2 yellow corn, fob Gulf	18-Jan	US\$/t	309	306	1%	289	7%
Canola – Rapeseed, Canada, fob Vancouver	18-Jan	US\$/t	679	684	-1%	858	-21%
Cotton – Cotlook 'A' Index	18-Jan	USc/lb	98	102	-4%	135	-28%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	18-Jan	USc/lb	18.6	18.2	2%	18	2%
Wool – Eastern Market Indicator	11-Jan	Ac/kg clean	1,333	1,333	0%	1,324	1%
Wool – Western Market Indicator	11-Jan	Ac/kg clean	1,467	1,467	0%	1,392	5%
<b>Selected Australian grain export prices</b>							
Milling Wheat – APW, Port Adelaide, SA	18-Jan	A\$/t	516	521	-1%	486	6%
Feed Wheat – ASW, Port Adelaide, SA	18-Jan	A\$/t	467	472	-1%	446	5%
Feed Barley – Port Adelaide, SA	18-Jan	A\$/t	420	423	-1%	382	10%
Canola – Kwinana, WA	18-Jan	A\$/t	1,058	1,071	-1%	969	9%
Grain Sorghum – Brisbane, QLD	18-Jan	A\$/t	477	479	0%	368	30%
<b>Selected domestic livestock indicator prices</b>							
Beef – Eastern Young Cattle Indicator	18-Jan	Ac/kg cwt	779	778	0%	1,159	-33%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	18-Jan	Ac/kg cwt	357	407	-12%	564	-37%
Lamb – Eastern States Trade Lamb Indicator	18-Jan	Ac/kg cwt	665	685	-3%	843	-21%
Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers	28-Dec	Ac/kg cwt	376	376	0%	357	5%
Goats – Eastern States (12.1–16 kg)	11-Jan	Ac/kg cwt	350	350	0%	813	-57%
Live cattle – Light steers ex Darwin to Indonesia	17-Aug	Ac/kg lwt	420	480	-13%	320	31%
Live sheep – Live wethers (Muchea WA saleyard) to Middle East	14-Sep	\$/head	93	113	-18%	114	-18%

