Agricultural forecasts and outlook
December quarter 2021

Agricultural Commodities Report, Vol 11.4
About the Agricultural Commodities Report

The *Agricultural Commodities Report* contains ABARES forecasts for the value, volume and price of Australia's agricultural production and exports.

Underpinning the forecasts contained in the *Agricultural Commodities Report* are ABARES outlook for global commodity prices, demand and supply. Each edition of the report factors in how changes to this outlook affect Australian producers and the value of their produce. Important risks to the outlook are also considered and discussed in each report.

A ‘medium term’ (5 year) outlook is published each year in the March edition of the *Agricultural Commodities Report*. Each June, September and December edition contains a short-term outlook. In June, the forecast period is to the end of the next Australian financial year (July to June). In September and December, the forecast period is to the end of the current Australian financial year.
1. Agricultural overview
Andrew Cameron and Charley Xia

Key points
- The gross value of agricultural production in 2021–22 is forecast to be a record $78 billion.
- Australia is enjoying unprecedented favourable conditions with prices the highest in 30 years.
- The value of agricultural exports is forecast to be a record $61 billion.
- Supply chain disruptions, higher fertiliser prices and heavy rainfall will continue to be challenges.

Unprecedented conditions leading to record value of production
The gross value of Australia’s agricultural production is forecast to reach a record $78 billion in 2021–22 (Figure 1.1). This $5.4 billion upward revision from the outlook issued in September is the result of further improvements in domestic growing conditions, downgrades for key overseas competitors driving prices higher, and steep increases in logistics and fertiliser costs worldwide. Prices are at multi-year highs for many agricultural commodities. Many of the factors driving international prices are driven by poor seasonal conditions, so there is considerable uncertainty how long prices will remain at these levels – posing a risk to the forecast values being realised.

Figure 1.1 Gross value of agricultural production, 1970–71 to 2021–22

The combination of factors leading to this record forecast are unprecedented (Figure 1.2). Exceptional seasonal conditions in Australia have been widespread. Production is forecast to increase year-on-year for every major livestock commodity and almost every
major crop commodity – the first time in at least 50 years that production will increase for so many products at once. If these forecasts are realised, 2021–22 will record the largest total volume of agricultural commodities Australia has ever produced. In addition, most international commodity prices are forecast to either increase or remain at very high levels, taking the price for Australia’s basket of agricultural goods to its highest level since 1989–90. The last time prices for Australia’s basket of agricultural goods were this high occurred one year before the collapse of the Wool Reserve Price Scheme. At that time, the scheme had pushed wool prices far above market clearing levels, driving up the value of the basket as wool represented a much larger share (24% compared with just 4% today). Today, Australia no longer distorts the price of agricultural products meaning current prices reflect actual international prices and demand.

Figure 1.2 Agricultural production volumes and real prices, 1970–71 to 2021–22

Australia’s most valuable winter crop forecast
If forecast production and prices are realised, Australia will harvest its most valuable winter crop ever at a forecast $22.3 billion, notwithstanding losses and quality downgrades that will occur along the east coast. While the winter crop is forecast to be only slightly larger than the previous record in 2016–17, prices are forecast to be 35% higher. International grain prices are being pushed higher by supply shortages and strong import demand, among other factors (for more information, see the Outlook for crops).

This forecast accounts for the effects of substantial rainfall and localised flooding in east coast growing regions during November 2021. This will delay harvests and result in isolated crop losses, but it is unlikely to reduce national harvest tonnage significantly. The larger impact will be on grain quality, with a higher than usual proportion of the crop being lower-value feed-grade wheat. The mild growing season will also lower protein content, which tends to be lower in very high yielding crops. There have been no reports of significant damage caused by mice, despite elevated populations in some states during the growing season. On-farm monitoring of mice has led to increased baiting, which has avoided major damage to crops to date.

