



Weekly Australian Climate, Water and Agricultural Update



No. 23/2021

17 June 2021

Summary of key issues

- During the week ending 16 June 2021, complex low pressure systems and cold fronts brought moderate rainfall to parts of eastern, western and southern Australia ([see Section 1.1](#)).
- The substantial rainfall across many Australian cropping regions will support the development of established crops. Despite low rainfall totals this week across north-western Victoria and eastern South Australia, these regions have likely received enough rainfall this month to assist with winter crop germination and establishment.
- As at 28 May 2021 global production conditions were generally favourable. A lack of precipitation has affected the production potential of wheat, corn and soy in some key grain exporters and importers ([see Section 1.2](#)).
- Global production conditions for May are similar to those expected back in April, which were used to formulate ABARES forecasts of global grain supplies and world prices in its June 2021 edition of Agricultural commodities.
- The global climate outlook indicates that average to above average rainfall is more likely between July and September 2021 for most of the world's major grain-producing and oilseed-producing regions. If realised, this is likely to benefit spring wheat and canola, cotton, rice, corn, grain sorghum, soybeans, sunflower and millet production in the northern hemisphere, and winter wheat and canola production in most southern hemisphere growing regions ([see Section 1.2](#)).
- However, below average rainfall is more likely across parts of Argentina and southern Brazil. This may adversely affect the planting and development of wheat crops. Below average rainfall between July and September 2021 is also more likely for parts of southern, eastern and central Europe, parts of Ukraine and China, and parts of the United States. In these northern hemisphere growing regions, this may adversely affect the development of spring wheat, canola, corn, cotton, soybeans, sorghum and sunflower.
- During the next 8 days to 24 June 2021, rainfall totals of between 10 and 25 millimetres are forecast for much of New South Wales, Victoria, South Australia and the west and south of Western Australia. Rainfall totals in excess of 25 millimetres are forecast for cropping regions in parts of central South Australia and southern Western Australia ([see Section 1.3](#)).
- If this forecast is realised, the rainfall across eastern South Australian and north-western Victorian cropping regions will continue to assist with the germination and establishment of dry sown crops and boost soil moisture. The falls forecast across New South Wales, eastern Victoria and parts of Western Australia will likely support the growth of early sown winter crops.
- Water storage in the Murray–Darling Basin (MDB) increased by 363 gigalitres (GL) between 9 June 2021 and 16 June 2021. The current volume of water held in storage is 15,291 GL, which represents 60% of total capacity. This is 46% or 4,808 GL more than at the same time last year.

1. Climate

1.1. Rainfall this week

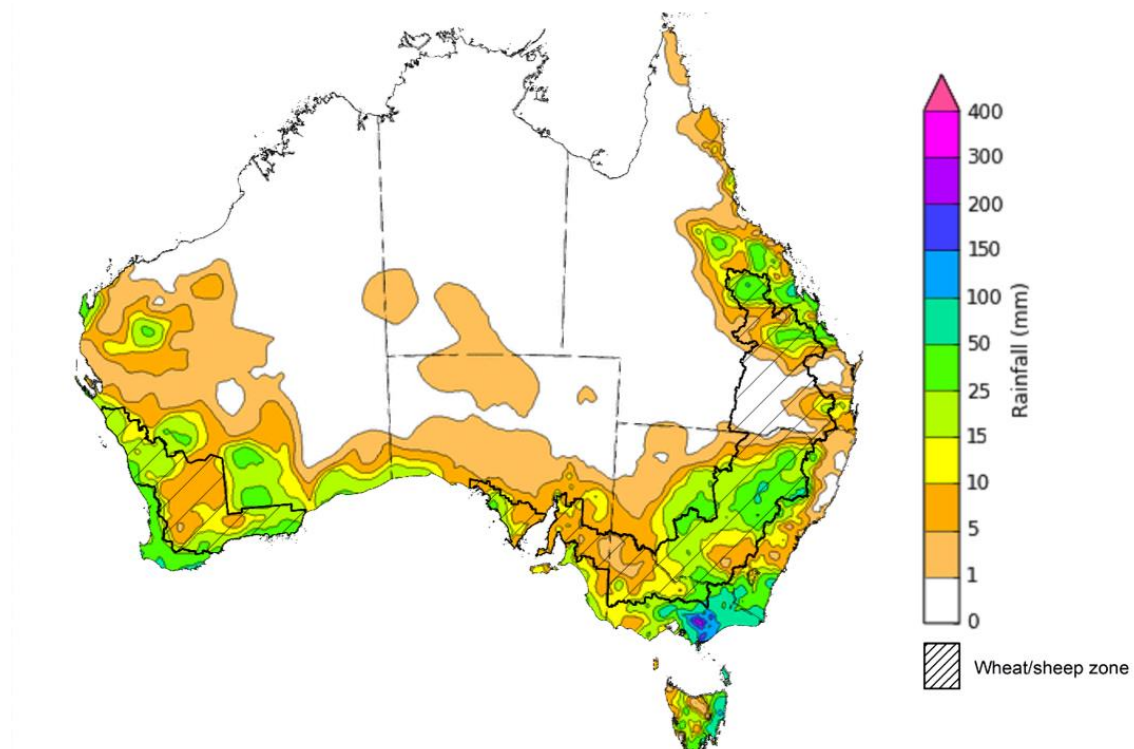
During the week ending 16 June 2021, complex low pressure systems and cold fronts brought moderate rainfall to parts of eastern, western and southern Australia. High pressure systems restricted rainfall across the remainder of Australia.

Rainfall totals of between 10 and 50 millimetres were recorded across large parts of New South Wales and Victoria, and parts of eastern Queensland, southern South Australia, the west and south of Western Australia and Tasmania. Rainfall totals in excess of 50 millimetres were recorded across much of eastern Victoria and isolated parts of eastern New South Wales and eastern Tasmania.

In cropping regions, rainfall totals of between 10 and 50 millimetres were recorded across much of New South Wales and parts of northern a Queensland, eastern and southern Victoria, western South Australia and northern and southern cropping regions in Western Australia. Rainfall in excess of 50 millimetres was recorded across isolated parts of cropping regions in central New South Wales. Little to no rainfall was recorded across cropping regions in north-western Victoria, southern Queensland, eastern South Australia and central Western Australia during the week ending 16 June 2021.

The substantial rainfall across many Australian cropping regions will support the development of established crops. Despite low rainfall totals this week across north-western Victoria and eastern South Australia, these regions have likely received enough rainfall this month to assist with winter crop germination and establishment.

Rainfall for the week ending 16 June 2021



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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.

May precipitation percentiles and current production conditions

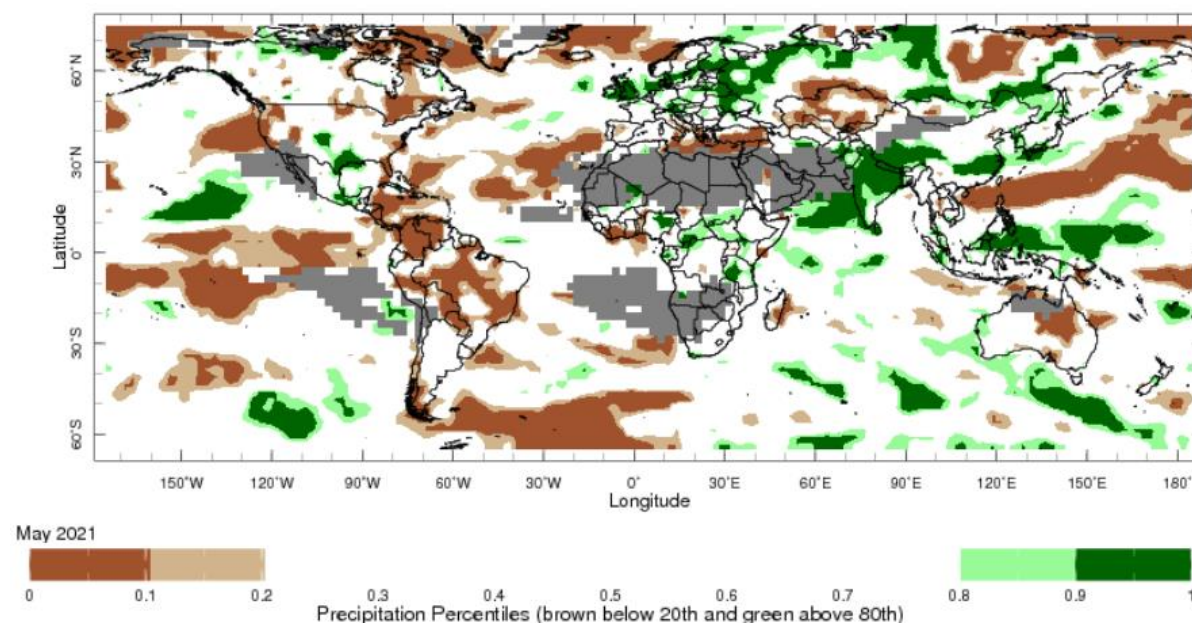
As at the end of May 2021, precipitation was average to below average for the world's major grain and oil producing regions.

