



Weekly Australian Climate, Water and Agricultural Update

No. 38/2024

3 October 2024

Summary of key issues

- In the week ending 2 October 2024, a series of cold fronts and low-pressure systems brought rainfall to large areas of north-western and parts of south-eastern Australia, with other areas largely dry.
 - Across cropping regions, little to no rainfall was recorded across most areas this week.
 - In areas where stored soil moisture has declined to low levels across parts of south-eastern and south-western Australia, little to no rainfall has likely led to continued reductions in yield potential, exacerbated by severe frosts in recent weeks.
- Over coming days, low-pressure and frontal systems are expected to bring showers and storms to parts of western, eastern and southern Australia. High-pressure systems are expected to keep remaining areas largely dry.
 - Across cropping regions, some rainfall is expected across southern growing regions. Rainfall totals of between 5 and 25 millimetres are expected in Victoria, South Australia, southern New South Wales, and parts of Western Australia and Queensland.
 - If realised, these falls across southern Australia may be sufficient to stabilise winter crop yields across some growing regions. However, in parts of south-eastern and south-western Australia these falls will likely be insufficient to prevent further declines in crop yields compared to those expected at the end of August, following very dry conditions during September and recent severe frost events.
- Nationally, September rainfall was high in the north-west and parts of eastern Australia. Very much below average rainfall was recorded across large areas of southern Australia.
- Soil moisture models suggest low soil moisture in south-eastern Australia, with above average soil moisture modelled in eastern Queensland, northern New South Wales, and large parts of Western Australia and the Northern Territory.
- For the 3 months to September 2024, above average rainfall totals resulted in average to extremely high pasture production across large parts of eastern, western, and central Australia. Below average to extremely low pasture growth was recorded in some southern areas and isolated regions in the east.
- Water storage levels in the Murray-Darling Basin (MDB) decreased between 26 September 2024 and 2 October 2024 by 148 gigalitres (GL). Current volume of water held in storage is 17 779 GL, equivalent to 80% of total storage capacity. This is 12 percent or 2,784GL less than at the same time last year.
- Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$147 on 26 September 2024 to \$143 on 3 October 2024. Prices are lower in the Murrumbidgee due to the binding of the Murrumbidgee export limit.

1. Climate

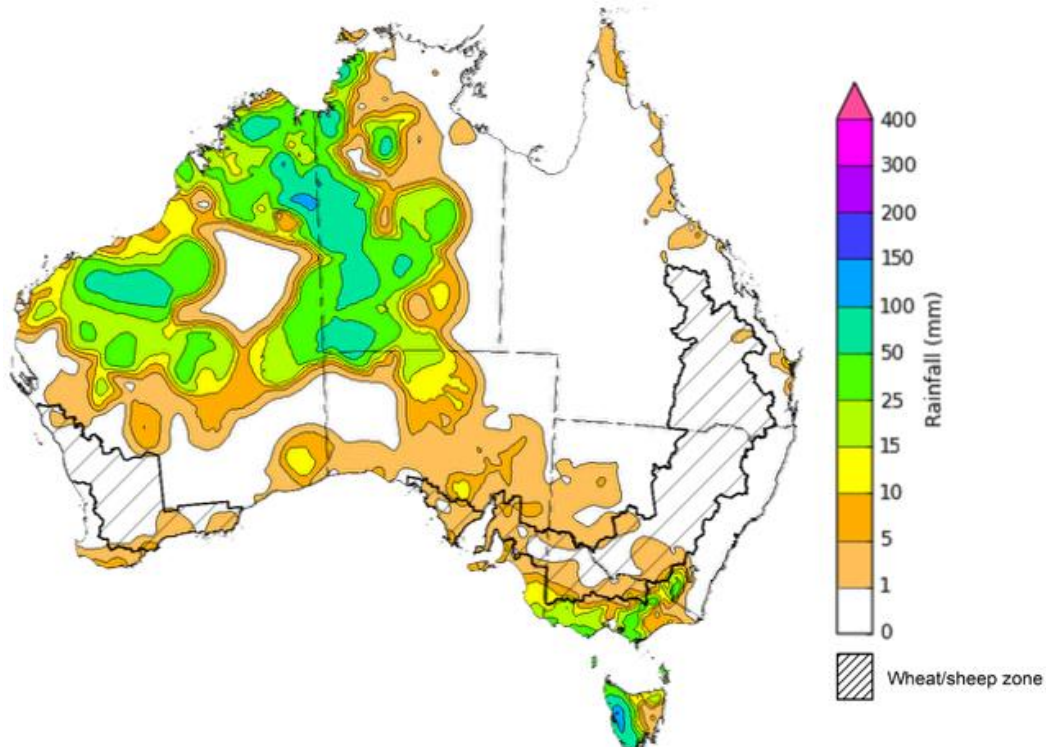
1.1. Rainfall this week

For the week ending 2 October 2024, a series of cold fronts moved through south-eastern Australia, bringing showers and isolated thunderstorms. Meanwhile, an upper-level trough, combined with tropical moisture, triggered several days of widespread rainfall and isolated thunderstorms across the north of Western Australia and western parts of the Northern Territory. Rainfall totals of up to 50 millimetres were recorded across parts of southern New South Wales, Victoria and South Australia. Heavier fall of up to 150 millimetres were recorded across large areas of northern Western Australia and the west of the Northern Territory. In Tasmania, cold fronts brought rainfall totals of up to 150 millimetres in the west. High pressure systems saw much of the remainder of the country record little to no rainfall.

Across cropping regions, little to no rainfall was recorded across most areas this week. Isolated areas of southern New South Wales, Victoria, South Australia and southern Western Australia recorded rainfall totals of between 1 and 5 millimetres. These falls are significantly less than what was forecast for the week, and as such reducing the yield potential of winter crops across most southern growing regions has likely continued in the past week.

In regions where average levels of stored soil moisture were available, crops and pastures would have been able to draw on these reserves to maintain current yield potentials. However, in areas where stored soil moisture levels are low, little to no rainfall has likely to lead to reduced yield potential, exacerbated by severe frosts and windy conditions across some areas in recent weeks.

Rainfall for the week ending 2 October 2024



©Commonwealth of Australia 2024, Australian Bureau of Meteorology
 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: 2/10/2024

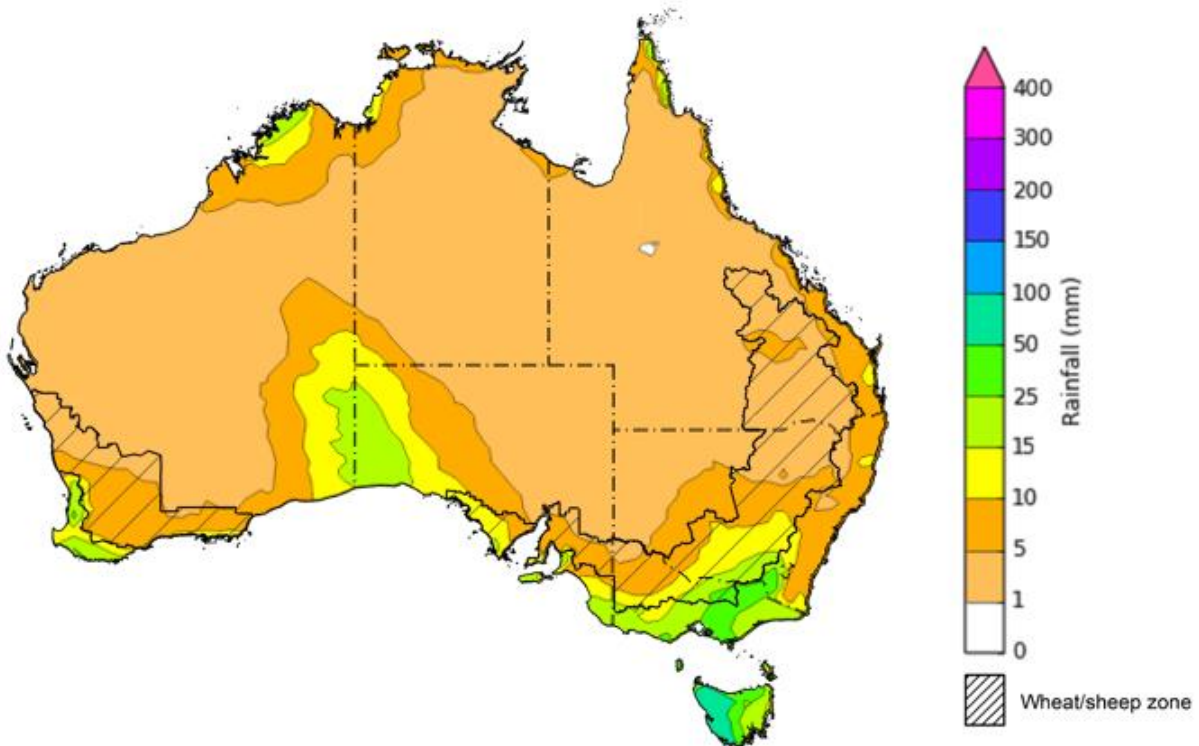
1.2. Rainfall forecast for the next eight days

Over the 8 days to 10 October 2024, low-pressure and frontal systems are expected to bring showers and storms over parts of western, southern and eastern Australia. Up to 50 millimetres is forecast for Victoria, southern and eastern New South Wales and south-west Western Australia. Falls of between 5 and 25 millimetres expected across parts of south-eastern Queensland, western and southern South Australia, parts of eastern and northern Western Australia and isolated areas of tropical northern Australia. Rainfall totals of between 15 and 100 millimetres are forecast for Tasmania. High pressure systems are expected to keep much of north-eastern and central Australia largely dry.