Value of exports also in unprecedented territory
The value of agricultural exports is also forecast to increase by 27% to reach a record of just over $61 billion in 2021–22 (Figure 1.3). Higher export volumes and higher prices are forecast for almost every major export commodity. This is an upward revision of $6.5 billion since the outlook issued in September and the largest revision ever made to exports.

Sources: ABARES; Australian Bureau of Statistics
Crops are driving the increase in export value. Cotton, canola, wheat and barley are all forecast to make major contributions. The Australian cotton export price is forecast to increase by 60%, boosted by global post-lockdown apparel purchases. At the same time export volumes are forecast to increase over 200%, following 2 years of favourable growing conditions. World canola prices are forecast to be 85% above average due to Canadian production falling by 33%. This is occurring at the same time as Australian production and exports are forecast to be a record high. World wheat prices are at multi-year highs as Australia has begun harvesting a record wheat crop. Australian barley exports are forecast to be a record $3.3 billion, having found markets other than China, the previous largest market. Shipping such a large crop will challenge shipping capacity and internal logistics, but the Australian grain supply chain is highly adaptable and has already proved capable in shipping a very large crop in 2020–21.

**Freight disruptions likely to continue through 2022**

International freight supply chains are continuing to adapt to changing patterns of trade in the wake of COVID-19. These changes have made bulk freight vessels and shipping containers scarcer on many routes, and coupled with a rebound in oil prices, are leading to increased prices and delays in shipping. Air freight prices had already increased with the reduction in international flights. Freight rates for all channels are likely to remain elevated for at least the rest of 2021–22. Bulk grain freight rates for Australia peaked in October 2021 at an average 124% higher than in January, only to fall by 30% by the end of November 2021 (Figure 1.4). Shipping container rates from Australasia and Oceania to the 'Far East' (a group including many of Australia's major agricultural export markets) have increased by 56% since mid-2020 (Figure 1.5).

Australia is not alone in facing increased shipment costs and times – export competitors have faced similarly steep increases. Higher freight rates are also enhancing Australia’s geographic advantage in key grain importing markets in South-East Asia. Because daily vessel hire rates have increased, the shorter shipping times from Australian ports mean that Australian grain inclusive of delivery costs is relatively more affordable for importers.
Despite the disruptions to freight networks and much higher shipping costs, agricultural export volumes have been relatively steady. There has been no obvious decline in monthly trade volumes or number of shipment destinations for most Australian agricultural commodities. The ACCC’s latest container stevedoring monitoring report shows that container throughput grew in 2020–21.

However, individual trades are more costly and difficult to organise than they otherwise would be, and delays of multiple days or weeks – particularly in containerised trade – are reportedly widespread. The experience faced by exporters has been mixed with some exporters facing greater difficulties than others. However, these continuing disruptions are not expected to significantly reduce forecast exports of agricultural commodities over 2021–22.

Higher input costs for farms in 2021–22
The cost of many farm inputs has increased in 2021–22, which will reduce farm profitability. Higher prices for fertiliser, fuel, farm chemicals and equipment have all been reported. Increased shipping costs are also contributing to higher prices for imported goods. Despite these increased costs, net farm cash income is forecast to be a record $30.6 billion in 2021–22 due to much higher production and prices.

The cost of fertiliser has risen significantly in recent months because of high energy prices and export restrictions imposed by the Russian Federation and China. Fertiliser is an important input to Australian farms, accounting for 11% of total cash costs on all broadacre farms on average for the 5 years to 2018–19. This share is much higher for specialist cropping farms, typically ranging from 16 to 18%. Australia
Agricultural overview

relies on imported fertiliser and fertiliser inputs, although domestic manufacturing does account for a small share of the market. The price of urea imported into Australia was 74% higher in September 2021 than the average for 2020, and the price of monoammonium phosphate (MAP) was 102% higher (Figure 1.6).

Figure 1.6 Australian imports of urea, by volume and price, January 2007 to September 2021

![Graph showing Australian imports of urea, by volume and price, January 2007 to September 2021.]