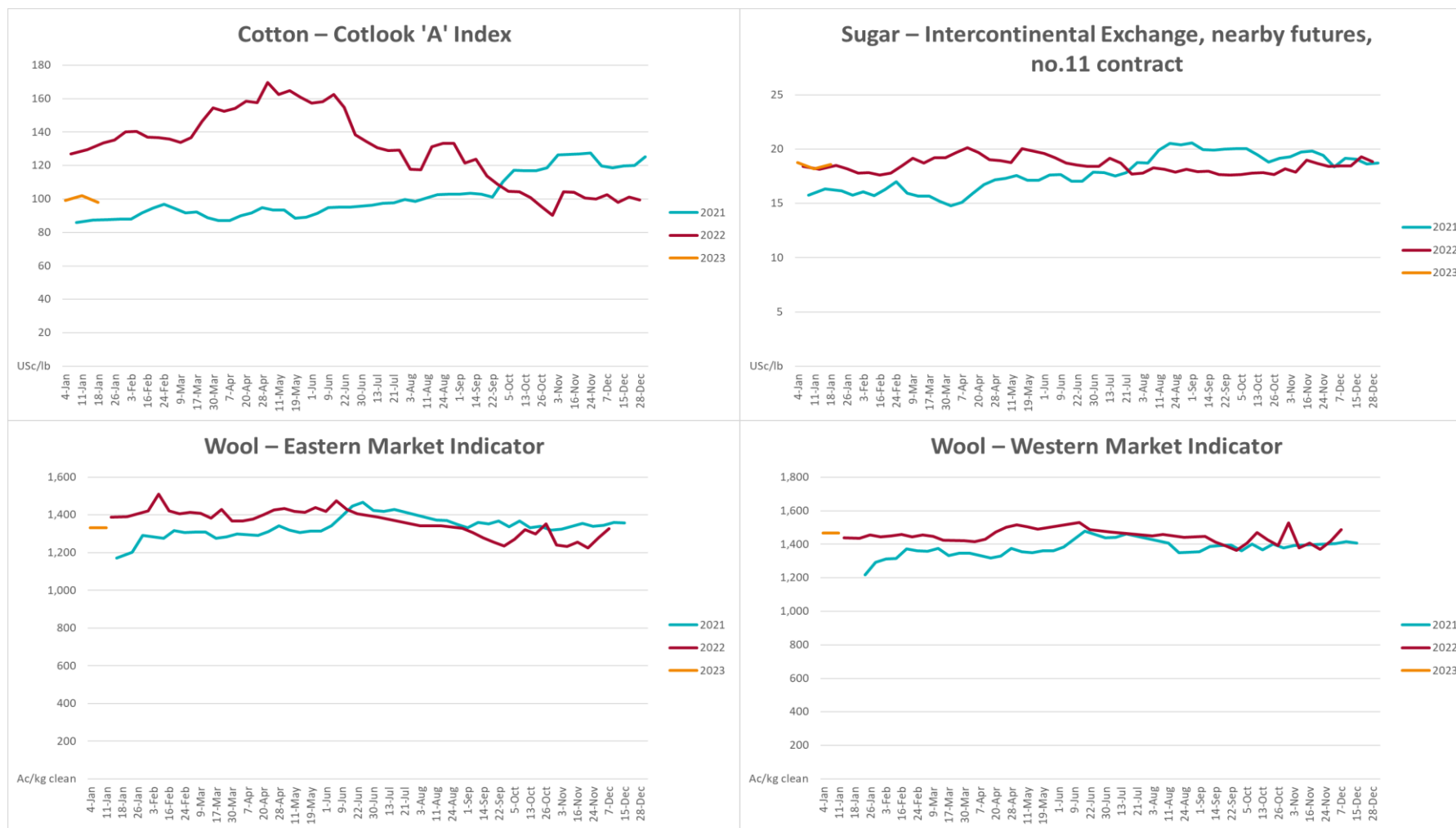


Indicator	18-Jan	US\$/t	3,218	3,208	0%	3,306	-3%
<b>Global Dairy Trade (GDT) weighted average prices <sup>a</sup></b>	18-Jan	US\$/t	2,842	2,838	0%	3,044	-7%
Dairy – Whole milk powder	18-Jan	US\$/t	4,871	4,690	4%	4,078	19%
Dairy – Skim milk powder	18-Jan	US\$/t	5,337	5,395	-1%	4,604	16%