In the northern hemisphere, May precipitation was above average in parts of central Africa, south-western and south-eastern China, northern and eastern Europe, India, southern Mexico, the west, north-west and south-east of the Russian Federation, central Southeast Asia, the United Kingdom, and south-eastern and central parts of the United States of America.

Precipitation was below average across parts of south-eastern Canada, the far south of Europe, Kazakhstan, and the west, north and east of the United States of America. Precipitation was generally average across the remainder of major grain and oil producing regions in the northern hemisphere.

In the southern hemisphere, May precipitation was below average across much of Brazil and parts of southern Argentina and southern Australia. Precipitation was generally average across the remainder of major grain and oil producing regions in the southern hemisphere.

Global precipitation percentiles, May 2021



Note: The world precipitation percentiles indicate a ranking of precipitation for May, 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 May 2021 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 May 2021 global production conditions were generally favourable. However, a lack of precipitation has affected the production potential of wheat, corn and soy in some key grain exporters and importers.

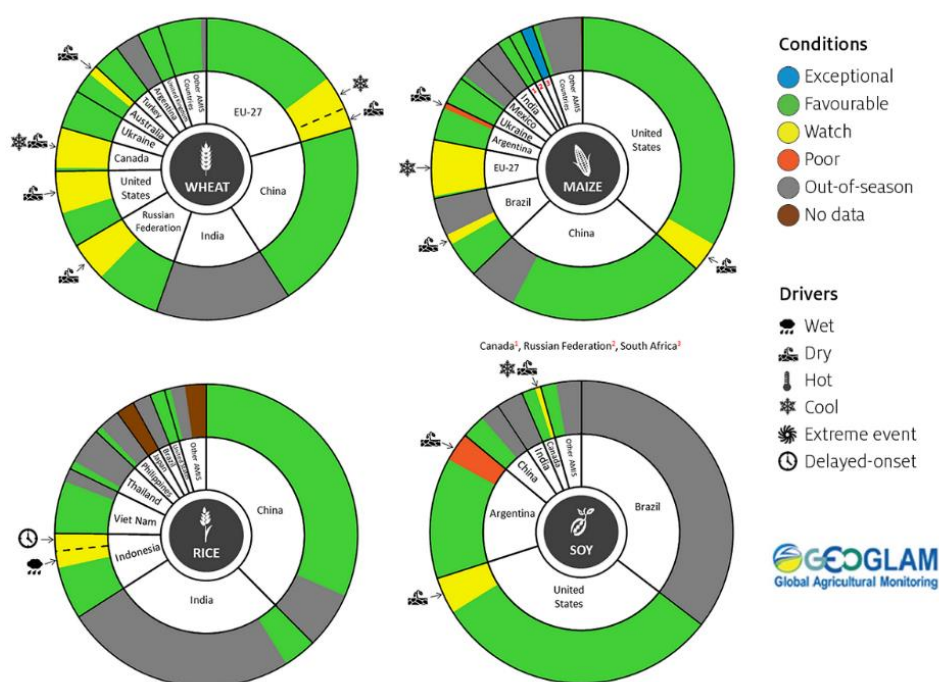
Conditions for wheat development were generally favourable in China, the European Union, United Kingdom, Turkey, and Ukraine. Dry and unseasonably cold temperatures have resulted in variable production prospects across parts of southern Australia, much of Canada, as well as parts of the United States of America, the European Union and the Russian Federation.

Conditions for corn in Argentina were generally favourable as harvest of the early-planted crop continued and the late-planted crop developed, however, lack of rainfall in some areas has resulted in poor production prospects. In Brazil, conditions are largely favourable for the summer-planted crop, however uneven rainfall has resulted in mixed production prospects in the south. Conditions for harvesting were generally favourable in Mexico and exceptional in South Africa. Conditions were favourable for crop development in Ukraine and sowing in Canada, China, the Russian Federation, and the United States of America. Most of the European Union remained under watch status due to cold weather delaying crop development with a potential risk to production potential.

Conditions for rice were favourable for crop development in China and as harvesting occurred for in India, Indonesia, Vietnam, Thailand and the Philippines. Sowing of rice occurred under favourable conditions in China, Indonesia, Vietnam and the United States of America.

Conditions for soybeans in Argentina were mixed for crops undergoing harvest due to uneven rainfall during the season. Sowing occurred under generally favourable conditions in Canada, China and the United States of America. In Ukraine, crop development continued under favourable conditions.

Crop conditions, AMIS countries, 28 May 2021



AMIS Agricultural Market Information System.
Source: AMIS

The global climate outlook for July to September 2021 indicates that average to above average rainfall is more likely for most of 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 July and September 2021

Region	July-September rainfall outlook	Potential impact on production
Argentina	Below average to average rainfall is expected across most of Argentina between July and September 2021.	Below average rainfall across parts of Argentina may adversely affect the establishment and growth of wheat. Dry conditions in September could adversely affect wheat yields and delay planting of corn and cotton.
Black Sea Region	Ukraine - Below average rainfall is more likely across parts of Ukraine. Kazakhstan - Above average rainfall is more likely across parts of Kazakhstan. The Russian Federation – Average rainfall is more likely across most of Russia.	Above average rainfall across parts of Kazakhstan will support yield potential for corn, cotton and sunflower during flowering and grain filling in July and August 2021. Below average rainfall conditions across parts of Ukraine may negatively impact on spring wheat yields.
Brazil	Above average rainfall is more likely across parts of northern Brazil and below average rainfall is more likely across parts of southern Brazil between July and September 2021.	Below average rainfall between July and September 2021 across southern Brazil may adversely affect the establishment and growth of wheat. Dry conditions in August to September (during heading and filling) could adversely affect wheat yields and delay the planting of corn and soybean.
Canada	Average rainfall is more likely for much of Canada, especially across major production regions between July and September 2021.	Average rainfall is likely to positively impact yields for spring wheat and canola during critical stages of flowering and filling in July and August. Likewise, average rainfall conditions will support the development and growth of corn, soybeans and sunflower throughout July, as well as supporting yield potential during flowering and grain development in August and September.
China	Below average rainfall is more likely across parts of western, central and south-eastern China, and above average rainfall is likely in north-eastern China between July and September 2021.	Below average rainfall across parts of western, central and south-eastern China is likely to negatively impact cotton, spring wheat, sunflower and rice yields in affected regions. The dry conditions, however, may assist harvesting of spring wheat in September. Above average rainfall across north-eastern China is likely to support the yield potential for corn, sorghum and soybean between July and August 2021.
Europe	Below average rainfall is more likely for parts of southern, eastern and central Europe between July and September 2021.	Below average rainfall across parts of eastern and central Europe may adversely affect the yield potential of corn, soybean and sunflower seeds during flowering and grain development. Dry conditions in southern Europe are also expected to negatively impact corn and sorghum yields during flowering and grain development in July to August 2021. The dry conditions, however, will assist with harvesting of winter wheat.
South Asia (India)	Above average rainfall is more likely across south-eastern and parts of northern India and below average rainfall is more likely across south-western India between July and September 2021. Central parts of India, however, are likely to receive close to average rainfall.	Above average rainfall across south-eastern and parts of northern India is likely to benefit the yield potential of corn, millet and sorghum from July 2021. Meanwhile, below average rainfall across south-western India is likely to negatively impact non-irrigated rice yields.
Southeast Asia (SEA)	Above average rainfall is more likely for parts of southern Southeast Asian countries and below average rainfall is more likely for parts of Myanmar and the northern Philippines between July and September 2021.	Average or better rainfall across most of Southeast Asia is likely to benefit corn and rice potential yields. Below average rainfall across parts of Myanmar and the northern Philippines may adversely impact rice and corn production.
The United States of America	Above average rainfall is likely for much of the eastern US and below average rainfall is more likely for parts of the north-west, central and south between July and September 2021.	Average or better rainfall across the eastern US is likely to support the yield potential of cotton, corn, groundnuts and soybeans during the flowering and grain development in July and August. Below average rainfall in the north-western, central and southern US may adversely impact canola, cotton, sorghum and spring wheat yields in affected regions.