Source: Australian Bureau of Statistics

High fertiliser prices will have no impact on the 2021–22 winter crop which is currently being harvested, but they may affect planting of the summer crop and 2022–23 winter crop. Farm businesses will make decisions on fertiliser application based on expected returns, and ration or eliminate usage if it becomes too expensive (see Box 1). Fertiliser requirements can vary from year to year and paddock to paddock, and depend on soil health, crop rotation, and seasonal conditions. High yielding crops typically use more soil nutrients – so more fertiliser may be needed in 2022 following the very high-yielding 2021–22 winter crop. However, it is likely that more marginal cropping areas were planted in 2020–21 and 2021–22 given the prevailing growing conditions and lower livestock availability, so planted area and therefore fertiliser requirements for many farms may be much lower in 2022.

Box 1 Modelling cropping farm responses to changes in fertiliser prices

The effect of rationing of fertilisers on farm productivity and output can be gauged by looking to past effects on broadacre specialist cropping farms. This is because these businesses have less capacity to change what they produce in response to high fertiliser prices, due to their specialisation and higher switching costs. Fertiliser application by cropping specialists was significantly lower during 2008–09 and 2009–10 due to the high price of fertiliser at the time. However, favourable seasonal conditions meant increased production when compared with the drought levels of 2006–07 (Figure 1.7).

If fertiliser prices had not increased significantly during 2009–09 and 2009–10, farms may have used more fertiliser and consequently increased production. Preliminary modelling by ABARES suggests that, assuming consistent seasonal conditions and farm productivity levels, greater use of fertilisers during that period could have improved crop production on these farms by between 1 and 15% on average per farm. This result should be considered an upper-bound estimate for specialist cropping farms only and should not be extrapolated to national production figures.
Figure 1.7 Rainfall percentile, fertiliser use and production levels, broadacre cropping farms, 2000–01 to 2019–20

Note: Output and fertiliser volume per hectare calculated as indices with base year 2000–01. Rainfall percentiles calculated with respect to range 1900–2020.
Source: ABARES, Australian Bureau of Statistics
 Movements in selected crop and livestock prices, 2021–22

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<th>COMMODITY</th>
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<th>CROP PRICES</th>
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<tr>
<td>Wheat</td>
<td></td>
<td>↑23% to $330/t in 2021–22</td>
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<tr>
<td>Barley</td>
<td></td>
<td>↑13% to $271/t in 2021–22</td>
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<tr>
<td>Canola</td>
<td></td>
<td>↑46% to $799/t in 2021–22</td>
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<td>Cotton</td>
<td></td>
<td>↑33% to $110/lb in 2021–22</td>
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<td>Wine grapes</td>
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<td>↓16% to $656/t in 2021–22</td>
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<table>
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<th>COMMODITY</th>
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<th>LIVESTOCK PRICES</th>
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<td>Saleyard lamb</td>
<td></td>
<td>↑9% to 850 Ac/kg in 2021–22</td>
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<td>↑17% to 1,390 Ac/kg in 2021–22</td>
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<td>Milk</td>
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<td>↑6% to 56 Ac/L in 2021–22</td>
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<td>Live export cattle</td>
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<td>Live export sheep</td>
<td></td>
<td>↑5% to $162 $/head in 2021–22</td>
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Notes: *Average of third-party, bulk, single store and freight prices. ABARES National Trade Centre incl. freight. Averages are calculated for April 2021 to March 2022.*
2. Economic overview

Andrew Cameron

Economic overview

Strong global economic recovery continues to support agricultural demand.

Key points

- Strong global economic recovery continues to support agricultural demand.
- Vaccination rates are driving trading partner growth prospects.
- High energy prices are pushing costs of key inputs higher.
- The Australian dollar is forecast to average US74 cents in 2021–22.

Global economic recovery continues

The global economy continues to recover strongly from the COVID-19 pandemic. The International Monetary Fund (IMF) expects annual world economic growth to be 5.9% at the end of 2021, before easing to a still strong 4.9% in 2022. Demand for Australian agricultural exports will remain well supported as a result.