Dairy – Cheddar cheese	18-Jan	A\$/US\$	0.70	0.69	1%	0.71	-2%
Dairy – Anhydrous milk fat	18-Jan	US\$/t	382	371	3%	392	-3%

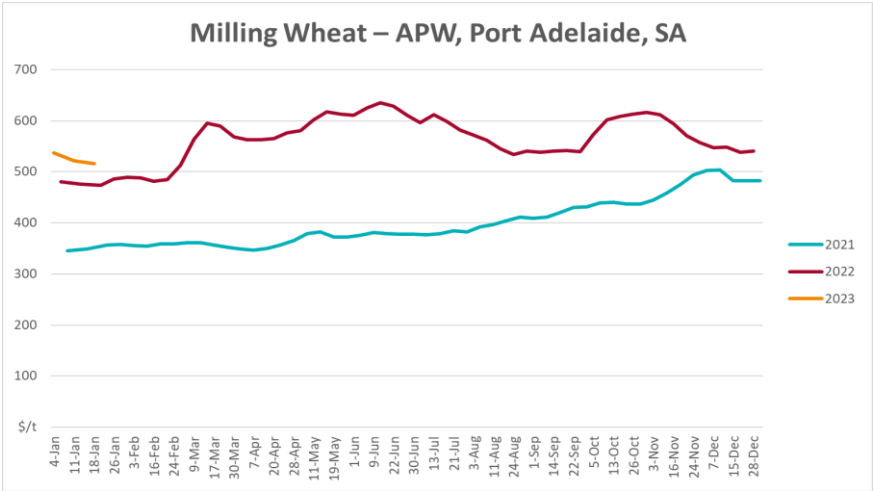
**a** Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

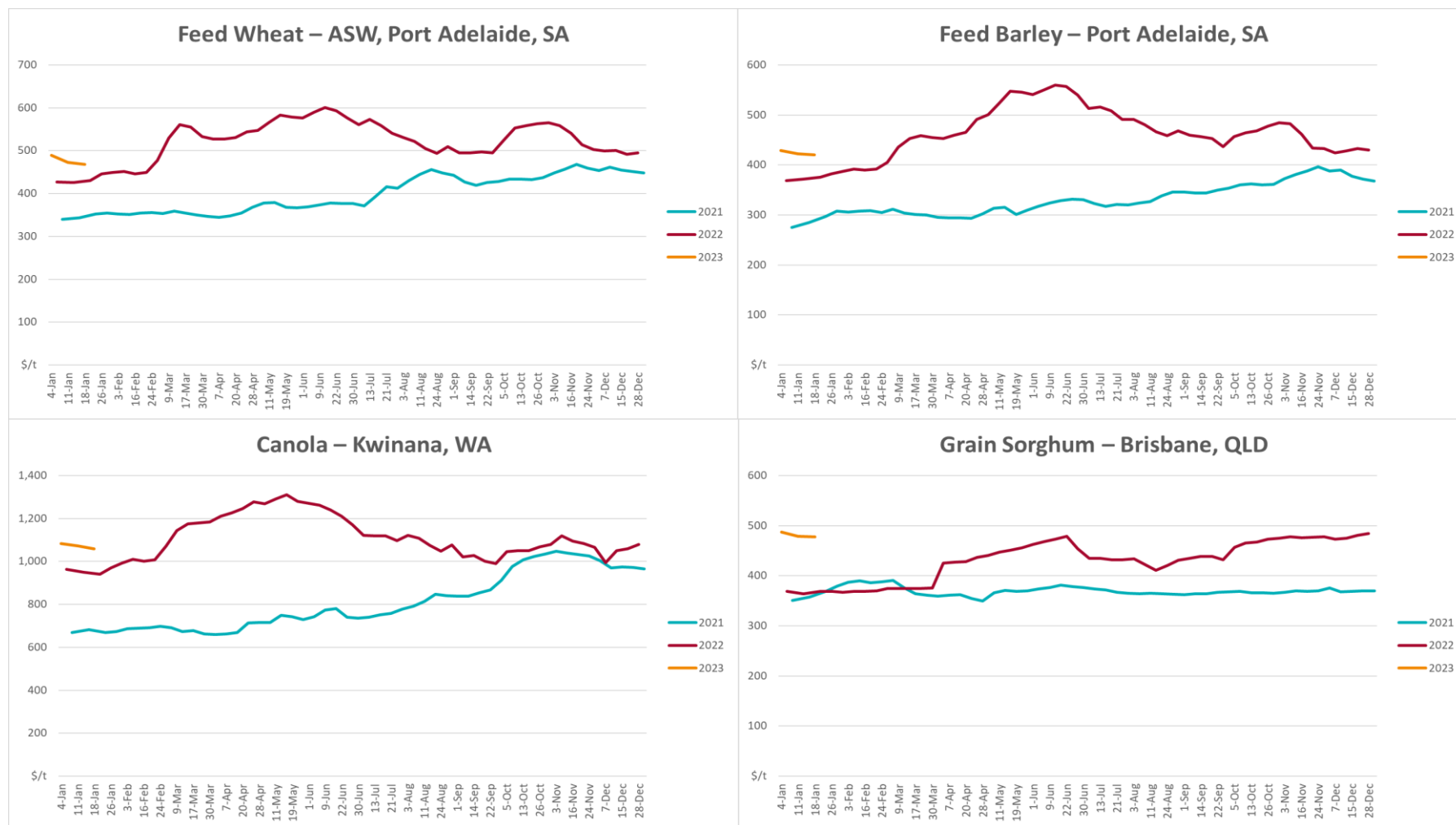
### 3.1. Selected world indicator prices