1.3. Rainfall forecast for the next eight days

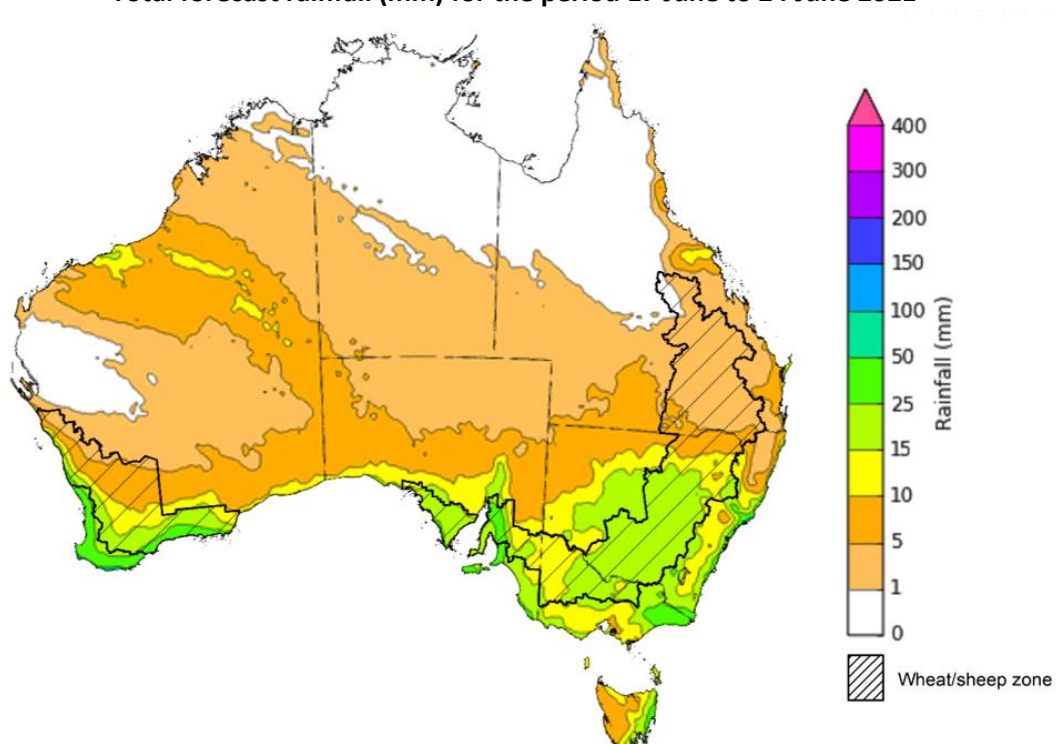
Low pressure systems and troughs are likely to bring showers and storms to parts of southern Australia during the 8 days to 24 June 2021. High-pressure systems are expected to keep rainfall totals low for the majority of central and northern Australia.

Rainfall totals of between 10 and 50 millimetres are forecast for much of New South Wales and Victoria, and parts of southern South Australia, southern Western Australia and eastern Tasmania.

In Australia's cropping regions, rainfall totals of between 10 and 25 millimetres are forecast for much of New South Wales, Victoria, South Australia and the west and south of Western Australia. Rainfall totals in excess of 25 millimetres are forecast for cropping regions in parts of central South Australia and southern Western Australia. Little to no rainfall is expected across most cropping regions in Queensland.

If realised, the rainfall forecast across eastern South Australian and north-western cropping regions will continue to assist with the germination and establishment of crops and boost soil moisture. The falls forecast across New South Wales, eastern Victoria and parts of Western Australia will likely support the growth of early sown winter crops. However, waterlogging is starting to affect crop growth in some areas of central New South Wales and southern Western Australia and is limiting opportunities for post-emergent spraying and fertilizer application.

Total forecast rainfall (mm) for the period 17 June to 24 June 2021



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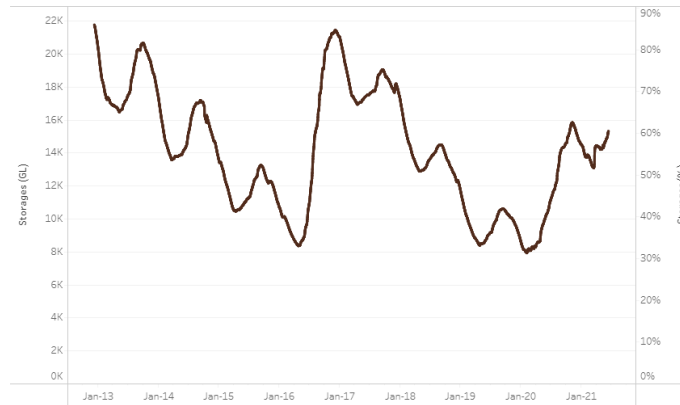
Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

2. Water

2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) increased by 363 gigalitres (GL) between 9 June 2021 and 16 June 2021. The current volume of water held in storage is 15,291 GL, which represents 60% of total capacity. This is 46% or 4,808 GL more than at the same time last year.

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

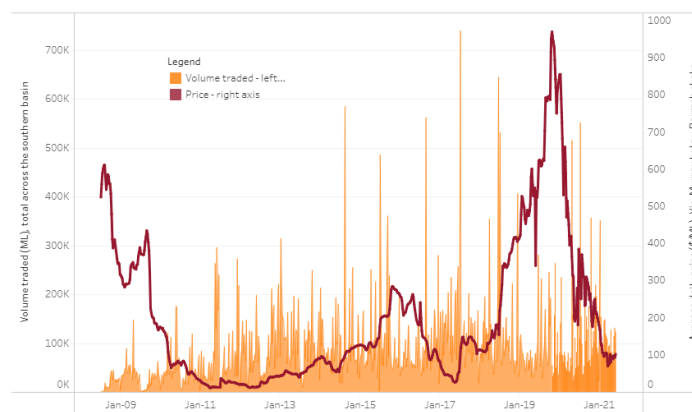


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke increased from \$102 per ML on 4 June 2021 to \$105 per ML on 11 June 2021. Prices are lower in the Murrumbidgee due to the binding of the Murrumbidgee export limit.

Region	\$/ML
NSW Murray Above	89
NSW Murrumbidgee	87
VIC Goulburn-Broken	93
VIC Murray Below	105

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 June 2021.