The outlook for advanced economies has improved in recent months due to rapid progress in vaccinations and high levels of ongoing government support. This group of economies is forecast to expand by 4.5% in 2022. Consumer spending data for advanced economies indicates that spending on food and beverages away from home is rising at the same time as spending on food and beverages for home consumption is falling. The IMF expects that output in the advanced economy group will return to levels consistent with pre-pandemic trends by the end of 2022.

The outlook for emerging and developing economies in 2022 has worsened since July due to the challenges posed by the Delta variant of COVID-19. These economies generally have lower vaccination rates, more fragile health systems, and a limited ability to expand or maintain monetary and fiscal support. Emerging and developing economies are forecast to grow by 6.4% in 2021 and 5.1% in 2022. The ASEAN region – which includes major agricultural markets for Australia – has been hard hit by the Delta strain.

Vaccine rollouts determine growth prospects and risk profile

Vaccine rollouts remain critical worldwide and will significantly shape the economic prospects of individual nations over 2022. Hospitalisations and deaths are expected to fall to much lower levels by the end of 2022 following vaccination rollouts and other health measures. However, there is a stark divide between vaccination rates in advanced economies and those in emerging and developing economies. Countries with lower vaccination rates are most at risk if more virulent strains of the virus emerge. And if vaccine rollouts in emerging and developing economies slow or stall, the economic output gap will widen between them and advanced economies and will slow medium-term growth prospects for these countries further.
Vaccination progress varies widely among Australia’s 20 largest agricultural trading partners. The majority have over 70% of their population fully or partially vaccinated (Figure 2.1). However, Australia’s South-East Asian trading partners tend to have lower vaccination rates, placing them most at risk if the pandemic worsens.

**Figure 2.1 Vaccination status for Australia and its top 20 agricultural export markets**

Notes: Data is from 30 November. For comparability between markets, data shown is based on total population, not eligible population. Based on World Health Organization data for all markets other than Hong Kong, Taiwan and the United Arab Emirates. Care should be taken in interpreting vaccination levels because age and eligibility profiles vary.

Sources: Our World in Data; World Health Organization

Mutations of the COVID-19 virus pose a significant risk to the global economic outlook. If a more virulent mutation than the Delta variant emerges, global economic growth will likely be downgraded. This would delay a return to output consistent with pre-pandemic trends. The IMF expects the advanced economy group to reach this milestone by the end of 2022, but most other countries are expected to remain well below this level even by 2024.

**Costs of inputs surging worldwide**

Broad based commodity price increases, including for agricultural goods, have persisted during 2021 (Figure 2.2). Many of the factors contributing to these increases are weather related and expected to abate over the next 12 months, but they will add to producer and consumer prices in 2021–22. Global energy markets have experienced shortages in recent months, leading to sharp price increases that have flowed through into most energy-intensive manufactured products, including fertiliser. China and Russia – the world’s 2 largest producers of fertiliser – have announced policy changes that will restrict fertiliser exports. These restrictions will add to global fertiliser price increases. Australia imports most of its fertiliser needs, so farmers will see steep price rises for this input as a result. Rapid changes in the pattern of global trade have also resulted in steep increases in transportation costs, adding to the price of all traded goods (for more analysis on input costs, see the Agricultural overview).
Exchange rate to remain at current levels
In 2021–22, the Australian exchange rate is assumed to average US74 cents – 1 cent lower than the average for 2020–21. Downward pressure on the exchange rate from falling iron ore prices is expected to be balanced by upward pressure from strengthening economic activity and steep increases in coal and natural gas prices.

Overseas interest rates may move higher over 2022, adding to downward pressure on the Australian dollar if current domestic monetary policy settings remain. Stronger than expected inflation overseas could prompt central banks to bring forward planned rate rises. Australian interest rates are not expected to be lifted in 2021–22. The Reserve Bank of Australia has clearly signalled it will not raise rates unless inflation is sustained in the target range (core inflation of 2 to 3%) and wages growth is ‘materially higher’ than it is at present.
3. Seasonal conditions

Stephanie Blake and Matthew Miller

Key points

- La Niña conditions persisted in late 2020 and into 2021, causing production shortfalls in the global grain supply, particularly of wheat and canola.