Across cropping regions, some rainfall is expected across southern growing regions. Rainfall totals of between 5 and 25 millimetres are expected in Victoria and southern New South Wales, with falls of between 5 and 15 millimetres expected in South Australia, southern Western Australia and parts of northern Queensland.

If realised, these falls across southern Australia may be sufficient to stabilise winter crop yields across some growing regions. However, in parts of south-eastern and south-western Australia these falls will likely be insufficient to prevent further declines in crop yields compared to those expected at the end of August, following very dry conditions during September and recent severe frost events.

Total forecast rainfall for the period 3 October to 10 October 2024



©Commonwealth of Australia 2024, Australian Bureau of Meteorology

Issued 3/10/2024

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.

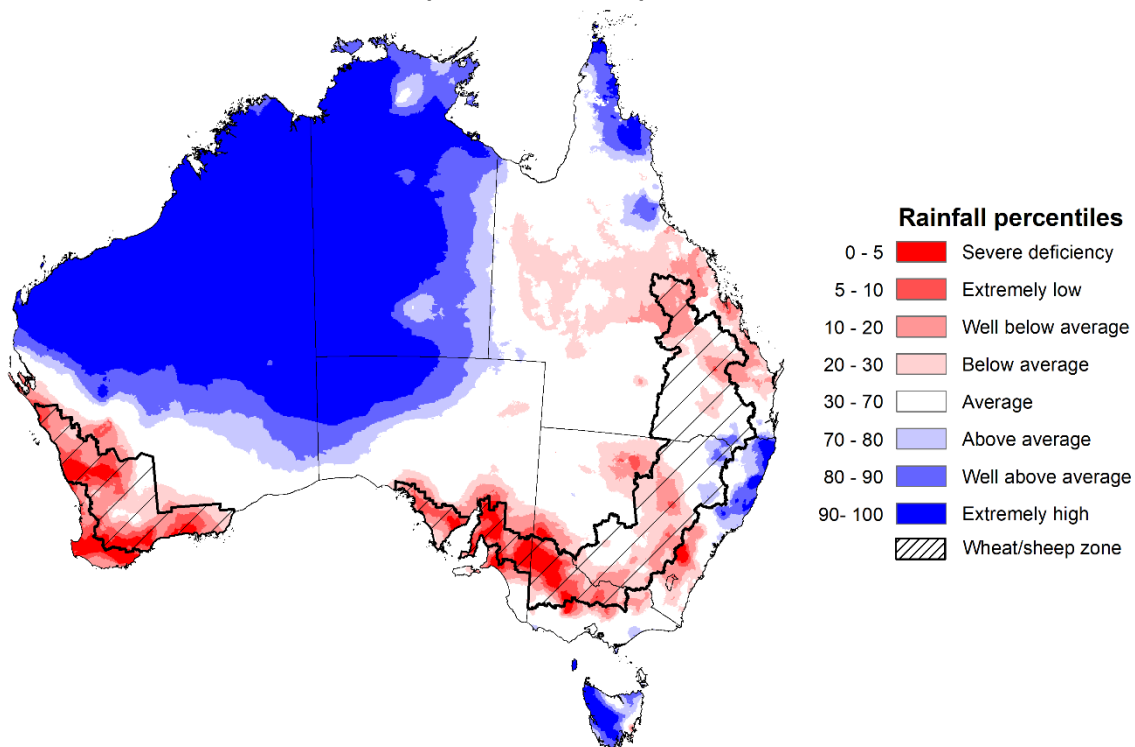
1.3. Monthly rainfall

During September 2024, rainfall was well above average to extremely high across large parts of Tasmania, northern and central Western Australia, the Northern Territory, north-western South Australia, and the north-east of New South Wales and Queensland. In contrast, much of northern Victoria, large areas of southern South Australia, central and southern New South Wales, central Queensland and the south-west of Western Australia recorded extremely low to below average rainfall. The remainder of Australia saw generally average September rainfall.

In cropping regions, September 2024 rainfall was highly variable, with much of southern Queensland and northern New South Wales experiencing average to above average rainfall. In contrast, much of Victoria, South Australia, Western Australia, central and southern New South Wales and northern Queensland recorded severely deficient to below average rainfall.

Following below average to average rainfall in previous month across much of Victoria and South Australia, extremely low September rainfall totals have likely led to widespread moisture stress and significant declines in winter crop yields. Similarly, a lack of finishing rains in September across much of Western Australia and parts of southern New South Wales, combined with the warm sunny days, has seen crops drawing down residual sub-soil moisture. However, moisture reserves are lower this year due to below average growing season rainfall, this may have led to some declines in yield potential in these areas. By contrast, the average to above average rainfall totals recorded across southern Queensland and northern New South Wales, has assisted in maintaining soil moisture levels and supported the crop development and average to above average yield expectations.

Rainfall percentiles for September 2024



Note: Rainfall for September 2024 is compared with rainfall recorded for that period during the historical record (1900 to present). For further information, go to <http://www.bom.gov.au/isp/awap/>
 Source: Bureau of Meteorology

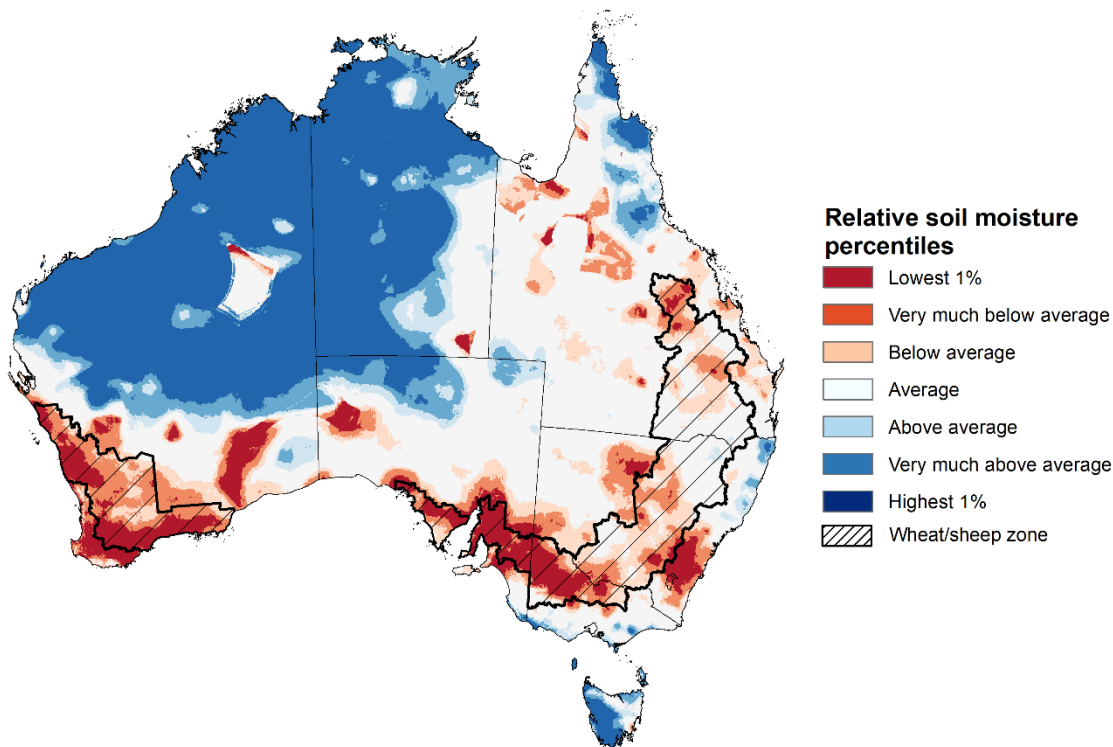
1.4 Monthly Soil Moisture

While modelled **upper layer soil moisture** levels for September 2024 varied considerably, much of the country saw average to very much above average soil moisture. High levels of upper layer soil moisture were modelled across large parts of northern and central Western Australia, the Northern Territory, northern South Australia and Tasmania. In contrast, upper layer soil moisture was modelled to be very much below average across much of northern Victoria, southern South Australia, south-western Western Australia, and parts of southern and central New South Wales and Queensland.