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-170621

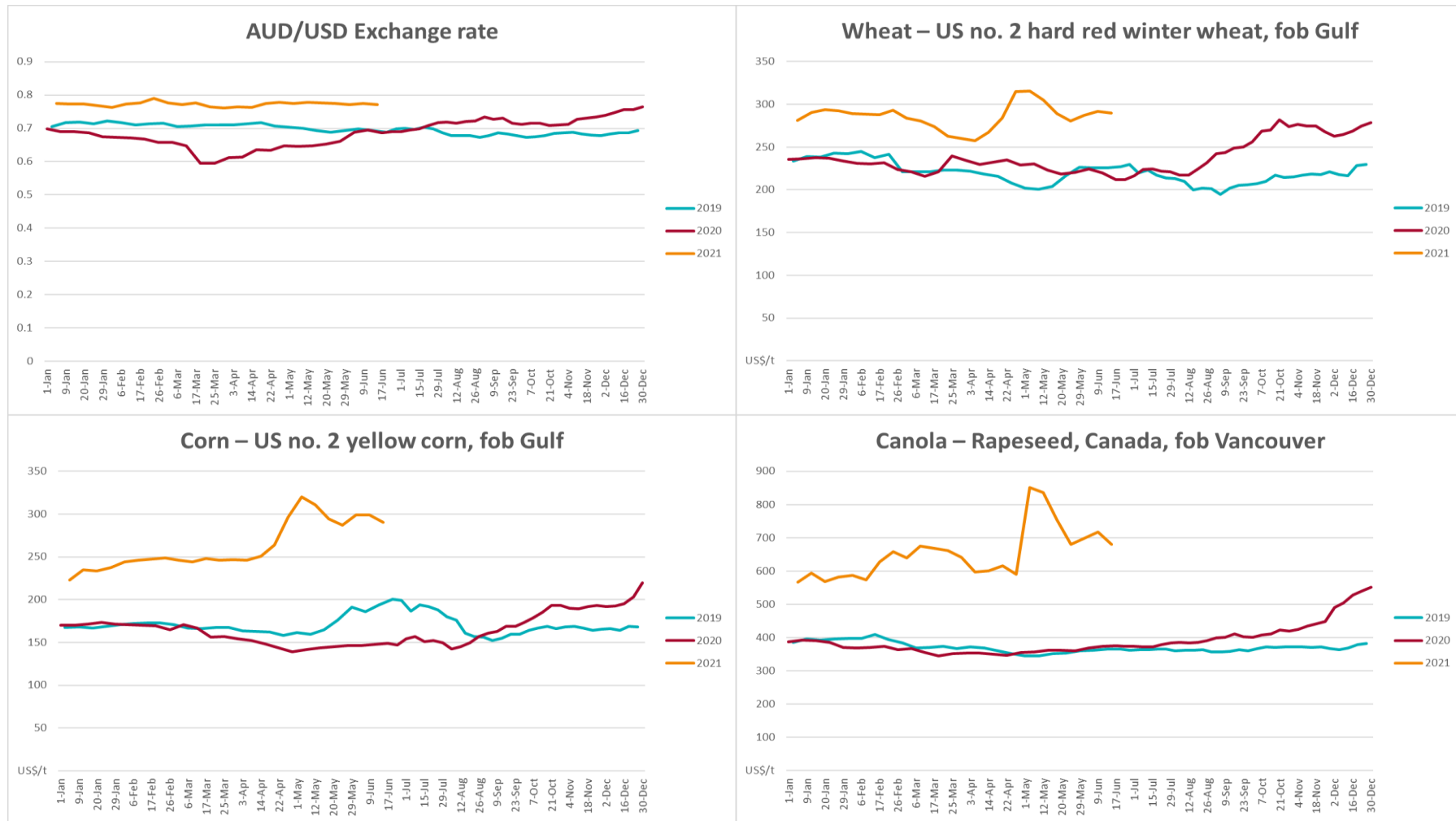
3. Commodities

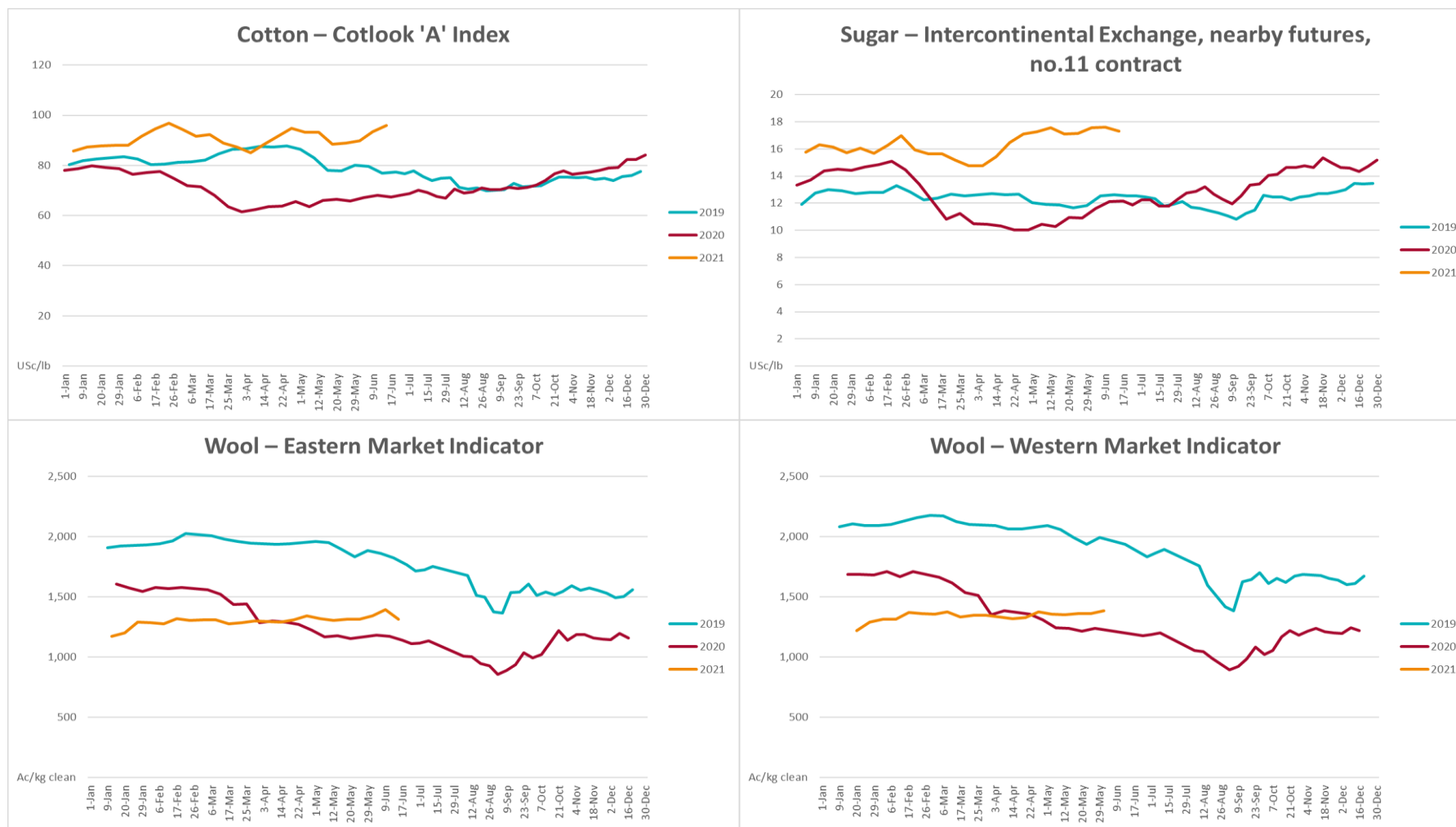
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	16-Jun	A\$/US\$	0.77	0.77	0%	0.69	12%
Wheat – US no. 2 hard red winter wheat, fob Gulf	16-Jun	US\$/t	290	292	-1%	212	37%
Corn – US no. 2 yellow corn, fob Gulf	16-Jun	US\$/t	290	299	-3%	147	98%
Canola – Rapeseed, Canada, fob Vancouver	16-Jun	US\$/t	681	718	-5%	374	82%
Cotton – Cotlook 'A' Index	16-Jun	USc/lb	96	93	3%	68	41%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	16-Jun	USc/lb	17	18	-2%	12	46%
Wool – Eastern Market Indicator	16-Jun	Ac/kg clean	1,315	1,393	-6%	1,170	12%
Wool – Western Market Indicator	02-Jun	Ac/kg clean	1,385	1,360	2%	1,538	-10%
Selected Australian grain export prices							
Milling Wheat – APW, Port Adelaide, SA	16-Jun	A\$/t	381	375	1%	313	22%
Feed Wheat – ASW, Port Adelaide, SA	16-Jun	A\$/t	374	371	1%	299	25%
Feed Barley – Port Adelaide, SA	16-Jun	A\$/t	328	323	2%	272	21%
Canola – Kwinana, WA	16-Jun	A\$/t	787	776	1%	626	26%
Grain Sorghum – Brisbane, QLD	16-Jun	A\$/t	380	375	1%	370	3%
Selected domestic livestock indicator prices							
Beef – Eastern Young Cattle Indicator	16-Jun	Ac/kg cwt	907	898	1%	727	25%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	16-Jun	Ac/kg cwt	653	659	-1%	680	-4%
Lamb – Eastern States Trade Lamb Indicator	16-Jun	Ac/kg cwt	839	812	3%	941	-11%
Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers	02-Jun	Ac/kg cwt	318	318	0%	406	-22%
Goats – Eastern States (12.1–16 kg)	09-Jun	Ac/kg cwt	869	857	1%	760	14%
Live cattle – Light steers ex Darwin to Indonesia	17-Feb	Ac/kg lwt	355	355	0%	360	-1%
Live sheep – Live wethers (Muchea WA saleyard) to Middle East	19-May	\$/head	145	145	-1%	N/A	N/A

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-Jun	US\$/t	3,997	4,062	-2%	3,249	23%
Dairy – Skim milk powder	16-Jun	US\$/t	3,356	3,415	-2%	2,521	33%
Dairy – Cheddar cheese	16-Jun	US\$/t	4,328	4,324	0%	4,851	-11%
Dairy – Anhydrous milk fat	16-Jun	US\$/t	5,687	5,654	1%	6,140	-7%