- La Niña conditions between November 2021 and May 2022 are expected to bring below average to average rainfall to many grain- and oilseed-producing regions overseas.

- The onset of a La Niña event in the central Pacific is expected to result in above average rainfall in eastern and northern Australia in the summer of 2021–22. This will generate favourable growing conditions for summer crops and pasture production.

- Floods, fires, tropical cyclones and severe storms are likely during Australia’s 2021–22 high-risk weather season (October 2021 to April 2022) and may affect agricultural production and supply chains.

- Stored irrigation water is at the highest level since the 2017–18 peak.

Global production conditions have led to shortfalls driven by dryness

Global production conditions during 2021 have caused shortfalls in global grain supply and an increase in world prices, particularly of wheat and canola. These shortfalls have primarily been driven by below average rainfall in many of the world’s major grain- and oilseed-producing regions following persistent La Niña conditions in late 2020 and into 2021.

In the southern hemisphere, rainfall from August to October tends to affect winter crop development, yield prospects and starting soil moisture conditions for summer crops. In Argentina, conditions have been mostly favourable for the harvesting of winter wheat, except in the north where low yield is expected due to extreme dry conditions. Sowing of spring-planted maize and soybeans has also begun in Brazil and Argentina, where climatic conditions have been favourable in the main production areas. In Australia, growing conditions for wheat have been generally favourable. Substantial November rainfall and localised flooding have delayed harvest activities and will reduce grain quality and result in isolated crop losses.

In the northern hemisphere, August to October rainfall is important for the development and yield prospects of spring wheat and summer crops, such as corn, soybeans and sunflowers. August to October rainfall also affects farmers’ planting decisions for the following winter wheat and canola crops. In 2021, August to October rainfall was generally below average across cropping regions in Argentina, southern Brazil, Canada, southern and eastern Ukraine, Kazakhstan, and the Russian Federation (Figure 3.1). Winter wheat production in the United States, Kazakhstan and the Russian Federation are of particular concern, with large production deficits expected. In
contrast, rainfall was average to above average across parts of the United Kingdom, eastern Europe, India, eastern China, South-East Asia, the south-east of the United States and western Mexico.

**Figure 3.1 Global 3-month seasonal precipitation anomalies, August to October 2021**

Note: Anomalies are in units of mm/season, based on precipitation estimates from the NOAA Climate Prediction Center’s Climate Anomaly Monitoring System Outgoing Precipitation Index dataset. Precipitation estimates for August to October 2021 are compared with rainfall recorded for that period during the 1979 to 2000 base period. Source: International Research Institute for Climate and Society

For commodity-by-commodity assessments of global crop production conditions, climate outlook and potential impact on production conditions, see ABARES [Weekly Australian climate, water and agricultural update](http://www.abares.gov.au) for 18 November 2021.

**Global climate outlook mixed for the remainder of 2021–22**

The climate outlook for many of the world’s major grain- and oilseed-producing regions is for average to below average rainfall between November 2021 and May 2022. This is partly driven by the re-emergence of La Niña conditions.

La Niña conditions in the tropical Pacific are known to shift rainfall patterns in different parts of the world. Although they vary from one La Niña to the next, the strongest shifts remain fairly consistent across regions and seasons (Figure 3.2).

**Figure 3.2 Location and timing of likely above and below average rainfall related to La Niña events**

Source: CHC; FEWS NET; NOAA

La Niña conditions typically increase the chances of below average rainfall in East Africa, Central and South Asia, southern South America, the southern United States, northern Mexico and eastern East Asia. La
Niña conditions in 2020 and 2021 are expected to elevate the risks of a 2-year sequence of dry conditions in these regions. La Niña conditions typically increase the chances of above average rainfall in parts of South-East Asia, Australia, Southern Africa, northern South America and the northern United States.