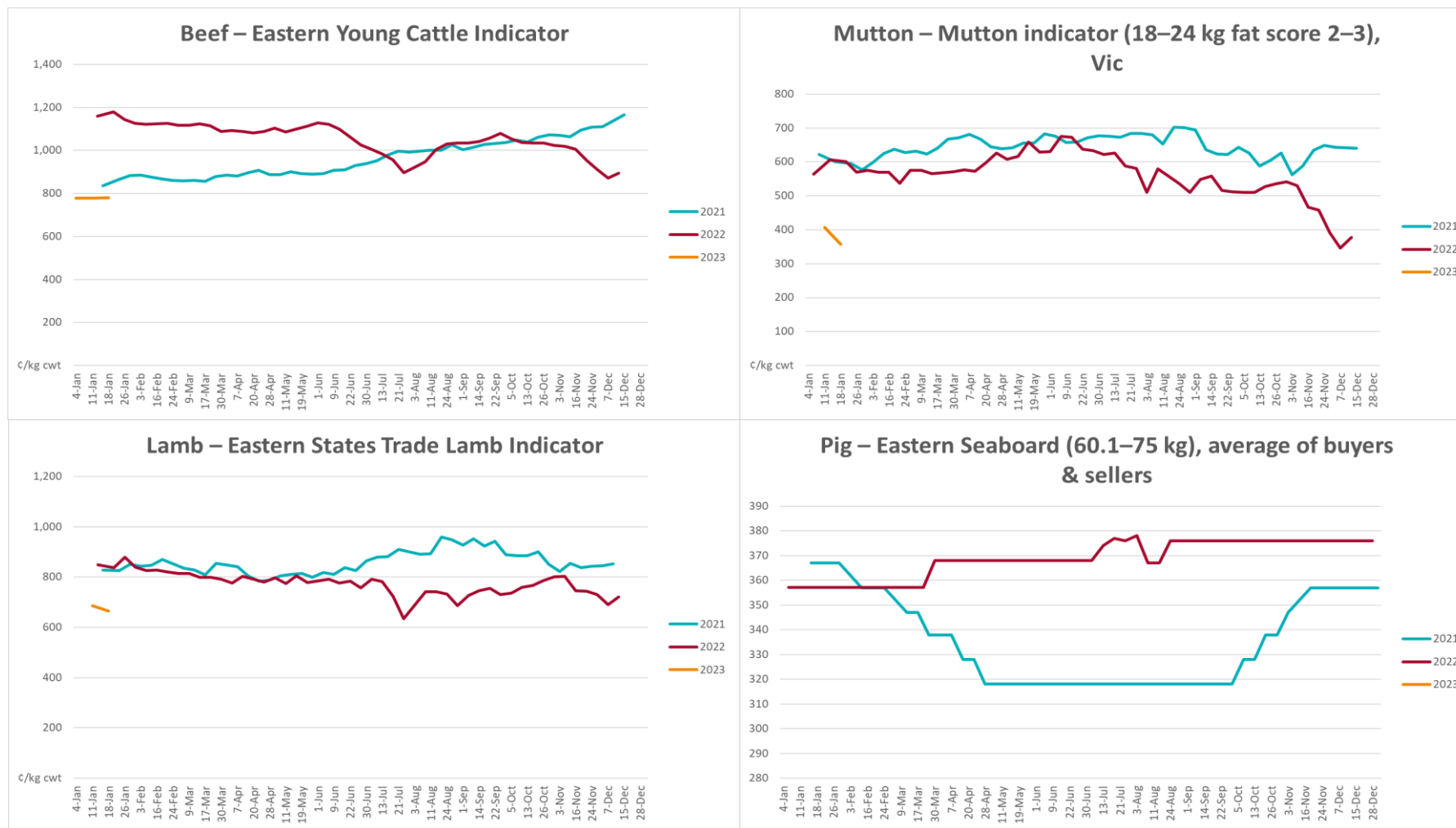


3.2. Selected domestic crop indicator prices

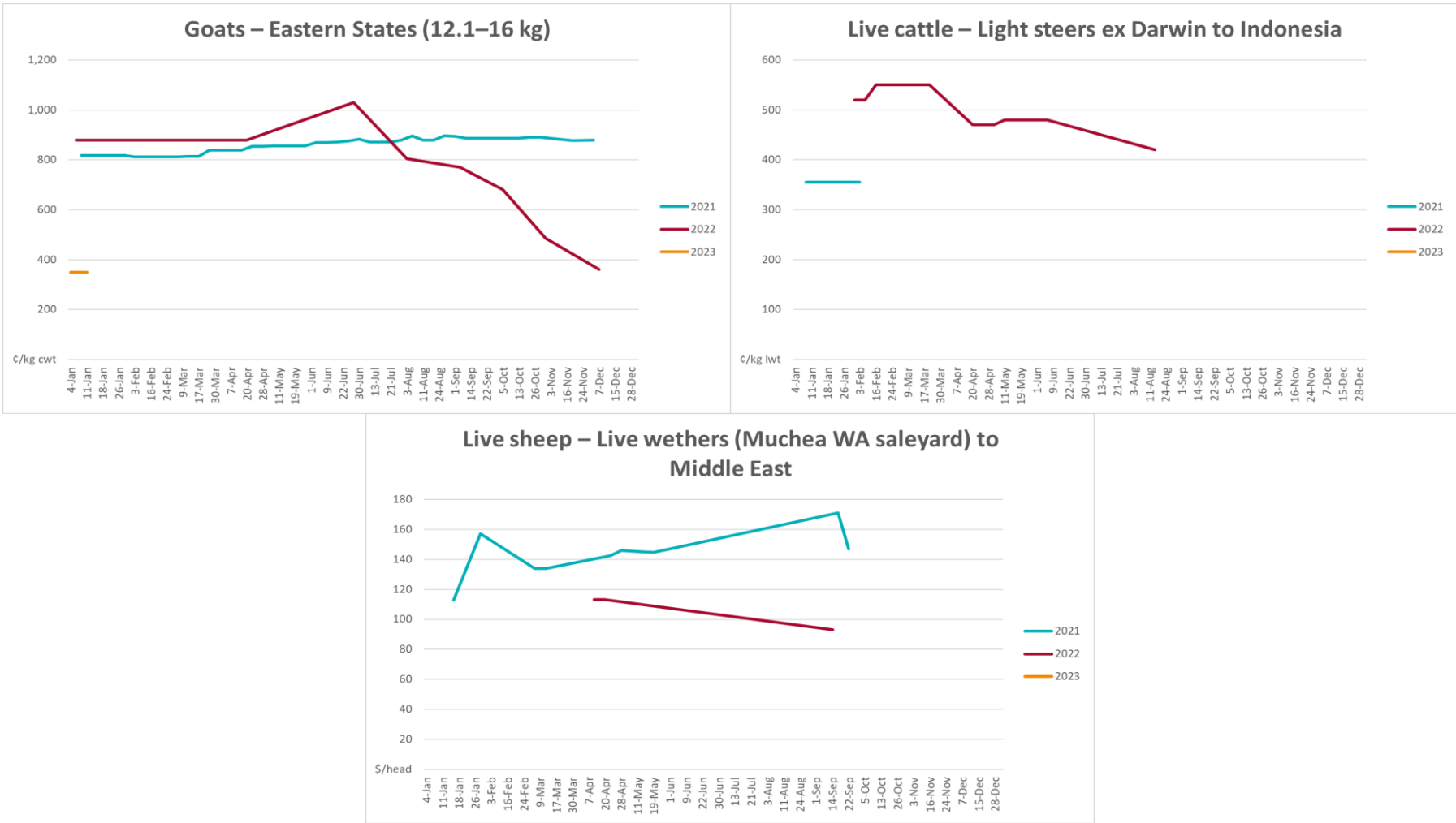