At this time of year, upper layer soil moisture is less critical for well-established winter crops. However, upper layer soil moisture will be critical for supporting the germination and establishment of summer crops in the coming months.

Across cropping regions, **upper layer soil moisture** in September was modelled to be generally average across southern Queensland and northern New South Wales. Remaining parts of Queensland and New South Wales were modelled to have very much below average to below average soil moisture. Much of Victoria, South Australia and Western Australia were modelled to have extremely low to very much below average upper layer soil moisture. Timely rainfall in the coming weeks will be critical to support the development and arrest sliding yield prospects of winter crops across southern growing regions and boost upper lower soil moisture for the planting of summer crops in northern growing regions.

Modelled upper layer soil moisture for September 2024



Note: This map shows the levels of modelled upper layer soil moisture (0 to 10 centimetres) during September 2024. This map shows how modelled soil conditions during September 2024 compare with June conditions modelled over the reference period (1911 to 2016). Dark blue areas on the maps were much wetter in September 2024 than during the reference period. The bulk of plant roots occur in the top 20 centimetres of the soil profile. Soil moisture in the upper layer of the soil profile is therefore useful indicator of the availability of water, particularly for germinating seed.

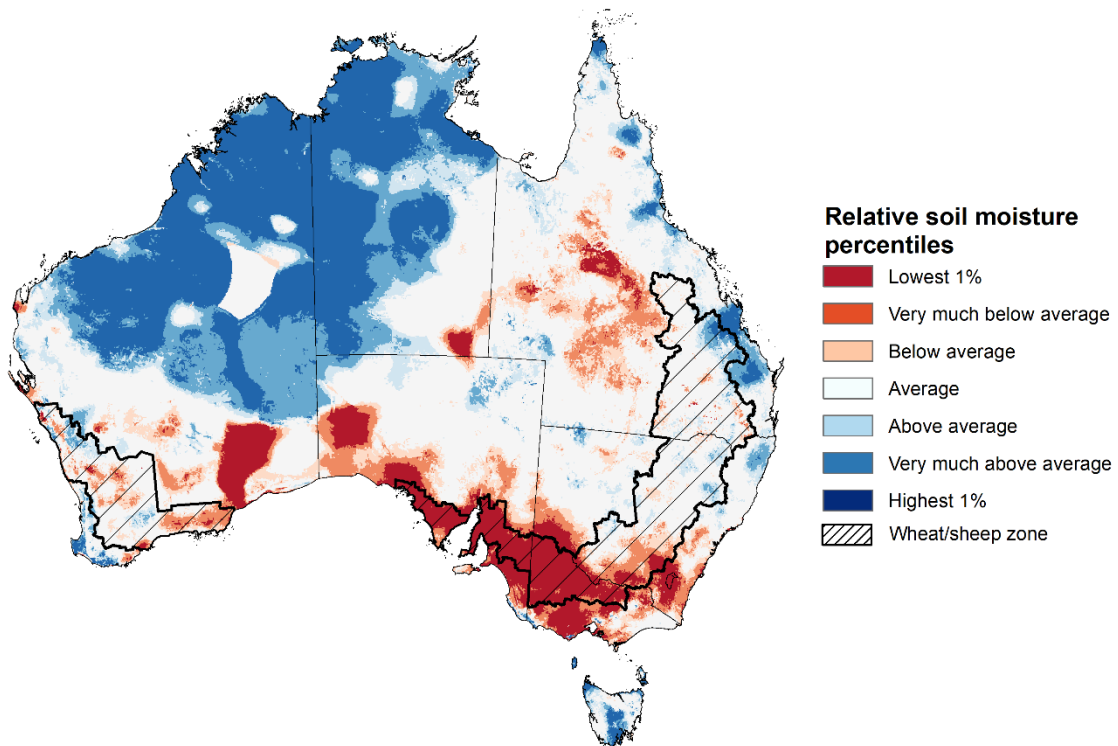
Source: Bureau of Meteorology ([Australian Water Resources Assessment Landscape model](#))

Across northern and central Australia, **lower layer soil moisture** was average to very much above average, with northern Western Australia, western Northern Territory and scattered parts of eastern Queensland seeing the highest moisture on record levels for this time of year. In contrast, large areas of southern Australia and central Queensland were modelled to have extremely low to below average lower layer soil moisture.

Lower layer soil moisture plays a pivotal role in sustaining the growth of winter crops and pasture during their critical development stages.

Across cropping regions, **lower layer soil moisture** generally ranged from average to above average in the east, with Queensland and much of New South Wales showing average to well above average soil moisture. In Western Australia, soil moisture was modelled to be average to below average in the eastern and central areas, and above average in the north-west. In South Australia, Victoria, and southern New South Wales, September lower layer soil moisture was modelled to be extremely low to below average for this time of year. Cropping regions in far south-eastern Australia with extremely low levels of stored soil moisture will require sufficient and timely rainfall the remainder of spring to arrest declining levels of crop and pasture production.

Modelled lower layer soil moisture for September 2024



Note: This map shows the levels of modelled lower layer soil moisture (10 to 100 centimetres) during September 2024. This map shows how modelled soil conditions during September 2024 compare with May conditions modelled over the reference period (1911 to 2016). Dark blue areas on the maps were much wetter in September 2024 than during the reference period. The dark red areas were much drier than during the reference period. The bulk of plant roots occur in the top 20 centimetres of the soil profile. The lower layer soil moisture is a larger, deeper store that is slower to respond to rainfall and tends to reflect accumulated rainfall events over longer time periods.
 Source: Bureau of Meteorology ([Australian Water Resources Assessment Landscape model](#))

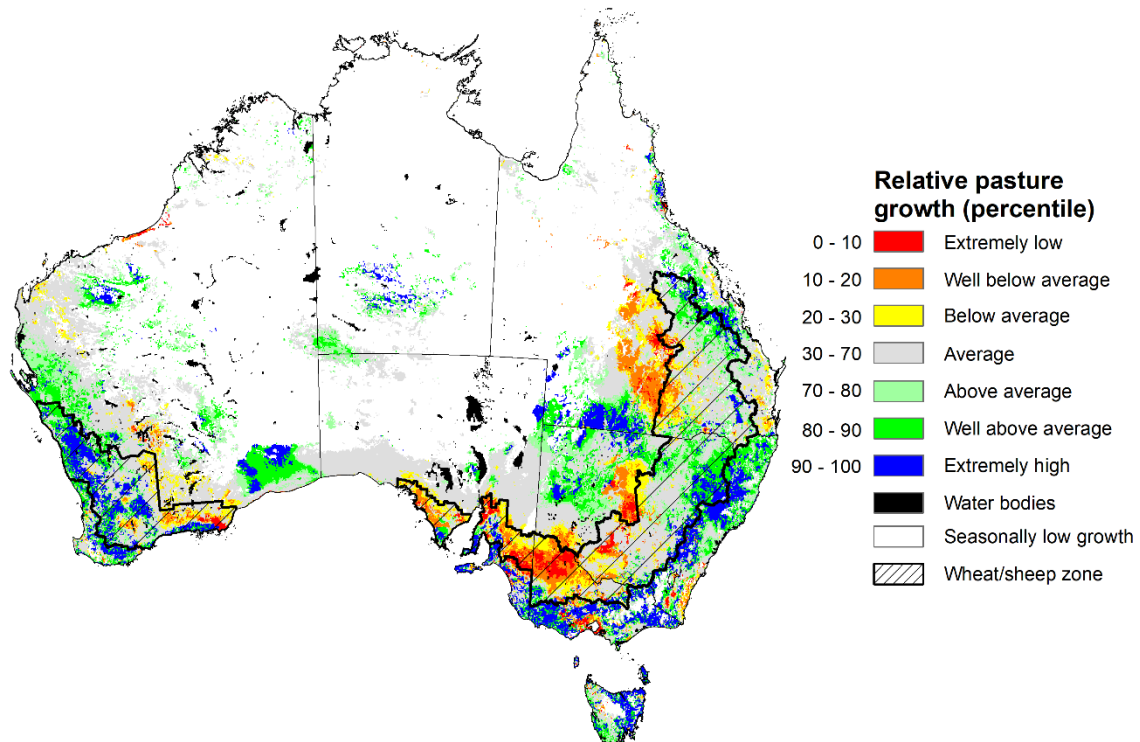
1.4 Pasture Growth

During the northern Australia dry season (May to September), pasture growth typically declines significantly due to the reduction in water availability, with livestock relying on pasture grown throughout the previous wet season. Across southern Australia, July to September pasture growth influences the number of livestock than can be supported without supplementary feeding over winter and the level of reliance on hay and grain during this period. Pasture availability during this period influences the growth and branding and marking rates of lambs and calves, livestock turnoff and the production of meat, milk, and wool.

For the 3 months to September 2024, average to extremely high pasture growth relative to this time of year was modelled across much of New South Wales, southern Victoria, large areas of Queensland, eastern Tasmania, much of Western Australia, southern Northern Territory and in scattered areas of South Australia. This growth is likely to enable farmers to continue to maintain stock numbers and provide opportunities to build standing dry matter availability and replenish fodder supplies during spring.