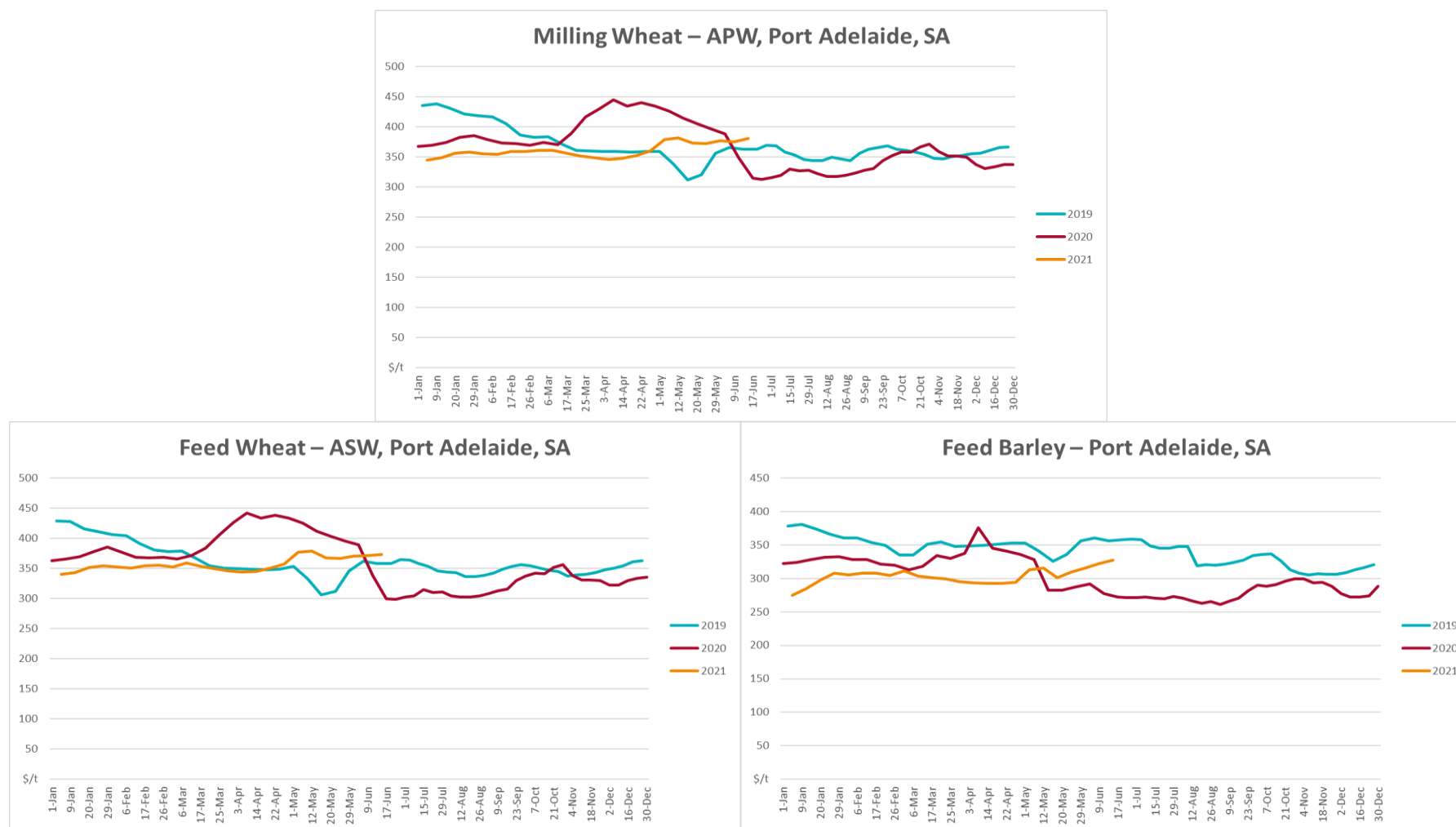
a Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