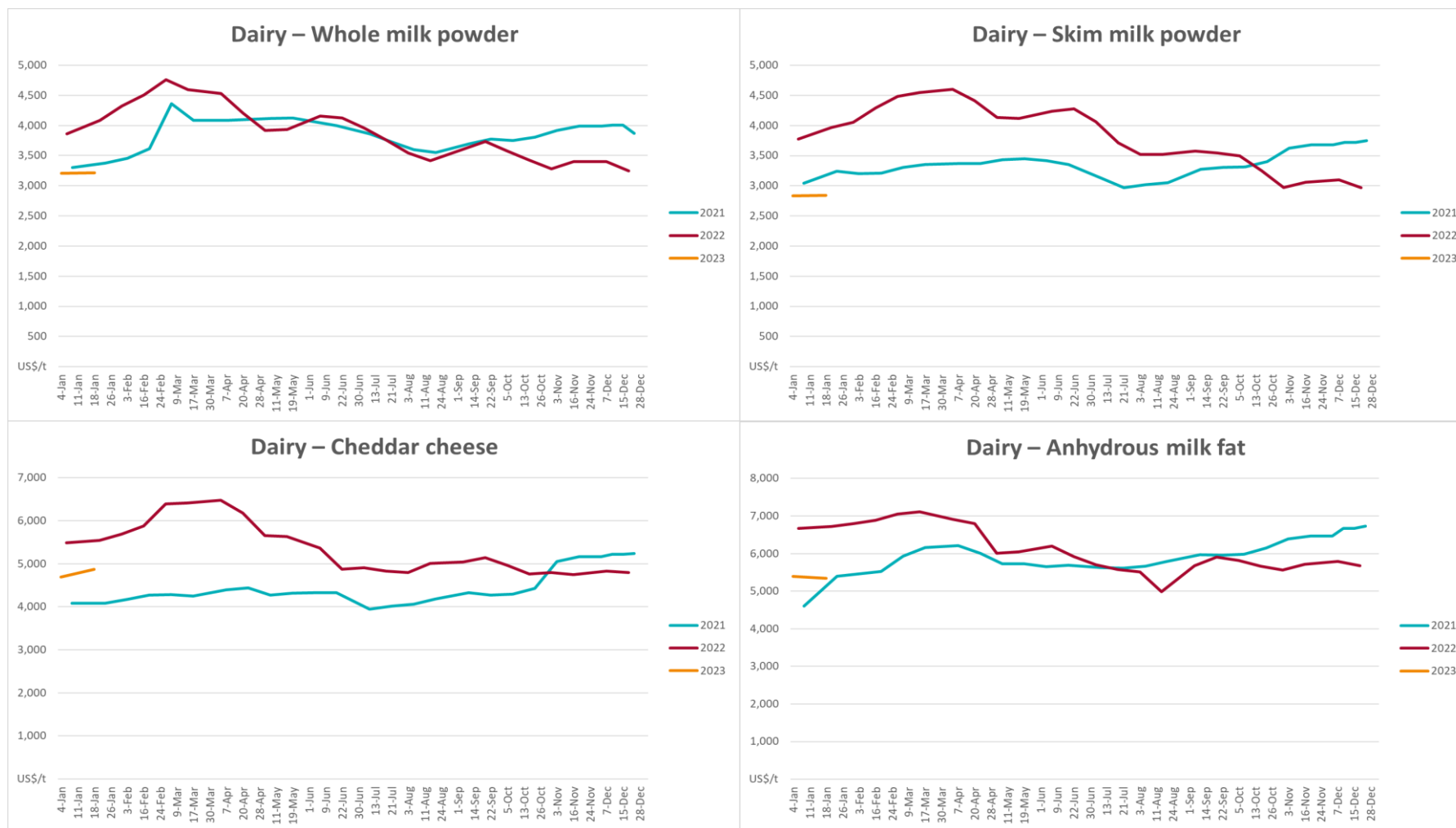
### 3.3. Selected domestic livestock indicator prices