In contrast, below average to extremely low pasture growth rates were recorded across the south and east of the country. Large areas of southern South Australia and northern Victoria, central parts of Queensland and central New South Wales and parts of southern Western Australia, all saw below average to well below average pasture growth. Graziers in regions where below average pasture growth was recorded will be more reliant on supplemental feed to maintain current stocking rates and production.

Relative pasture growth for 3-months ending September 2024 (1 July to 31 September 2024)



Notes: AussieGRASS pasture growth estimates are relative to the long-term record and shown in percentiles. Percentiles rank data on a scale of zero to 100. This analysis ranks pasture growth for the selected period against average pasture growth for the long-term record (1957 to 2016). Pasture growth is modelled at 5km2 grid cells.

Source: Department of Environment, Science and Innovation

2. Water

2.1. Water markets – current week

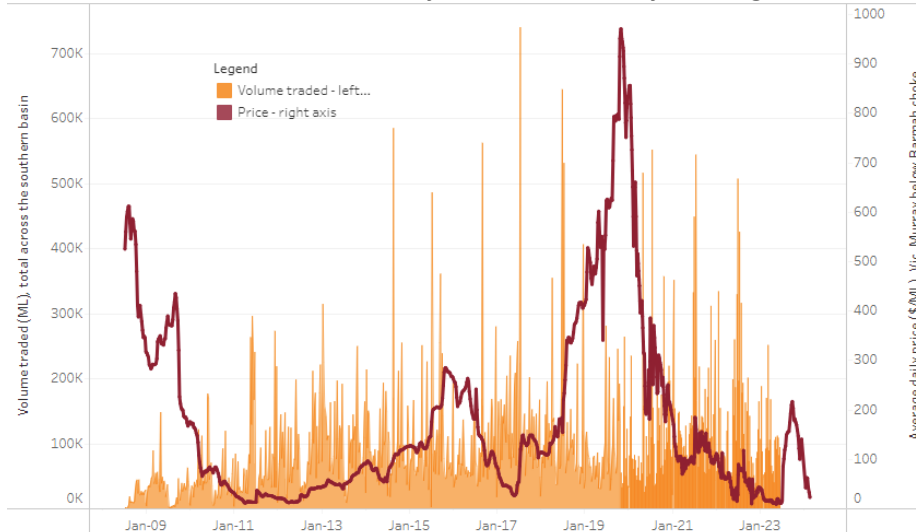
Water storage levels in the Murray-Darling Basin (MDB) decreased between 26 September 2024 and 2 October 2024 by 148 gigalitres (GL). Current volume of water held in storage is 17 779 GL, equivalent to 80% of total storage capacity. This is 12 percent or 2,784GL less than at the same time last year. Water storage data is sourced from the Bureau of Meteorology.

Water storages in the Murray-Darling Basin, 2013–2024



Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$147 on 26 September 2024 to \$143 on 3 October 2024. Prices are lower in the Murrumbidgee due to the binding of the Murrumbidgee export limit.

Surface water trade activity, Southern Murray–Darling Basin



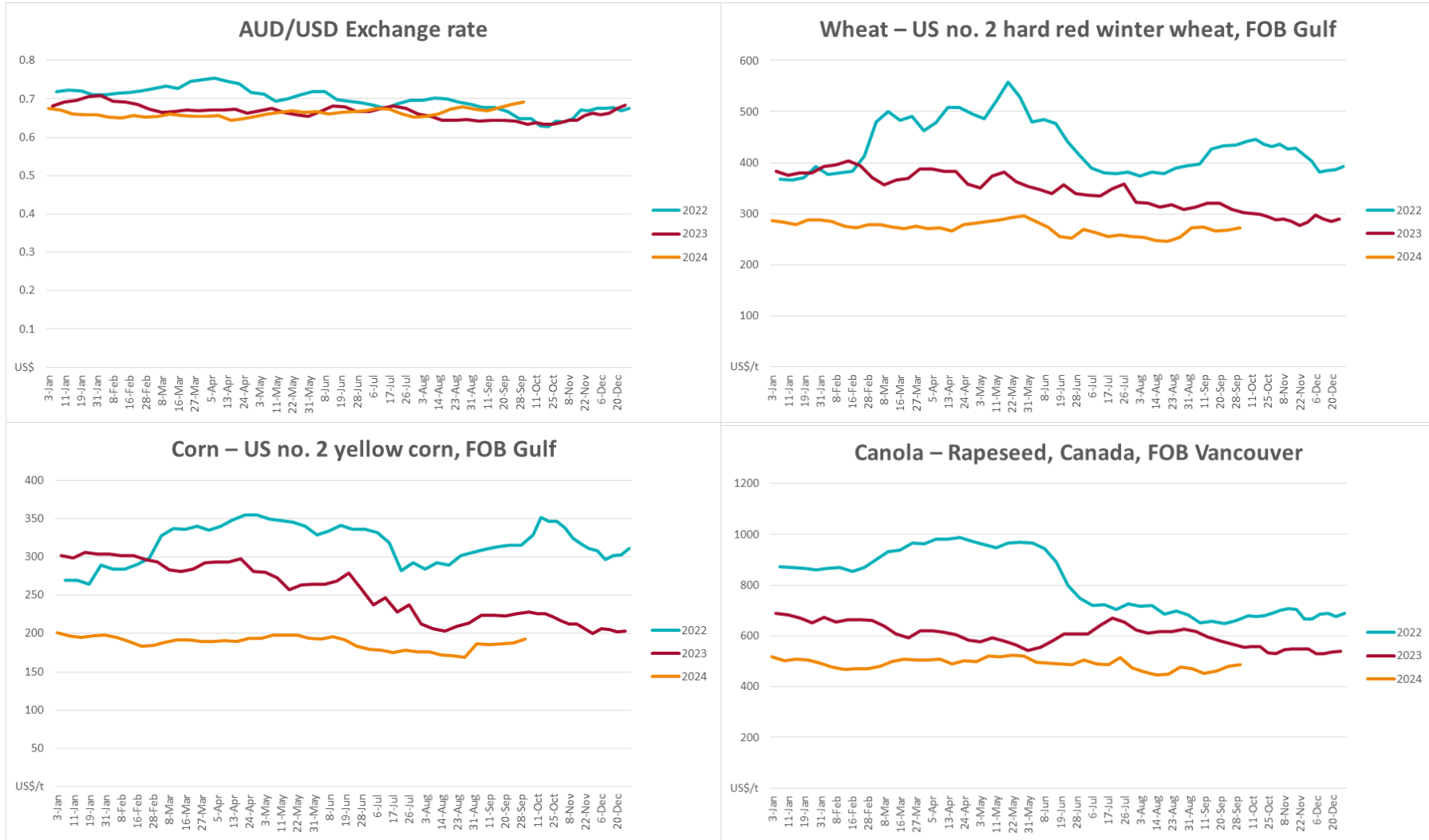
The trades shown reflect estimated market activity and do not encompass all register trades. The price is shown for the VIC Murray below the Barmah choke. Historical prices (before 1 July 2019) are ABARES estimates after removing outliers from BOM water register data. Prices after 1 July 2019 and prior 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. Only the price data shown is current on 19 September 2024.