Winter wheat-producing regions in the United States, the Russian Federation and Kazakhstan are likely to see a continuation of dry conditions that have slowed planting of the 2021–22 winter crop. Continued dryness could further affect production by damaging crops that lacked adequate snow cover insulation during dormancy. Below average precipitation in Brazil and Argentina, following favourable planting conditions, may adversely affect the development of summer crops such as soybeans and corn. Average to above average precipitation is expected to continue in Australia and across Europe and sustain production prospects in these regions.

**Extreme weather season risks: flood, fire and tropical cyclone**

Australia has entered its peak high-risk weather season, which typically runs from October to April. The Bureau of Meteorology’s Severe weather outlook (released in October 2021) ranked widespread flooding, coastal flooding and tropical cyclone as likely threats in spring and early summer 2021–22 in northern Queensland, southern New South Wales, Victoria and Tasmania (Figure 3.3).

In contrast, the Bureau of Meteorology’s outlook ranked bushfire risk as high for areas with high fuel loads in southern Queensland and northern New South Wales. Bushfire risk is also high in south-west Western Australia due to high fuel load, recent dry conditions and higher than normal temperatures forecast for summer. Severe storms are also likely in all states and territories. In mid to late summer, bushfire risk increases in southern states, including southern New South Wales, South Australia, Victoria and Tasmania. The risk of flooding and storms remains high throughout Queensland and in northern and coastal New South Wales.

The last back-to-back La Niña event in Australia was from 2010 to 2012 and resulted in one of the wettest 2-year periods on record. Record rainfalls occurred in many states and caused widespread flooding. In the 2010–11 tropical cyclone season, the number of
tropical cyclones recorded in the Australian region was near normal. However, 5 of these tropical cyclones were categorised as severe, which is above the average number of severe cyclones. This included Severe Tropical Cyclone Yasi, which caused widespread damage to Far North Queensland. Similar weather events may occur following the establishment of the 2021–22 La Niña event in November.

The impacts of these weather events on agricultural production will vary depending on their severity and extent. Flooding events are usually restricted to low-lying and riverine areas. They can cause infrastructure and livestock losses, and disruptions to supply chains. For crops, heavy rainfall associated with thunderstorm activity close to harvest primarily affects the quality rather than that quantity of crops during that production season. However, heavy rainfall can benefit future production because it improves soil moisture.

Tropical cyclone activity is typically restricted to the northern and coastal areas of the country. Tropical cyclones can affect power availability for food storage and packaging activities, and fruit and vegetable production and distribution. Severe storms can occur in all agricultural regions. They can cause power outages, decreased dairy production and storage capabilities, damage to infrastructure, and disruption of supply chains. Bushfires also pose a risk to most agricultural regions and can result in the loss of crops, livestock, farm infrastructure and power, and disruption to supply chains.

La Niña delivers large seasonal recharge to major Australian basins
The La Niña phase in late spring and early summer 2020–21 delivered a large seasonal recharge to major Australian water basins. This was topped up by rainfall over winter and early spring 2021 due to the negative Indian Ocean Dipole phase and the emerging La Niña. At 25 November 2021, the volume of water held in storage across the Murray–Darling Basin reached close to 90% of total capacity, the highest level since 2016–17.

Favourable seasonal conditions have supported water allocations in 2021–22, which are currently at their highest level since 2011–12 for many catchments and securities (Figure 3.4). Increased on-farm dam and reservoir storages offer favourable irrigated planting prospects in New South Wales and southern Queensland (see Outlook for crops).

Figure 3.4 High and low security water allocations, NSW regulated river systems, 2021–22

Source: ABARES; NSW DPIE

See ABARES Water market outlook for a summary of water market conditions and forecasts of allocation prices in the southern Murray–Darling Basin.
Average or above average rainfall to continue across much of Australia

In southern Australia, rainfall in winter and early spring is necessary to build soil moisture levels to support crop and pasture growth. Rainfall in winter 2021 was 4% below the Australian average. However, it was Australia’s wettest winter since 2016, with above average rainfall in New South Wales, Queensland, Victoria, southern South Australia and southern Western Australia.