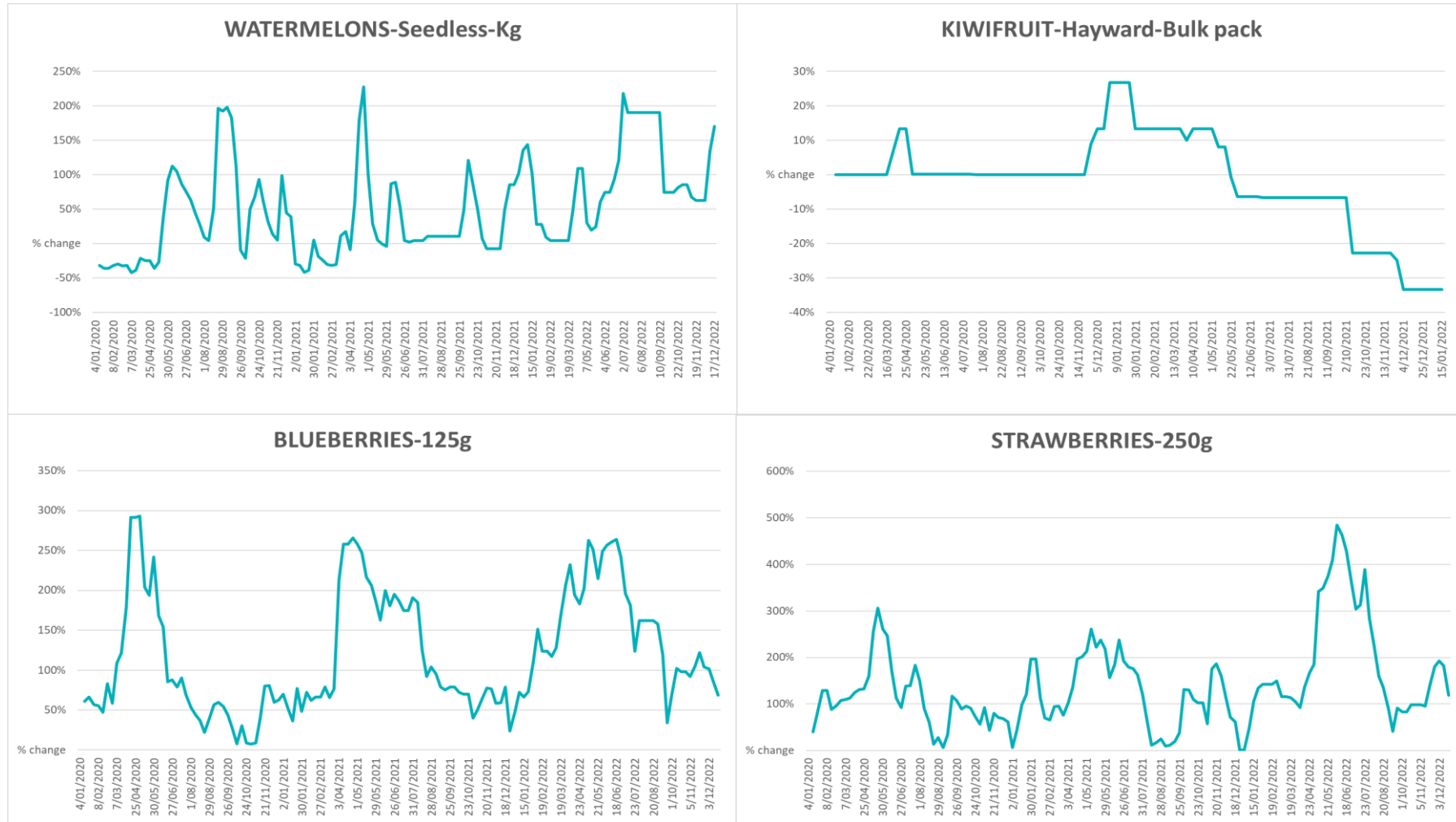


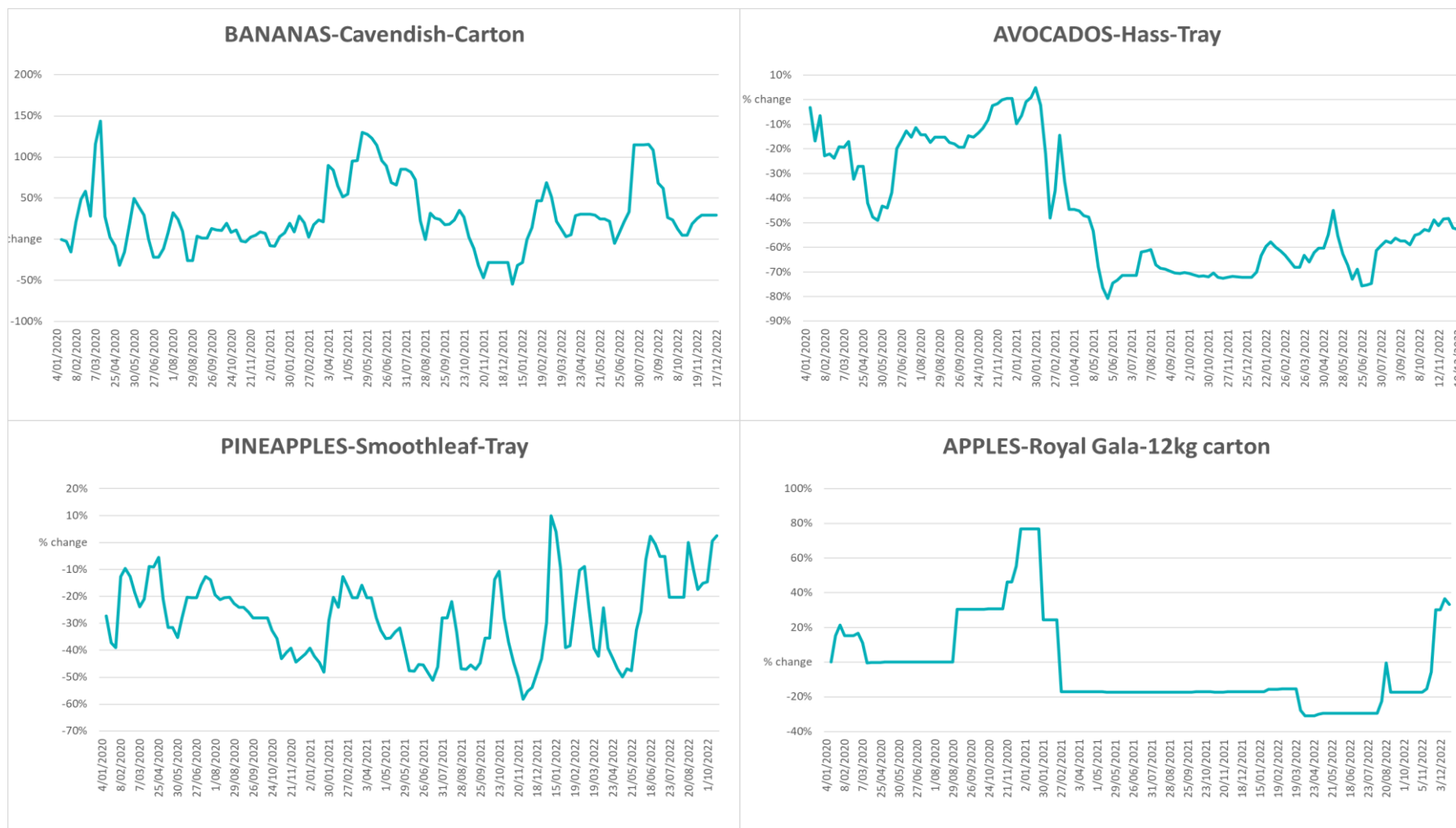