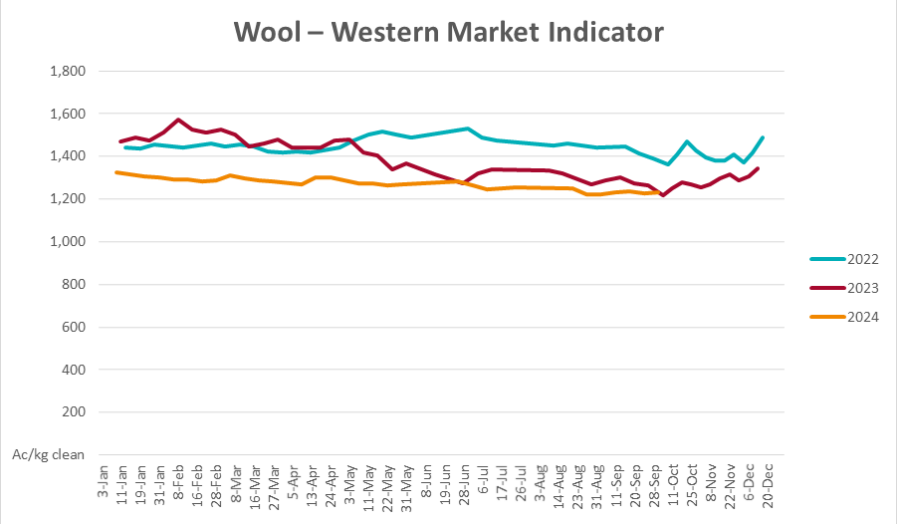
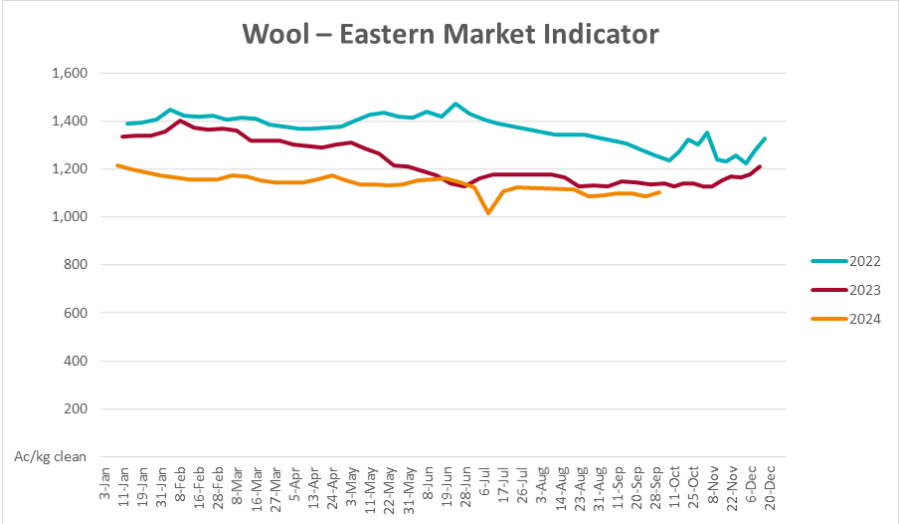
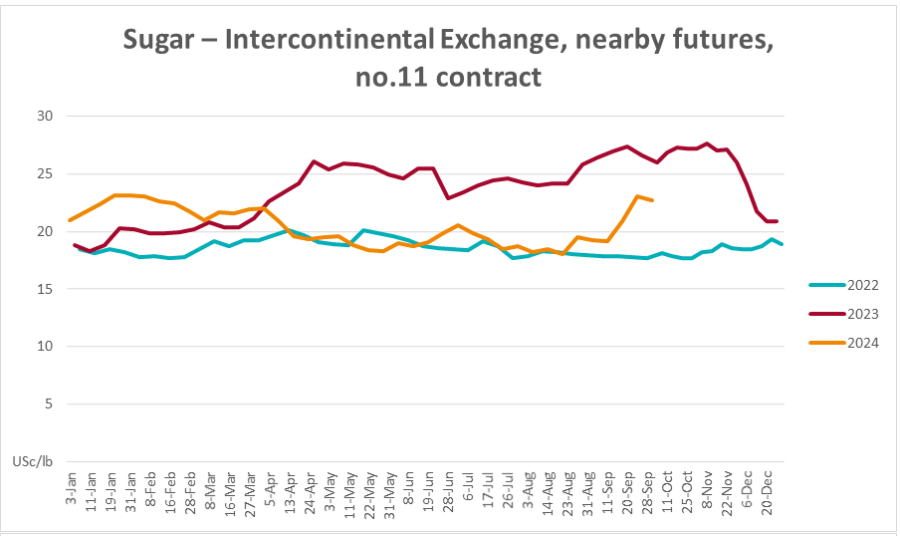
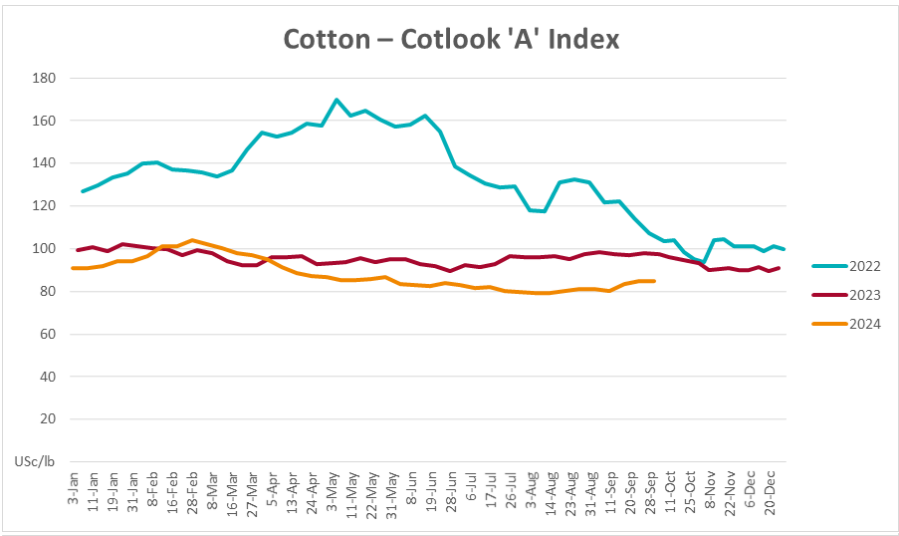
To access the full, interactive, weekly water dashboard, which contains the latest and historical water storage, water market and water allocation information, please visit https://www.agriculture.gov.au/abares/products/weekly_update/weekly-update-031024

3. Commodities

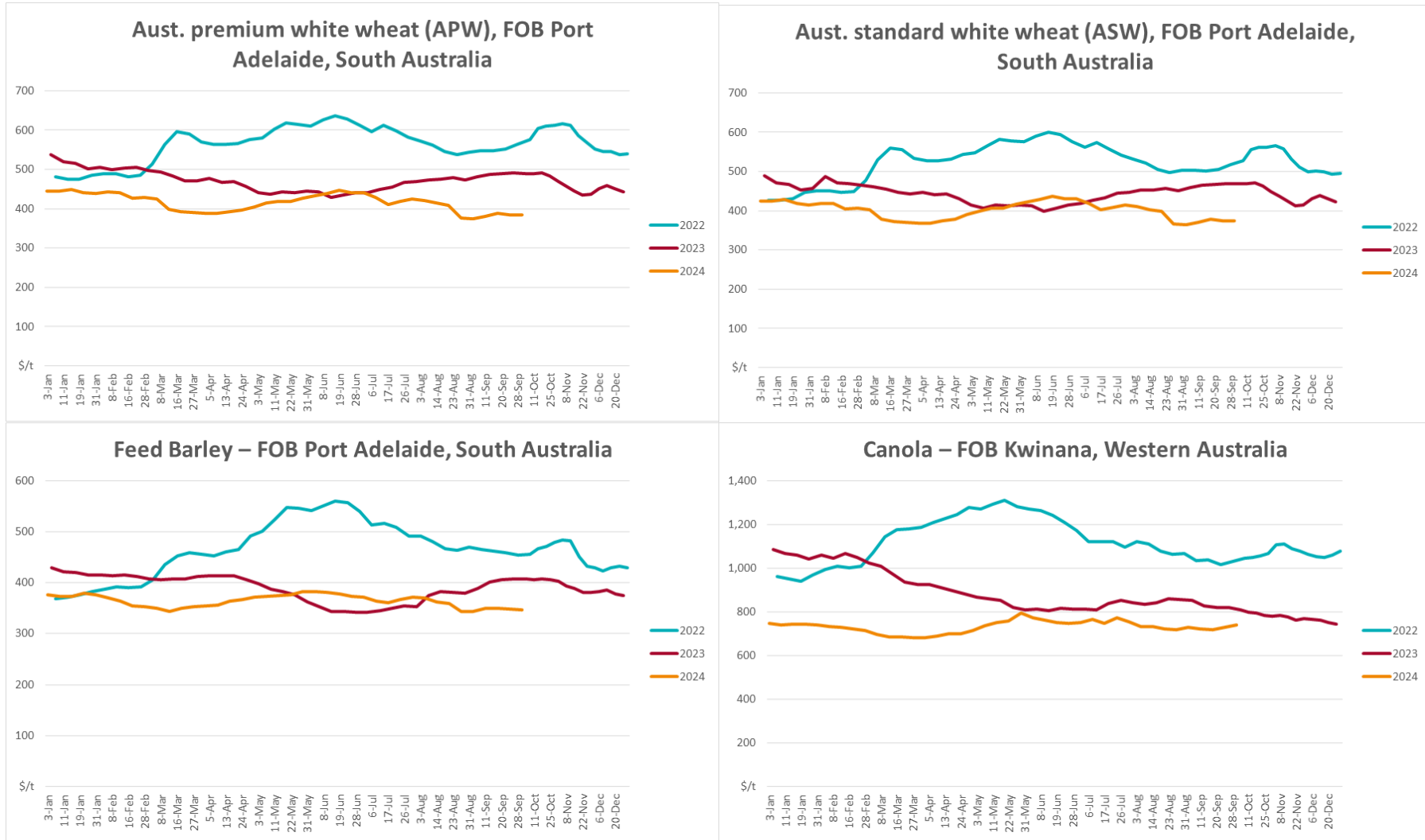
Indicator	Week average	Unit	Latest Price	Previous Week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	02-Oct	A\$/US\$	0.69	0.69	1%	0.64	8%
Wheat – US no. 2 hard red winter wheat, FOB Gulf	02-Oct	US\$/t	272	267	2%	300	-9%
Corn – US no. 2 yellow corn, FOB Gulf	02-Oct	US\$/t	193	187	3%	226	-15%
Canola – Rapeseed, Canada, FOB Vancouver	02-Oct	US\$/t	486	481	1%	559	-13%
Cotton – Cotlook 'A' Index	02-Oct	USc/lb	85	85	0%	96	-12%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	02-Oct	USc/lb	22.7	23.0	-1%	27	-15%
Wool – Eastern Market Indicator	02-Oct	Ac/kg clean	1,104	1,087	2%	1,163	-5%
Wool – Western Market Indicator	02-Oct	Ac/kg clean	1,230	1,228	0%	1,271	-3%
Selected Australian grain export prices							
Aust. premium white wheat (APW), FOB Port Adelaide, South Australia	02-Oct	A\$/t	384	384	0%	489	-22%
Aust. standard white wheat (ASW), FOB Port Adelaide, South Australia	02-Oct	A\$/t	374	374	0%	469	-20%
Feed Barley – FOB Port Adelaide, South Australia	02-Oct	A\$/t	347	347	0%	406	-14%
Canola – FOB Kwinana, Western Australia	02-Oct	A\$/t	739	728	1%	797	-7%
Grain Sorghum – FOB Brisbane, Queensland	02-Oct	A\$/t	382	382	0%	521	-27%
Selected domestic livestock indicator prices							
Beef – Eastern Young Cattle Indicator	02-Oct	Ac/kg cwt	647	659	-2%	357	81%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	02-Oct	Ac/kg cwt	288	274	5%	134	116%
Lamb – National Trade Lamb Indicator	02-Oct	Ac/kg cwt	771	777	-1%	470	64%
Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers	18-Sep	Ac/kg cwt	419	419	0%	367	14%
Live cattle – Light steers to Indonesia	02-Oct	Ac/kg lwt	305	305	0%	280	9%
Global Dairy Trade (GDT) weighted average prices ^a							
Dairy – Whole milk powder	02-Oct	US\$/t	3,559	3,448	3%	2,799	27%
Dairy – Skim milk powder	02-Oct	US\$/t	2,795	2,809	0%	2,400	16%
Dairy – Cheddar cheese	02-Oct	US\$/t	4,606	4,441	4%	4,044	14%
Dairy – Anhydrous milk fat	02-Oct	US\$/t	7,213	7,220	0%	4,787	51%