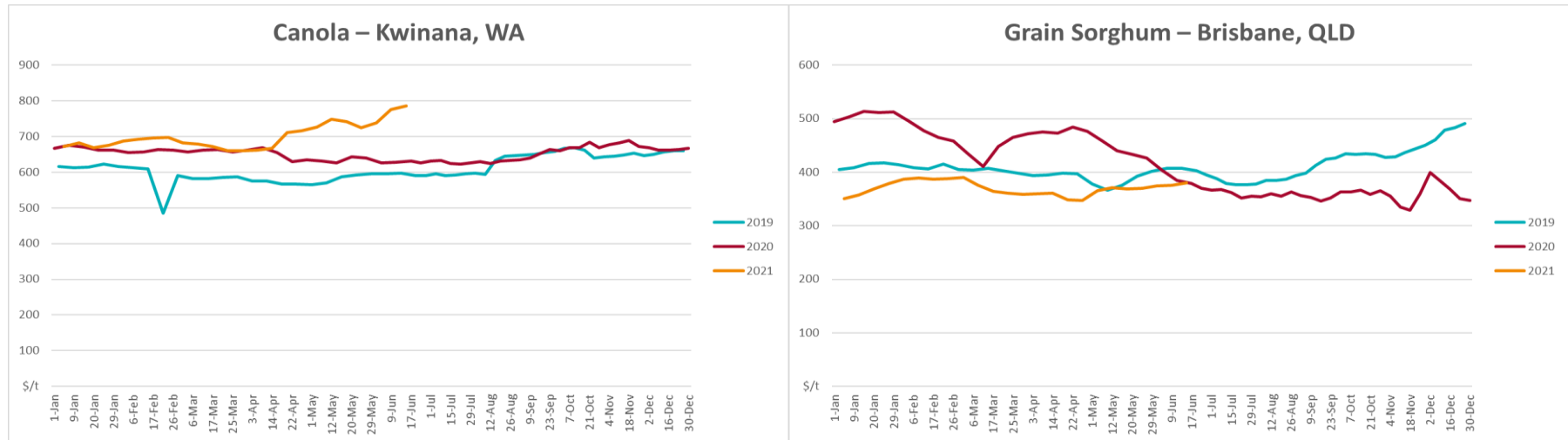
3.1. Selected world indicator prices



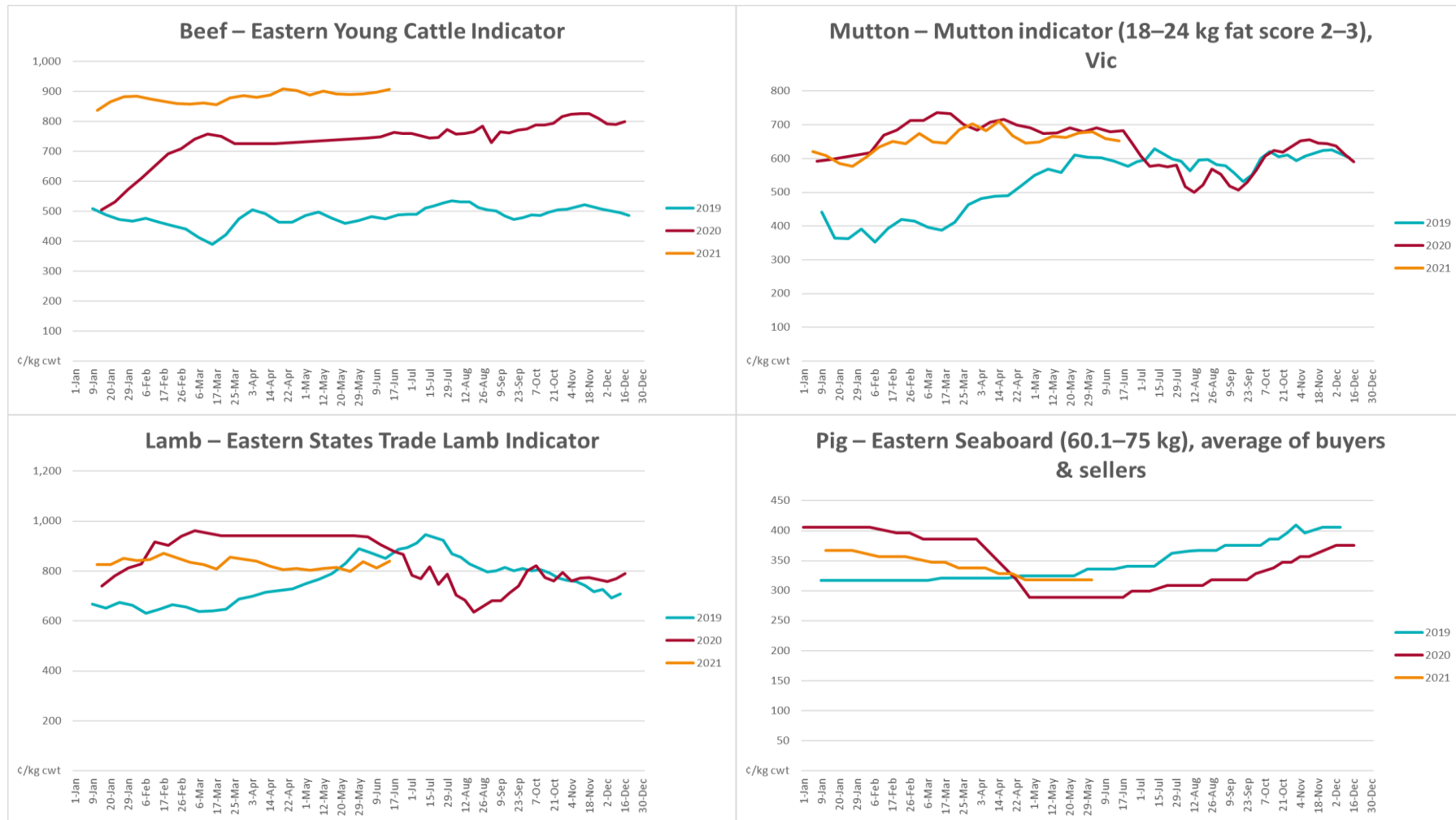


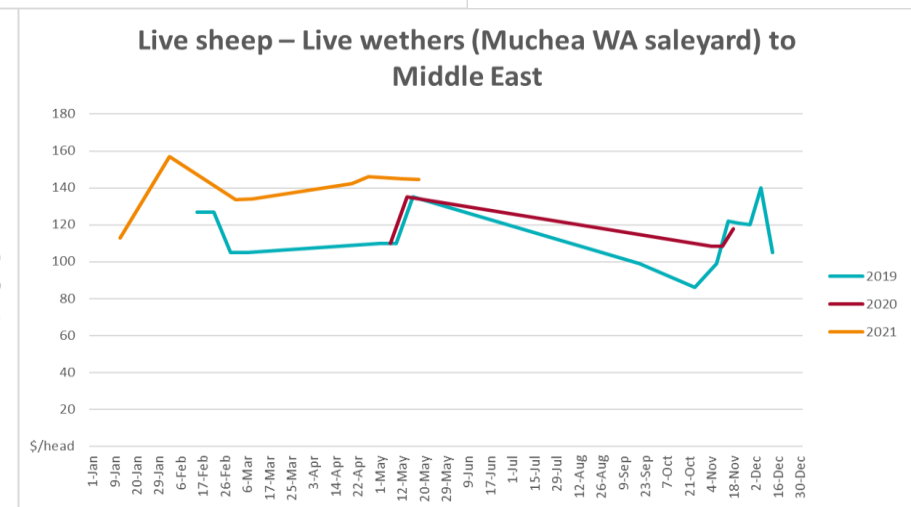
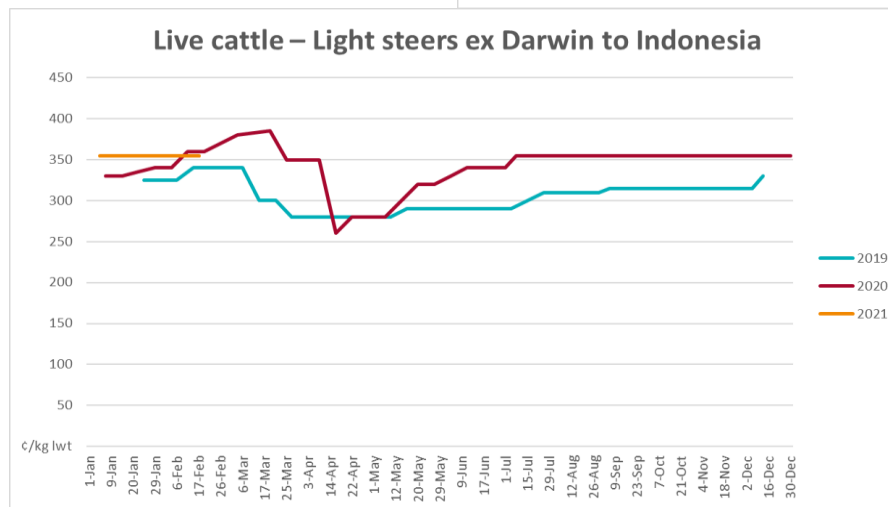
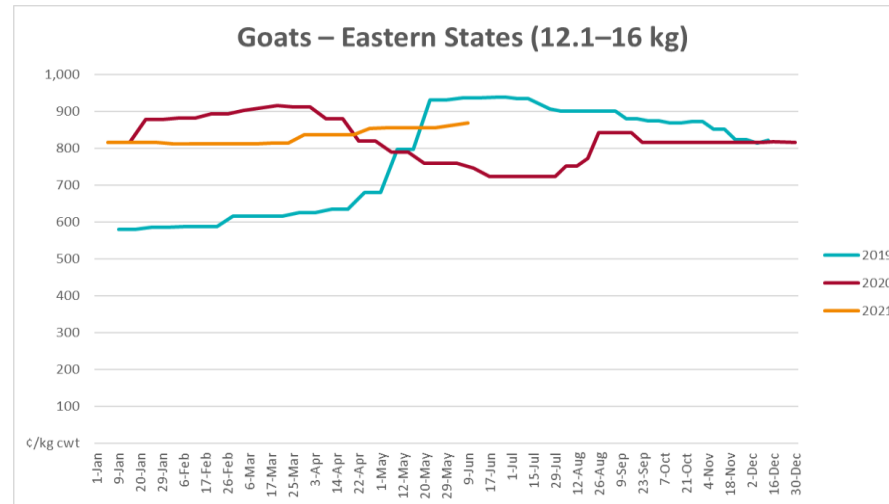
3.2. Selected domestic crop indicator prices