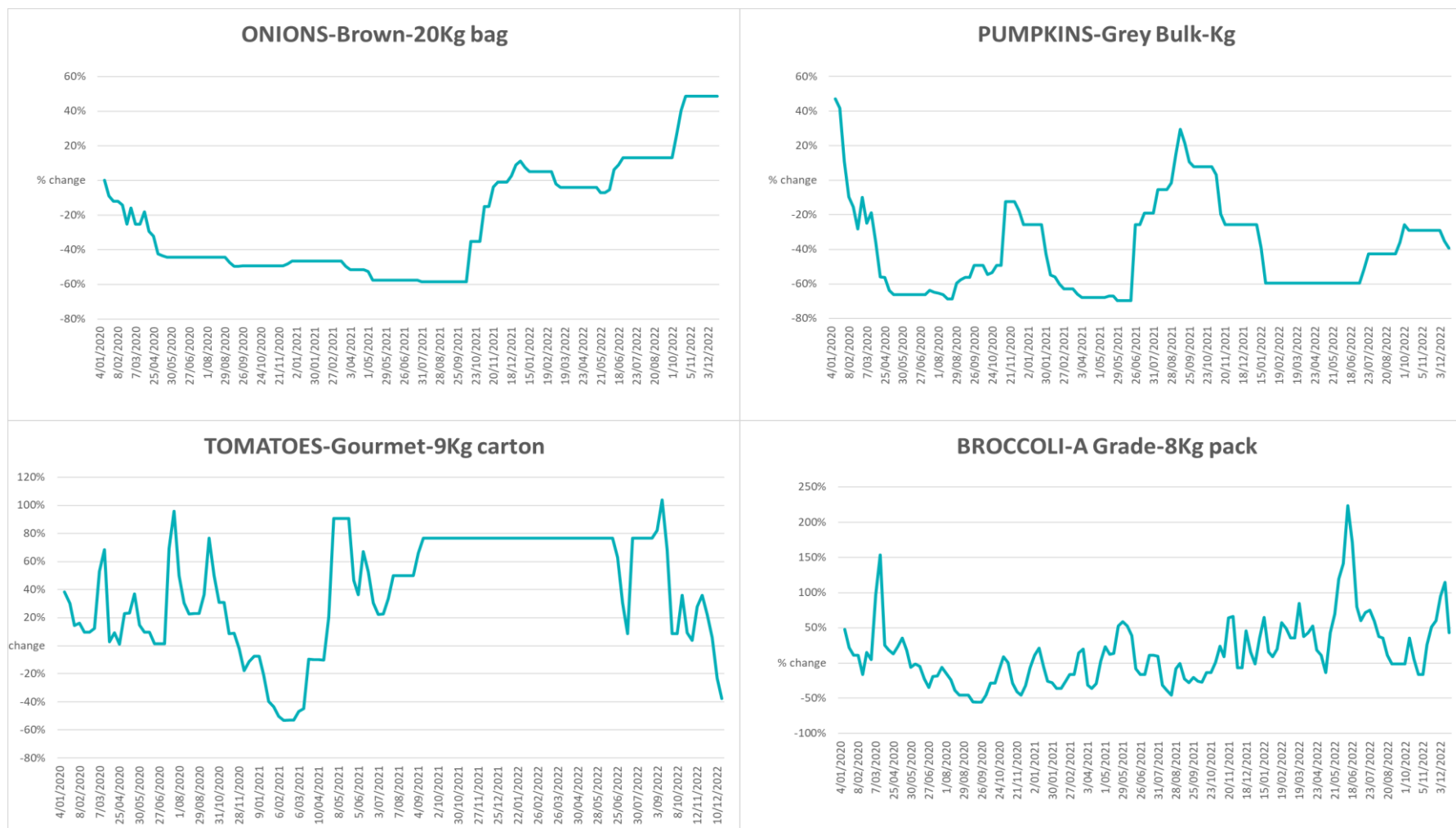
### 3.4. Global Dairy Trade (GDT) weighted average prices