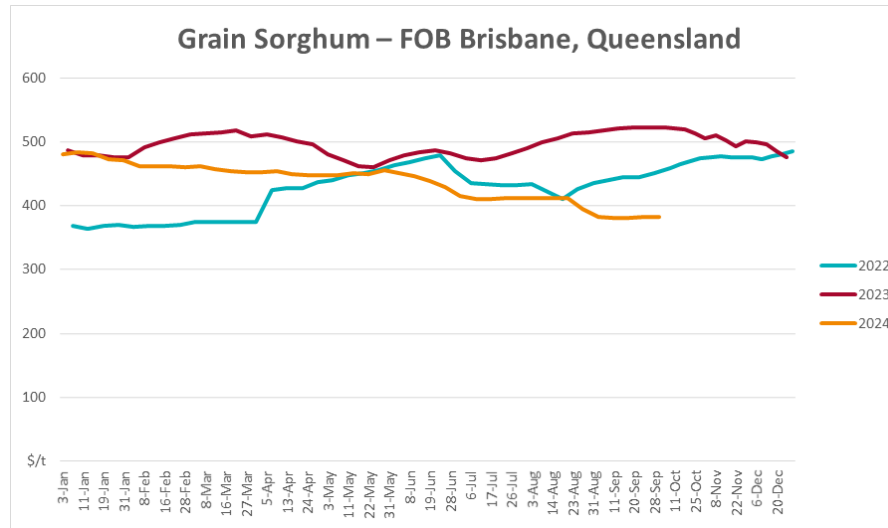
3.1. Selected world indicator prices



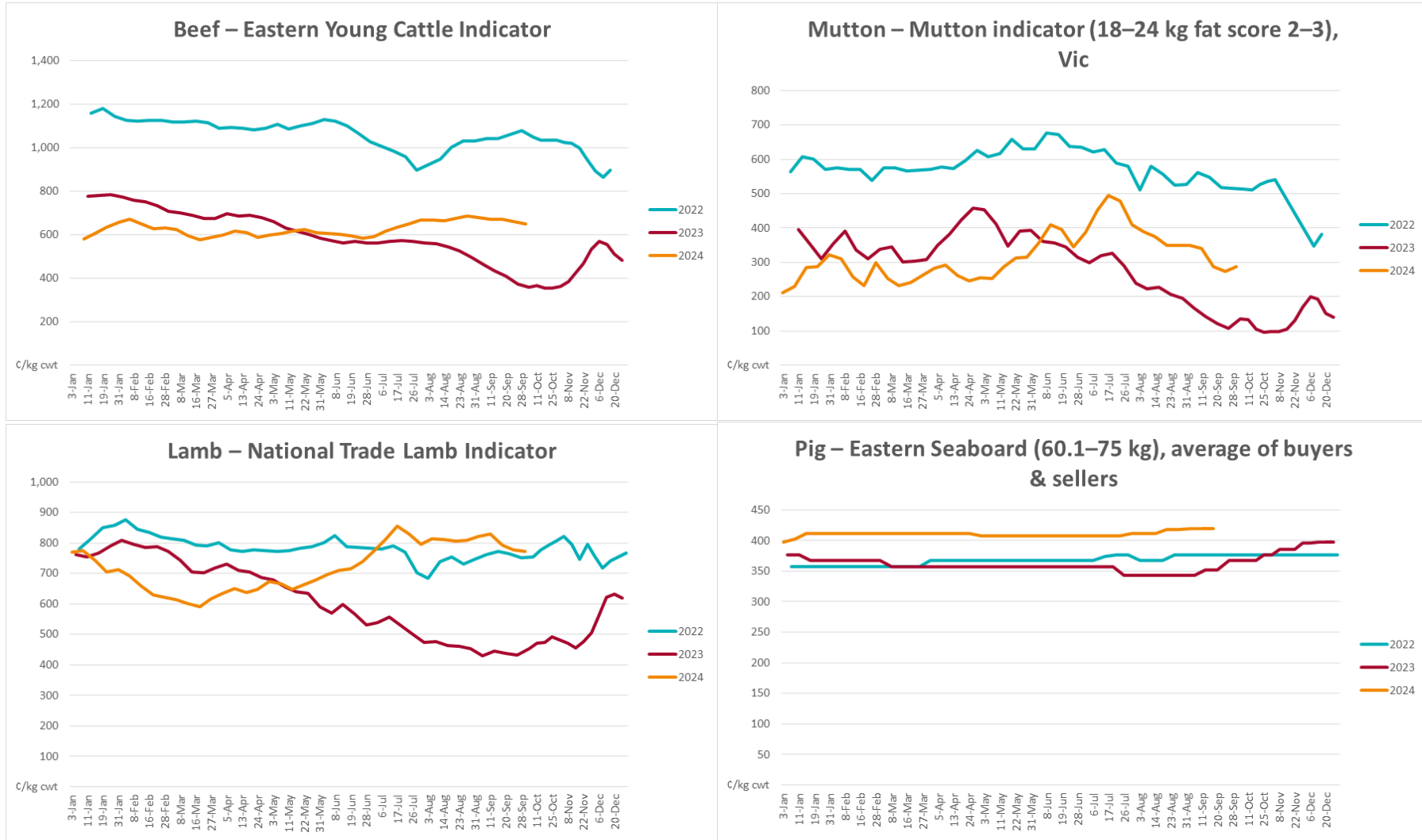


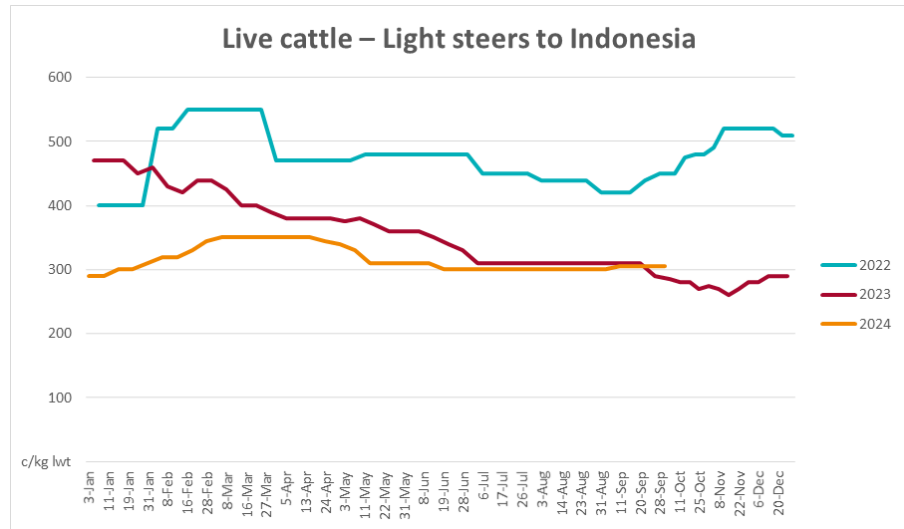
3.2 Selected domestic crop indicator prices