Above average rainfall has continued throughout the austral spring, particularly on the east coast. Widespread heavy rainfall and associated flooding, particularly in New South Wales during November, has damaged winter crops close to harvest and submerged recently planted summer crops.

Some dryness in Western Australia during September was associated with widespread frost events, which affected winter crop production in some areas. However, wetter than average conditions in October (Figure 3.5) and corresponding cooler daytime temperatures alleviated further declines in WA yield prospects.

![Figure 3.5 Rainfall percentiles, Australia, October 2021](Image)

**Note:** Rainfall relative to the long-term record and ranked in percentiles. This analysis ranks rainfall for the selected period compared with the historical average (1900 to present) recorded for that period.

**Source:** Bureau of Meteorology

For a more comprehensive assessment of recent agricultural production conditions and potential impact on production, see ABARES *Weekly Australian climate, water and agricultural update* for 4 November 2021.

A return of La Niña conditions during late spring and summer 2021–22 and a weak negative Indian Ocean Dipole are expected to bring above average rainfall to eastern and northern Australia.

The Bureau of Meteorology’s climate outlook for December 2021 to February 2022 (released on 18 November 2021) suggests that the chance of exceeding median summer rainfall is greater than 65%
Seasonal conditions across most of eastern Australia and greater than 75% across parts of eastern Queensland.

The Bureau of Meteorology's forecast indicates a 75% chance of receiving between 100 mm and 300 mm across large areas of eastern and northern Australia between December 2021 and February 2022 (Figure 3.6). Rainfall totals greater than 300 mm are likely across the tropical north and much of the eastern coastline of Australia and are associated with the onset of the northern wet season and the Australian monsoon. These high rainfall totals are almost equivalent to the seasonal median (between 1990 and 2012) and represent an excellent start to the 2021–22 summer cropping season in eastern Australia and wet season across northern Australia. December to February rainfall totals are likely to be sufficient to sustain above average crop and pasture production through summer.
4. Outlook for crops

Amelia Brown, Emily Dahl, Charlie Qin, Hamish Morton, Cameron Van-Lane and Charley Xia

Key points

• High grain and oilseeds prices are expected to continue, reflecting tight global supply.
• Australian winter crop production forecast to reach new record high.
• The value of Australian crop production and exports is forecast to reach a record high.
• November rain interrupted the winter crop harvest, adversely affecting grain quality.

Value of crop production to reach record high in 2021–22

The gross value of crop production is forecast to reach a record level:

• wheat – $11.5 billion (record high)
• barley – $3.4 billion (record high)
• canola – $5.2 billion (record high)
• cotton – $3.9 billion (record high)
• horticulture – $12.5 billion (second highest on record)

Heavy November rainfall has caused flooding in northern and central west New South Wales resulting in production losses for some producers. Although this is not expected to significantly affect tonnage produced, it will affect the value because of a downgrade in quality. Continued high rainfall in December will cause further damage and more total crop losses if crops cannot be harvested.

In other areas across the eastern states and South Australia, wet conditions during harvest and reduced soil nutrient levels caused by 2 years of high yields could reduce grain and oilseeds quality compared with recent years. The extent of these impacts would differ from paddock-to-paddock, and downgrades of wheat protein levels or improvements in the oil content of canola crops could affect the prices that growers receive.

Despite concerns about a resurgence in mice numbers, increased baiting on farms during winter and spring has reduced mice populations in affected regions, and there have been no reports of significant damage to date. They still remain a risk for summer crops in parts of southern Queensland and northern New South Wales.
profits could be reduced by high baiting and cleaning costs if mouse numbers remain elevated during summer.