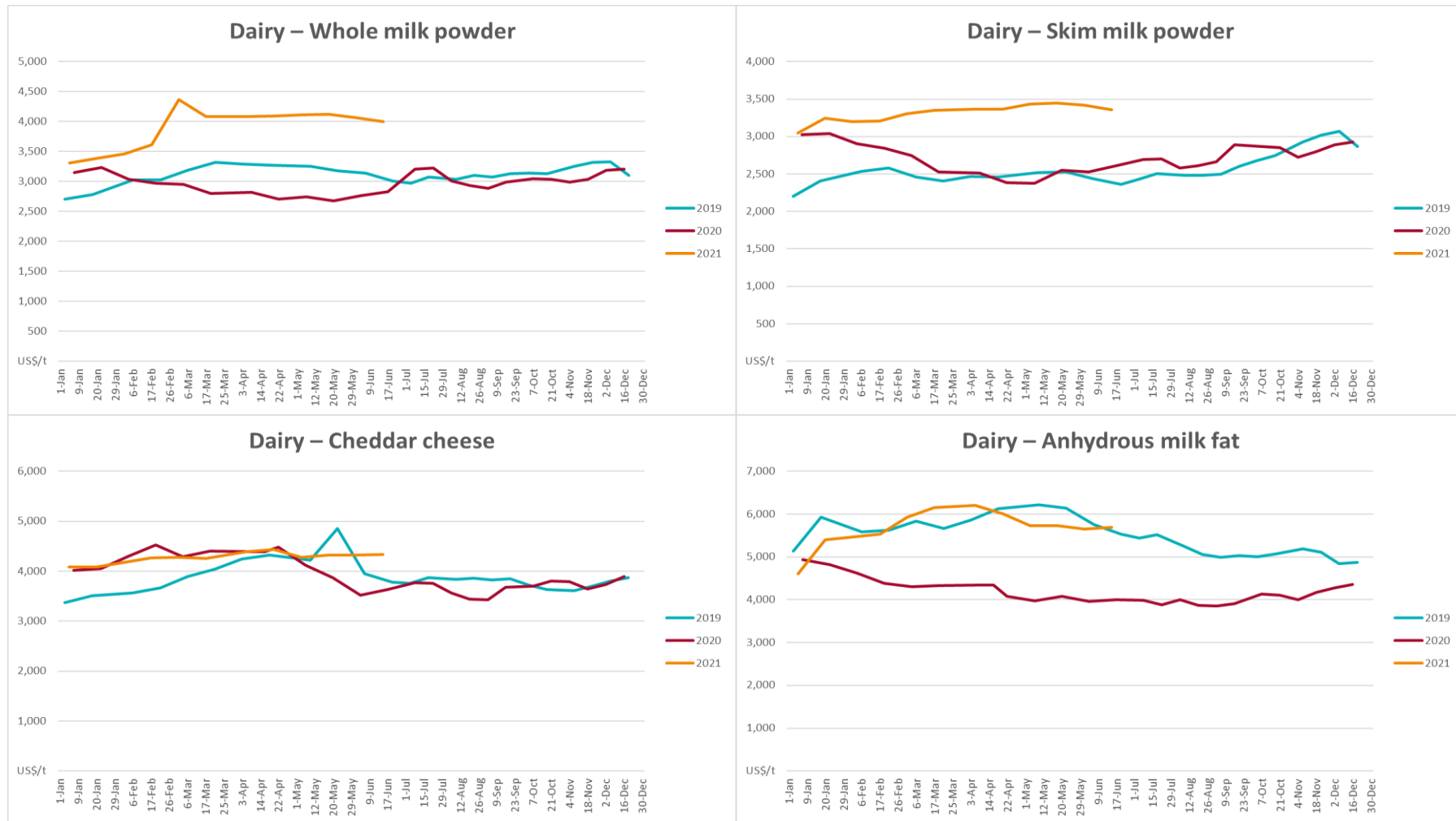


3.3. Selected domestic livestock indicator prices

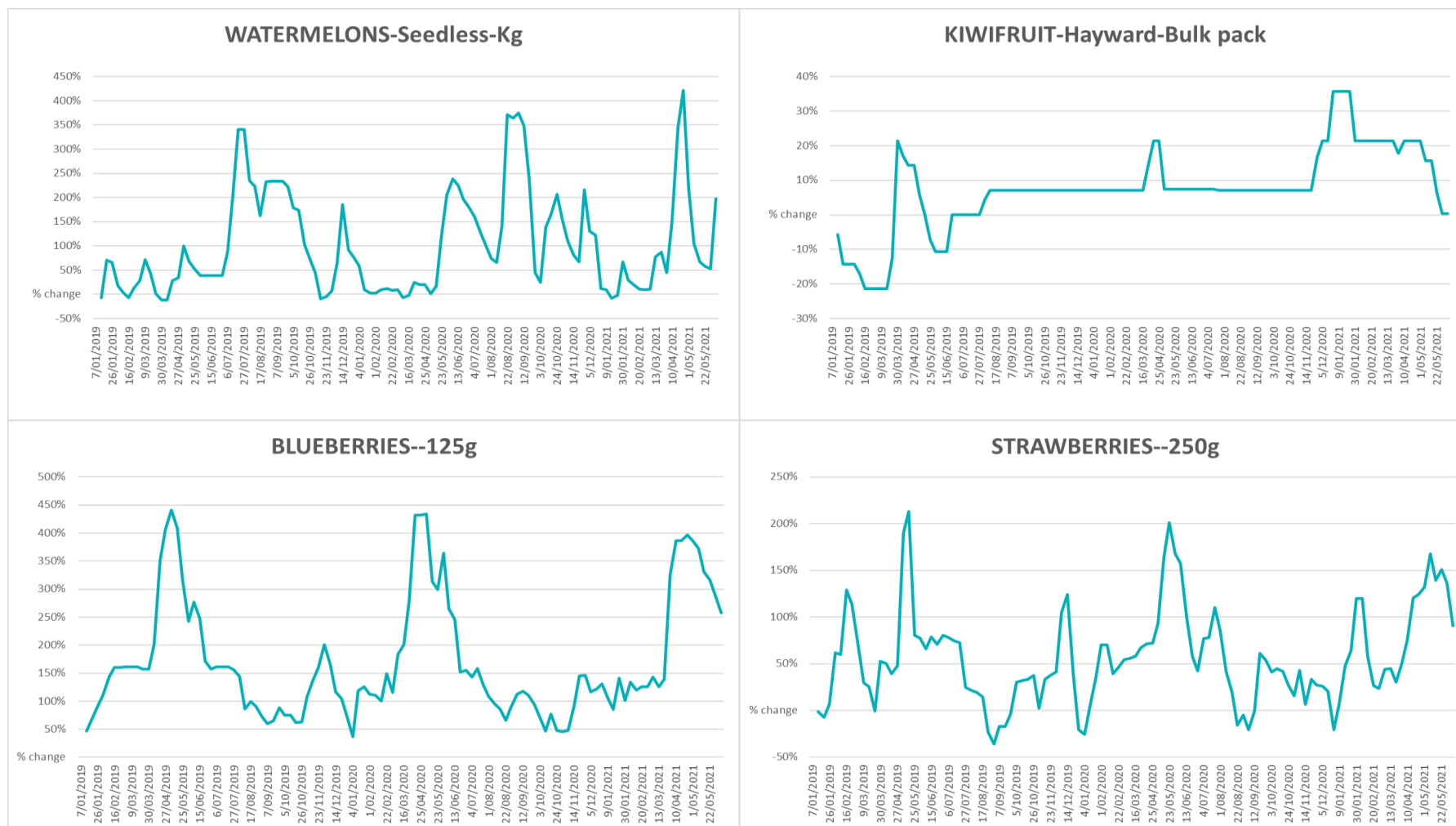


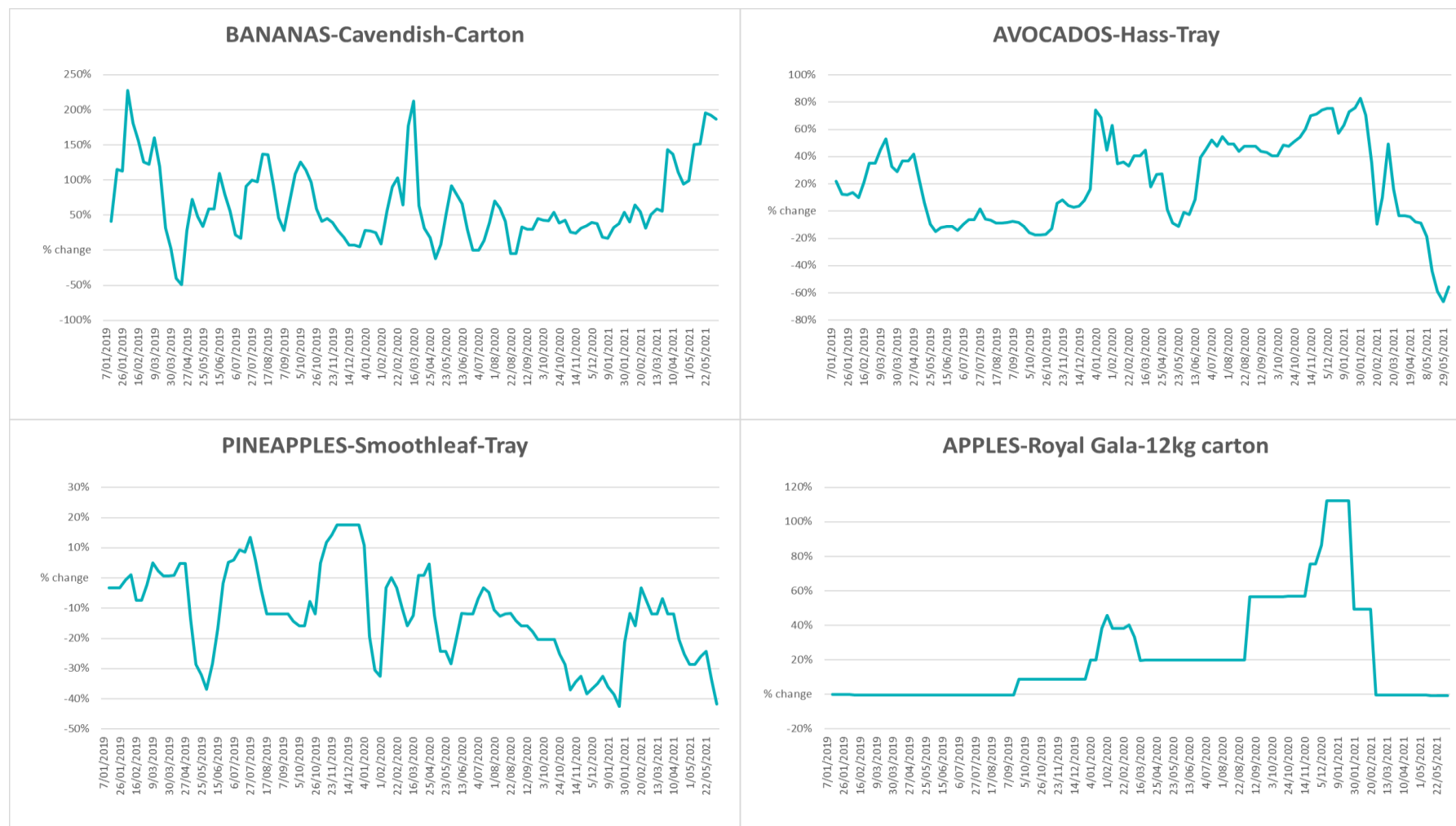


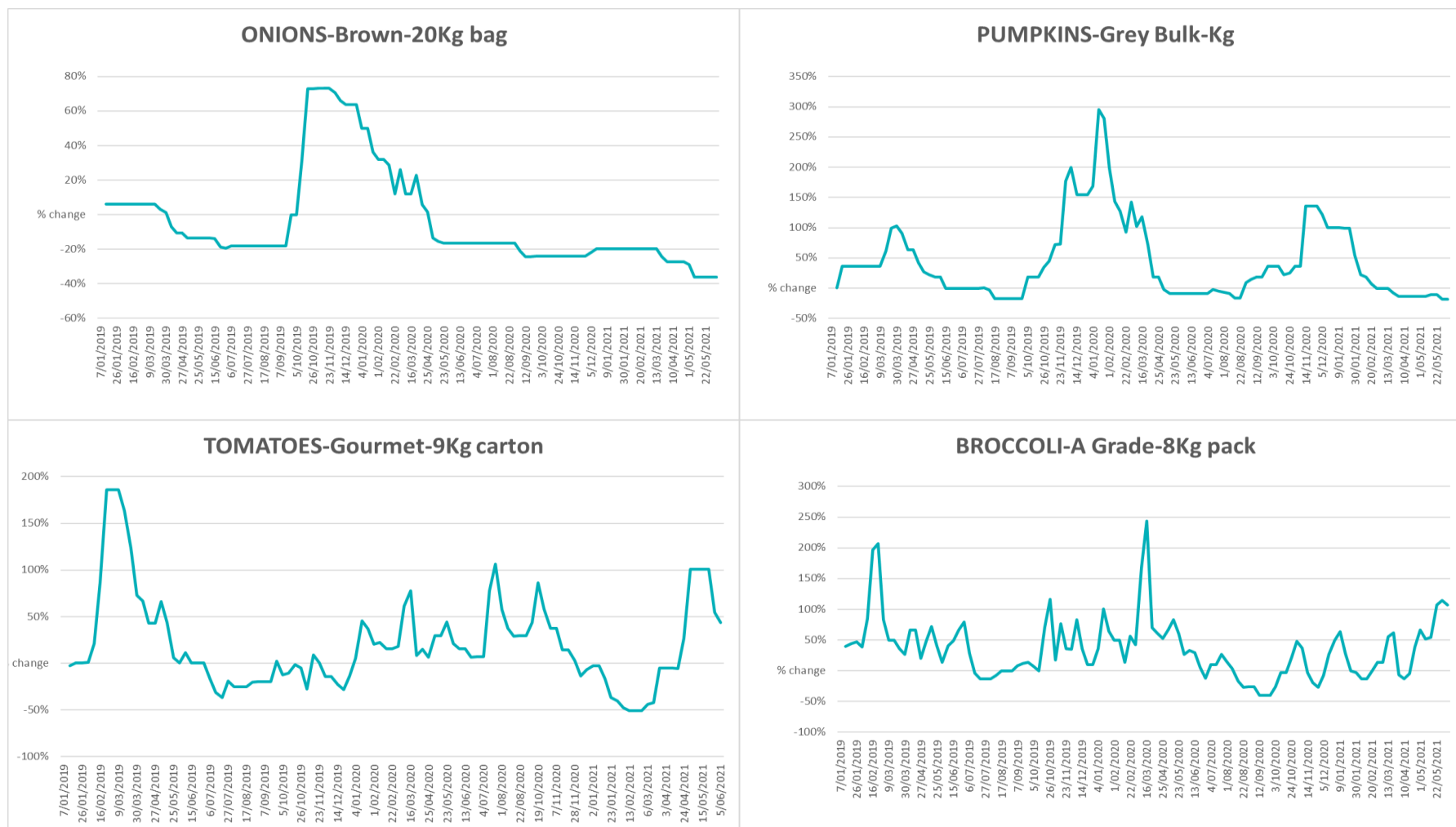
3.4. Global Dairy Trade (GDT) weighted average prices

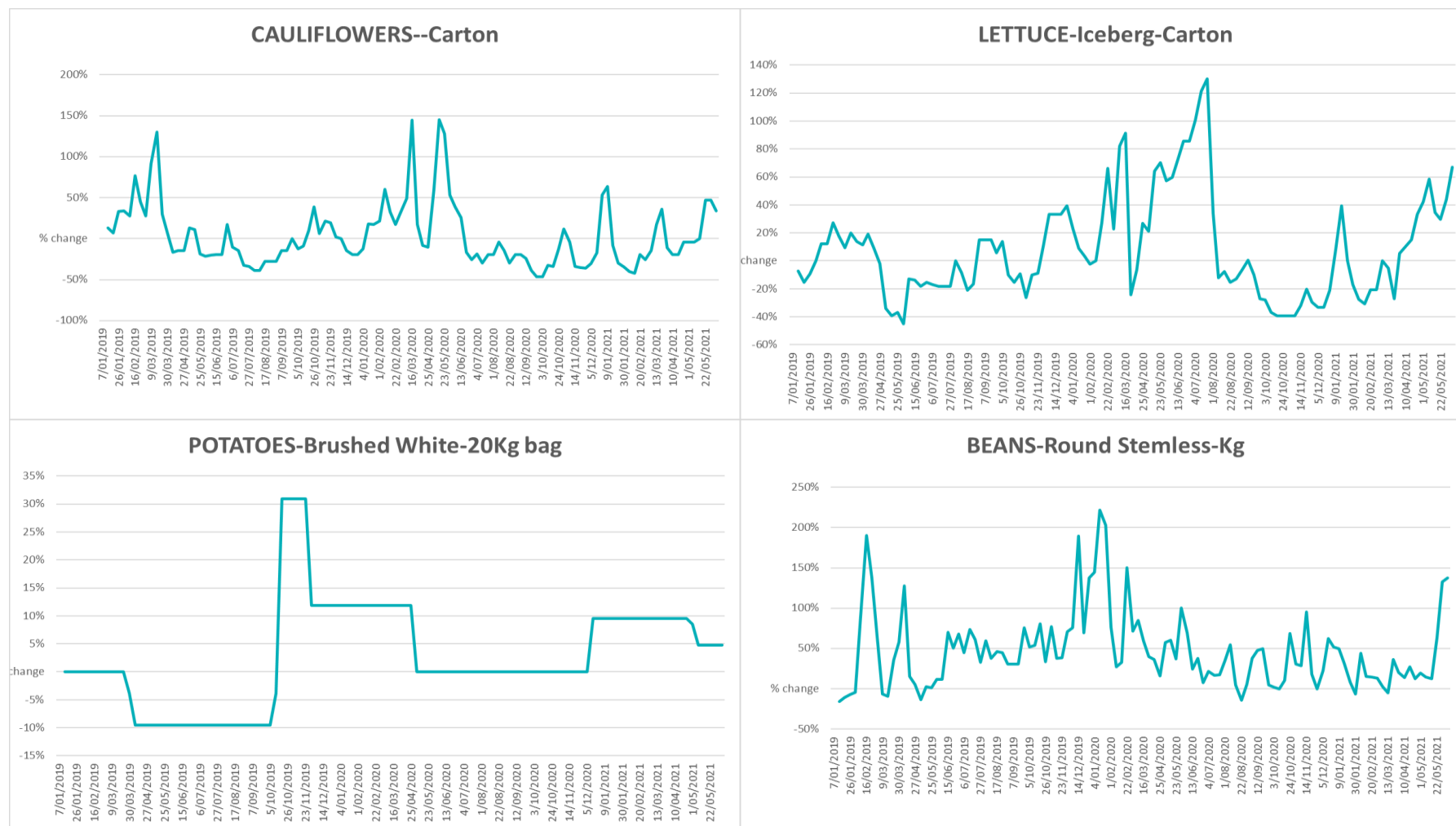


3.5. Selected fruit and vegetable prices









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/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

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 and canola
 - 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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