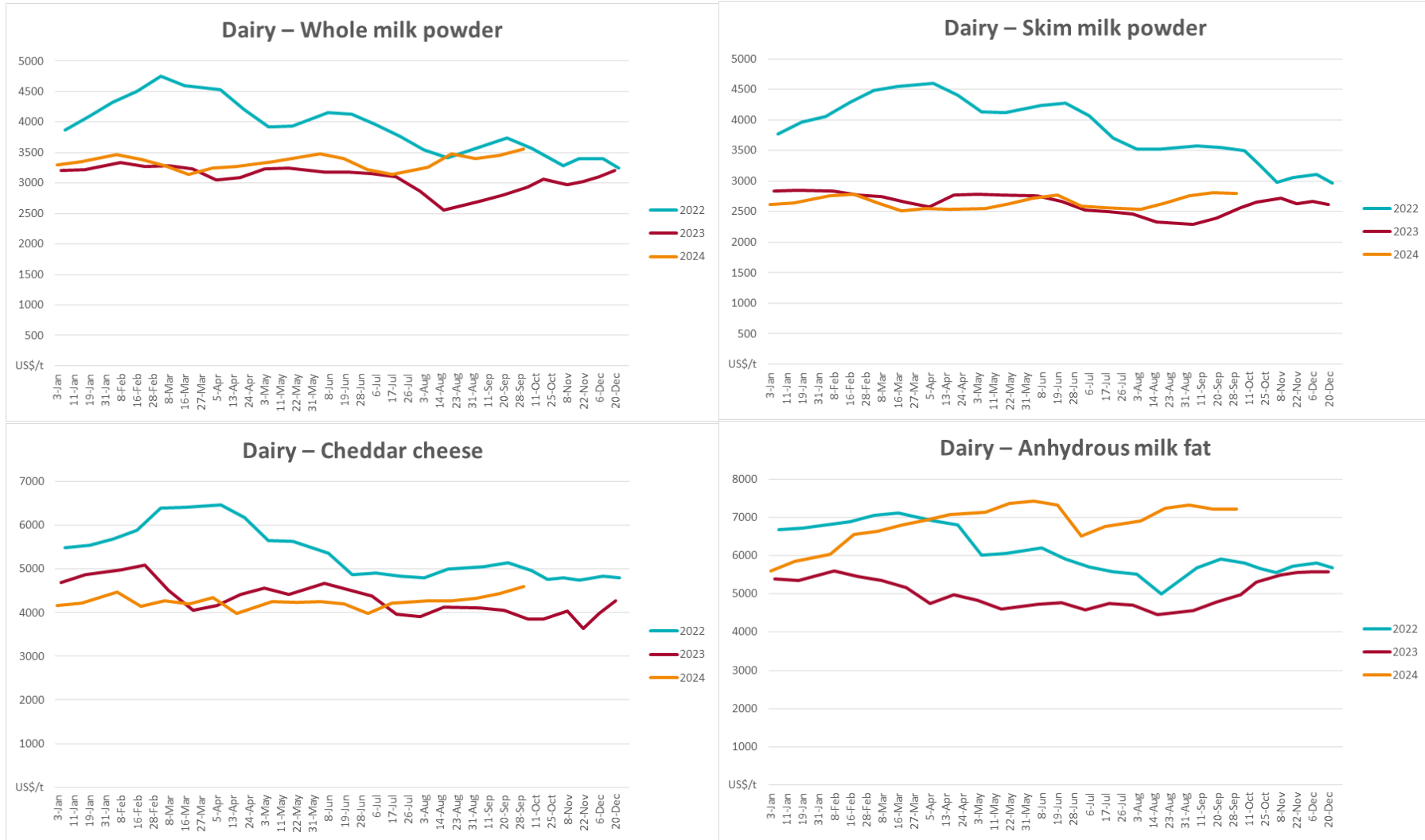


3.3. Selected domestic livestock indicator prices

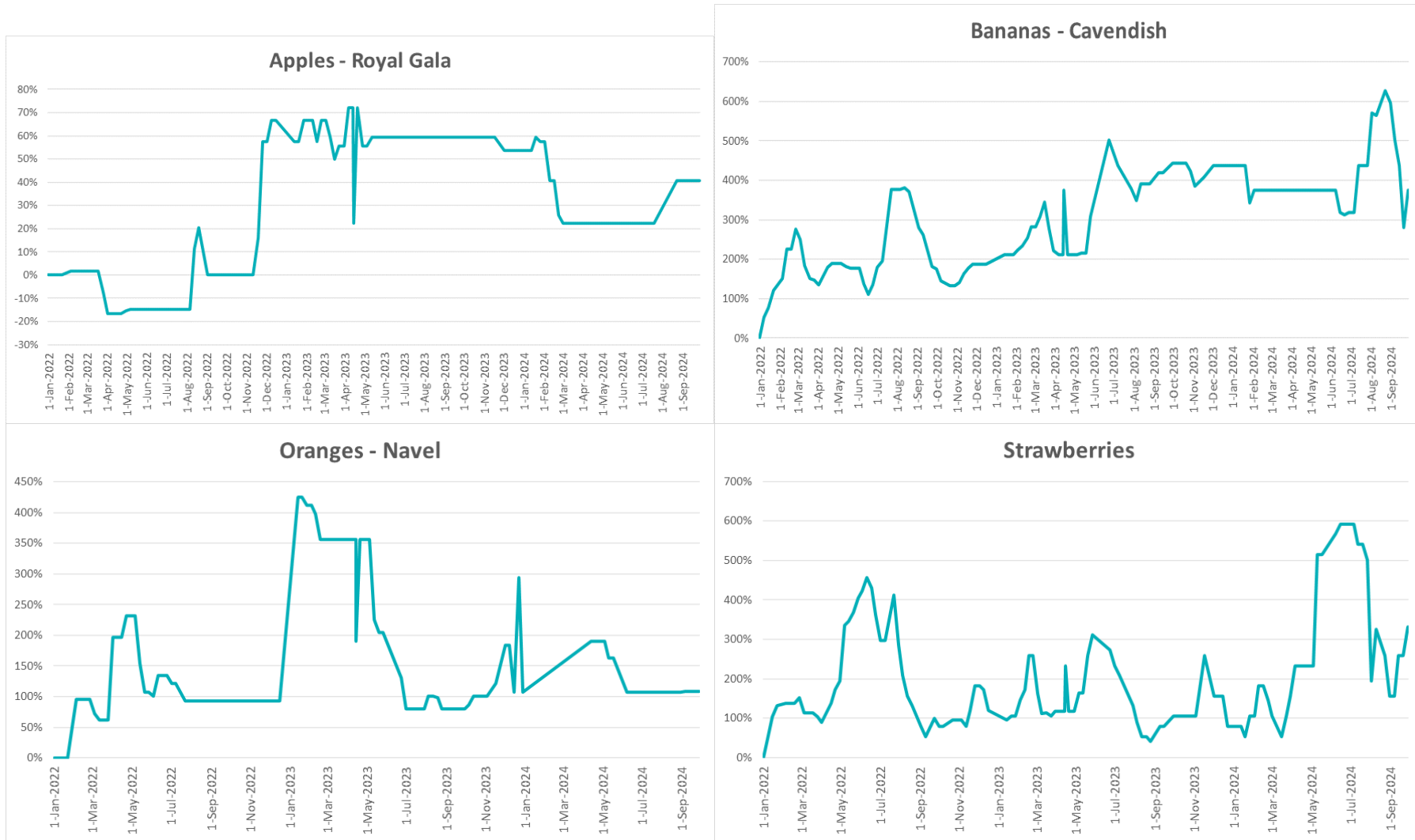


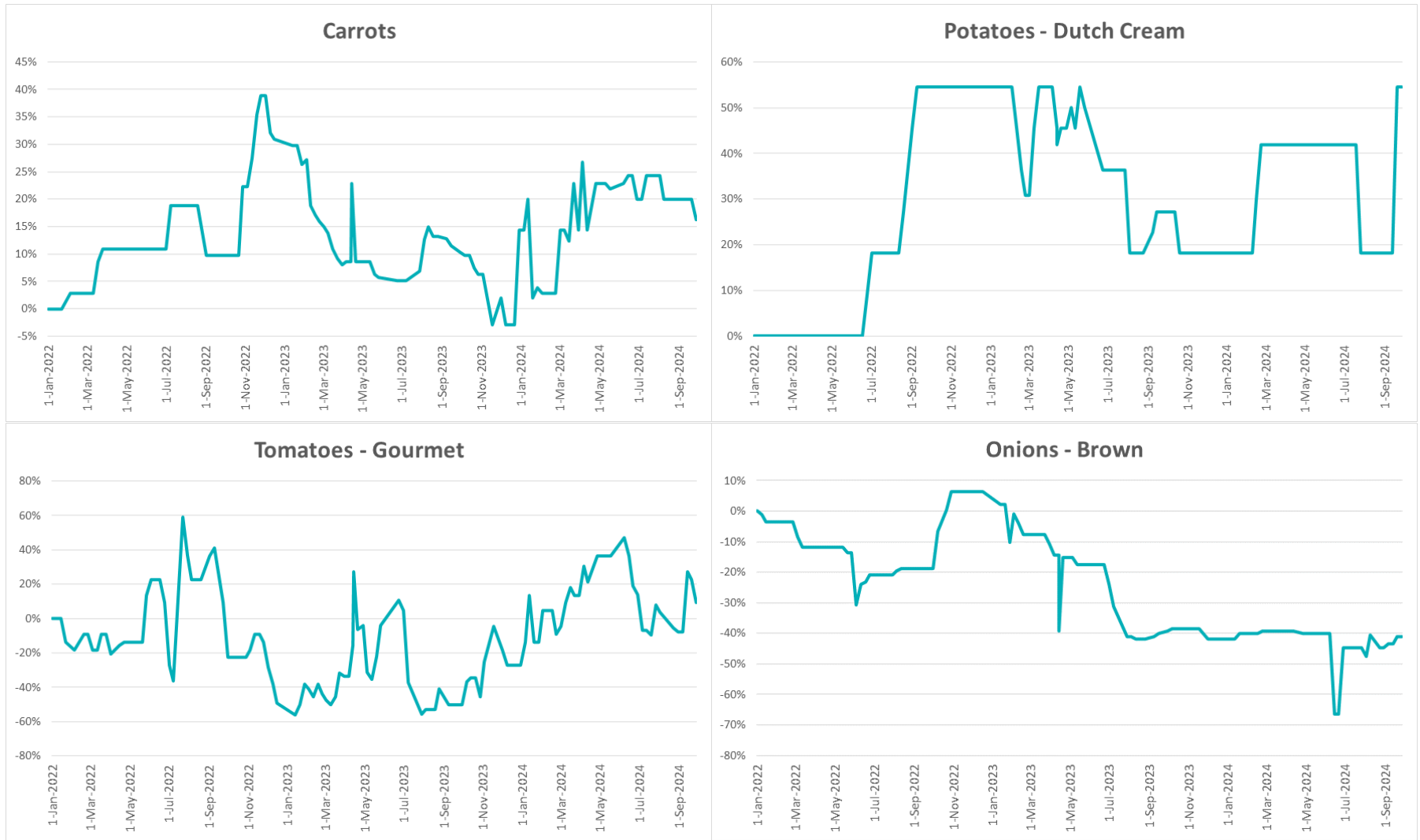


3.4. Global Dairy Trade (GDT) weighted average prices

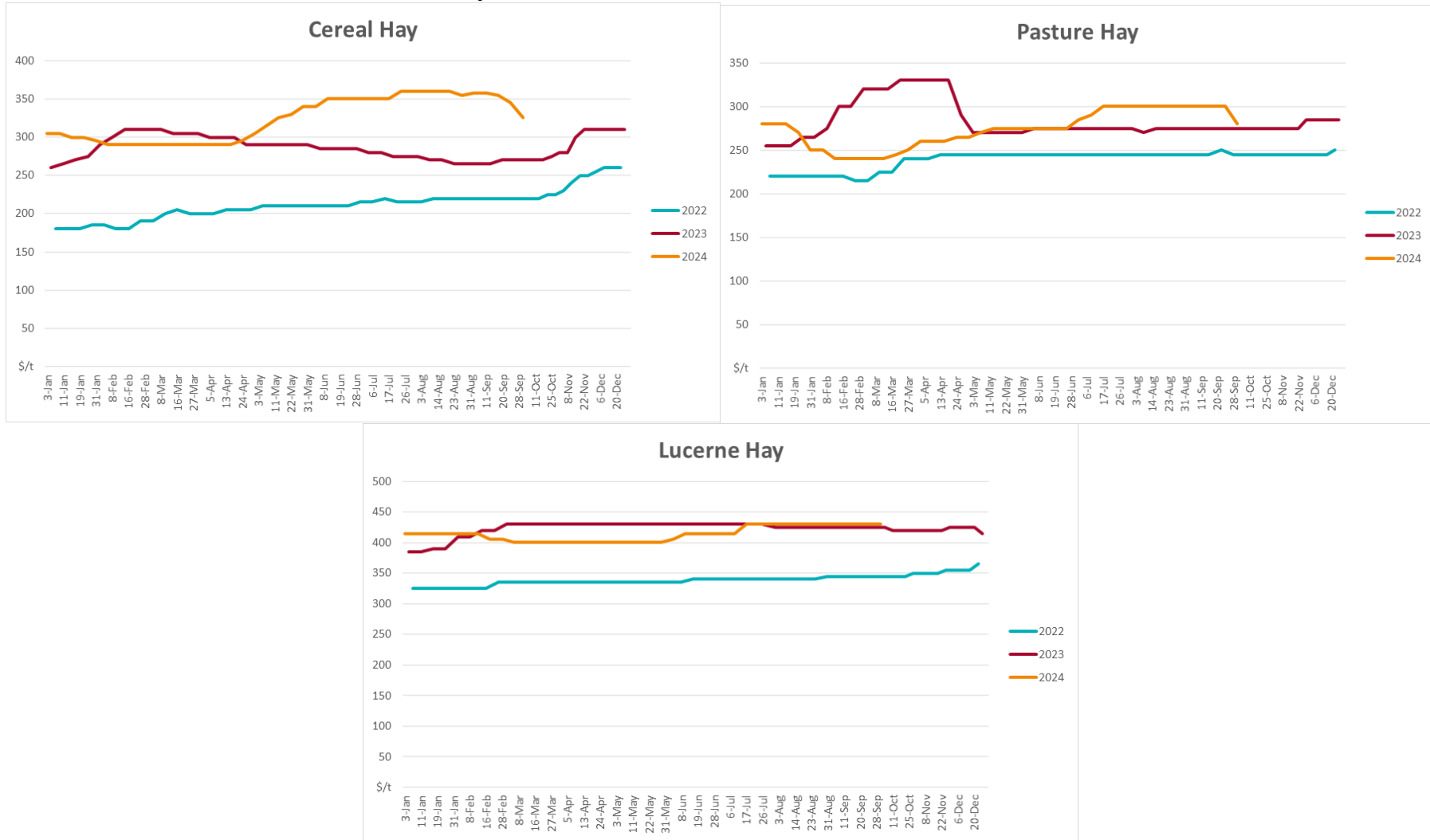


3.5. Selected fruit and vegetable prices





3.6 Selected domestic fodder indicator prices



4. Data attribution

Climate

- Bureau of Meteorology
- Weekly rainfall totals: www.bom.gov.au/climate/maps/rainfall/
- 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://rmetsonline.wiley.com/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, 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

© Commonwealth of Australia 2024

Ownership of intellectual property rights

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia (referred to as the Commonwealth).

Creative Commons licence

All material in this publication is licensed under a [Creative Commons Attribution 4.0 International Licence](#) except content supplied by third parties, logos and the Commonwealth Coat of Arms.

Inquiries about the licence and any use of this document should be emailed to copyright@awe.gov.au.



Cataloguing data

This publication (and any material sourced from it) should be attributed as:

ABARES 2024, Weekly Australian Climate, Water and Agricultural Update, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, 3 October 2024. CC BY 4.0 DOI: <https://doi.org/10.25814/5f3e04e7d2503>

ISSN 2652-7561

This publication is available at https://www.agriculture.gov.au/abares/products/weekly_update

Department of Agriculture, Fisheries and Forestry

GPO Box 858 Canberra ACT 2601

Telephone 1800 900 090

Web agriculture.gov.au/abares

Disclaimer

The Australian Government acting through the Department of Agriculture, Fisheries and Forestry, represented by the Australian Bureau of Agricultural and Resource Economics and Sciences, has exercised due care and skill in preparing and compiling the information and data in this publication. Notwithstanding, the Department of Agriculture, Fisheries and Forestry, ABARES, its employees and advisers disclaim all liability, including liability for negligence and for any loss, damage, injury, expense or cost incurred by any person as a result of accessing, using or relying on any of the information or data in this publication to the maximum extent permitted by law.

Statement of Professional Independence

The views and analysis presented in ABARES publications, including this one, reflect ABARES professionally independent findings, based on scientific and economic concepts, principles, information and data. These views, analysis and findings may not reflect or be consistent with the views or positions of the Australian Government, or of organisations or groups who have commissioned ABARES reports or analysis. More information on [professional independence](#) is provided on the ABARES website.

Acknowledgements

This report was prepared by Matthew Miller.