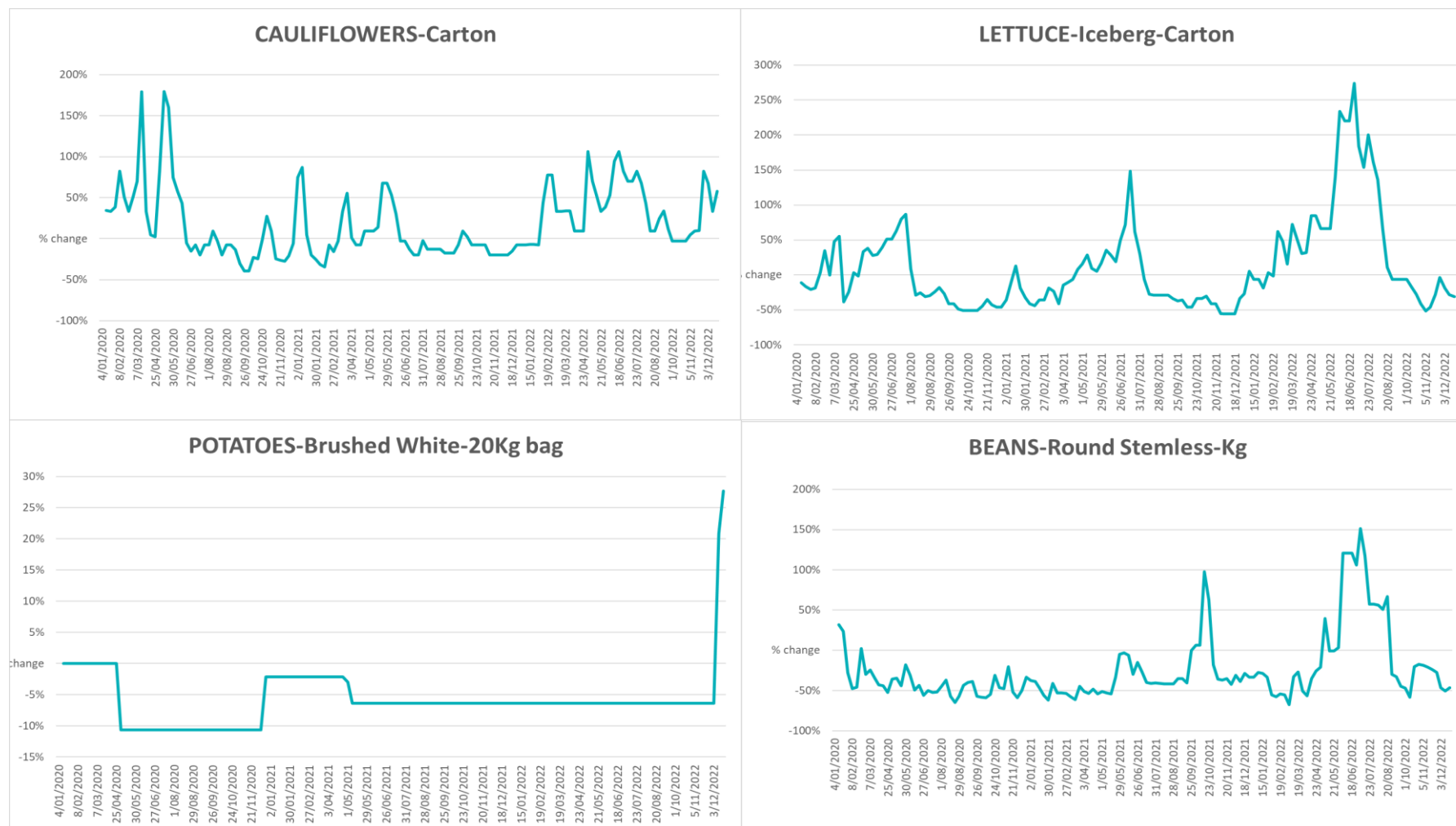


### 3.5. Selected fruit and vegetable prices



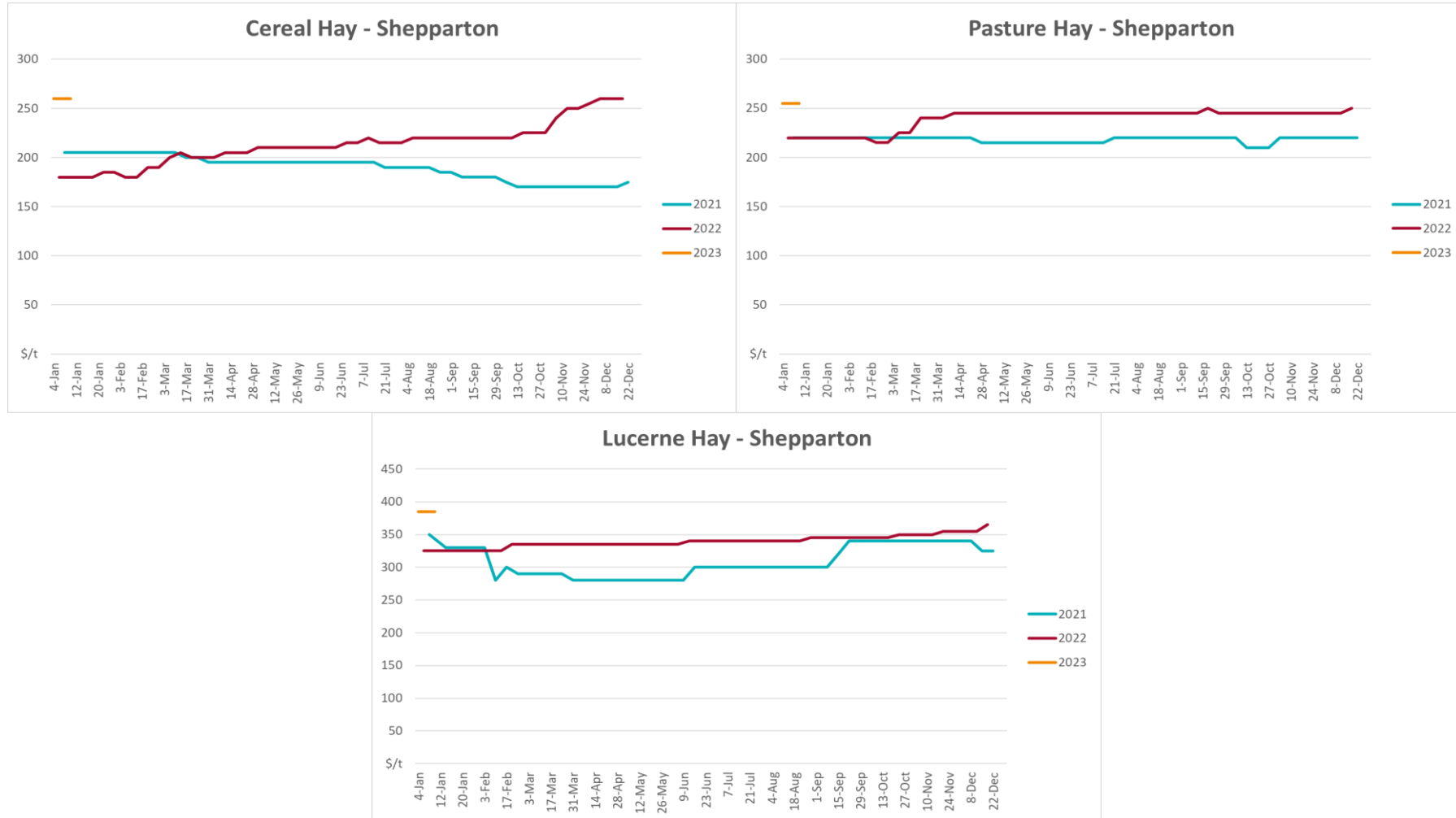








### 3.6. Selected domestic fodder indicator prices



## 4. Data attribution

### Climate

#### Bureau of Meteorology

- Weekly rainfall totals: [www.bom.gov.au/climate/maps/rainfall/](http://www.bom.gov.au/climate/maps/rainfall/)
- Monthly and last 3-month rainfall percentiles: [www.bom.gov.au/water/landscape/](http://www.bom.gov.au/water/landscape/)
- Temperature anomalies: [www.bom.gov.au/jsp/awap/temp/index.jsp](http://www.bom.gov.au/jsp/awap/temp/index.jsp)
- Rainfall forecast: [www.bom.gov.au/jsp/watl/rainfall/pme.jsp](http://www.bom.gov.au/jsp/watl/rainfall/pme.jsp)
- Seasonal outlook: [www.bom.gov.au/climate/outlooks/#/overview/summary/](http://www.bom.gov.au/climate/outlooks/#/overview/summary/)
- Climate drivers: <http://www.bom.gov.au/climate/enso/>
- Soil moisture: [www.bom.gov.au/water/landscape/](http://www.bom.gov.au/water/landscape/)

#### Other

- Pasture growth: [www.longpaddock.qld.gov.au/aussiegrass/](http://www.longpaddock.qld.gov.au/aussiegrass/)
- 3-month global outlooks: [Environment and Climate Change Canada](#), [NOAA Climate Prediction Center](#), [EUROBRISA CPTC/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/mdb/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](http://www.freshstate.com.au)

#### Pigs

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

#### Dairy

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

#### World wheat, canola

- International Grains Council

#### World coarse grains

- United States Department of Agriculture

#### World cotton

- Cotlook: [www.cotlook.com/](http://www.cotlook.com/)

#### World sugar

- New York Stock Exchange - Intercontinental Exchange

#### Wool

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

#### Domestic wheat, barley, sorghum, 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](http://www.mla.com.au/Prices-and-market)

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