**Figure 4.1 Gross value of crop production, 1971–72 to 2021–22**

With ample export supply in 2021–22, Australia is well placed to meet global demand particularly where relative freight costs provide an advantage. High freight rates mean that Australia’s geographical freight advantage is amplified in South-East Asian markets. According to the International Grains Council, on 24 November 2021 indicative ocean bulk freight rates from Australia to Indonesia were US$24 per tonne, compared with US$76 per tonne from Argentina, US$65 per tonne from the Russian Federation, and US$64 per tonne from Ukraine and US$76 from the United States Gulf to Indonesia.

**High prices forecast to persist**

World grain and oilseed markets have experienced unusual price movements throughout the second half of 2021. Drought in key exporting countries has led to supply shortages, while demand has been strong in major importing countries. As a result, prices have continued to increase above what was anticipated earlier in the year. Other contributing factors in the sustained price surge include significantly increased fuel and fertiliser prices, supply chain disruptions, high freight rates and the potential impact of a consecutive La Niña. China and the Russian Federation, two major global fertiliser producers, are likely to restrict exports to ensure they can meet domestic demand, which will limit global supply and drive up prices.

Australian cotton growers are also expected to benefit from high international prices. Global demand for cotton is forecast to outpace global production, leading to significantly higher prices and a draw down in global stocks.
Wheat prices forecast to increase as world supply of milling wheat tightens

The world wheat indicator price is forecast to average US$330 a tonne in 2021–22, an increase of 23% from the previous year. The Australian Premium White (APW) indicator price is forecast to average A$400 a tonne. Prolonged poor seasonal conditions in Canada, the United States and the Russian Federation has meant that world supply of hard, high-protein milling wheat is significantly lower in 2021–22. Australian high-protein milling wheat is generally considered one of the best in the world and usually competes with Canadian and US wheat exports.

Due to a fall in supply, the prices of high-protein wheats have surged. Australian wheat production is forecast to be the biggest on record, and Australian exports are likely to be competitively priced to meet world demand. However, the wet finish to Australia’s growing season may limit the percentage of high-quality wheat produced. With extremely tight global supply of high-protein wheat, any significant downgrading of the quality profile of the Australian harvest due to wet weather is likely to push world prices for high-protein wheat even higher.

Import demand has increased in some of the world’s largest importing countries – especially Iran and Turkey – due to dry weather in the Middle East and North Africa. Wheat purchases have increased despite significantly higher global wheat prices, while world wheat imports are forecast to increase by 4% in 2021–22. Although closing stocks in Australia are forecast to increase, closing stocks in other major exporting countries are forecast to fall to their lowest level since 2007–08.

Wheat production in the Russian Federation (the world’s biggest exporter) has fallen by 12% in 2021–22 placing further pressure on global supply. The implementation of an export tax to try to ensure domestic supply and keep domestic prices from rising has contributed to global prices rising further. Dry seasonal conditions during the planting and establishment of the 2022–23 crop has prompted the Russian Federation to indicate that it may also set a new export quota in 2022 if prices continue to rise, raising more concerns about global export supply.

World barley price to rise as stocks fall

World demand for barley is expected to outpace supply, leading to lower stocks and higher prices. The world indicator price for barley is forecast to increase by 13% to US$254 per tonne in 2021–22. High world barley prices are being supported by demand from China.
Australian barley prices are benefiting from high world prices despite Australian barley being excluded from China by anti-dumping and countervailing import tariffs. However, because of the exclusion from the China market, Australian prices are expected to remain below the world indicator price for barley.

**World canola prices at record high**

Global demand for oilseeds has surged along with world oilseed prices. At the same time, world canola supply has contracted sharply, with production forecast to decrease by 7% to 68 million tonnes in 2021–22. The fall in supply is driven by drought conditions affecting Canada (the world’s biggest canola exporter), where production is expected to decrease by 33% to 13 million tonnes in 2021–22. The Canadian canola price is expected to average a record US$799 per tonne in 2021–22, 85% above the 5-year average to 2020–21.

Australian canola typically competes with Canadian canola in overseas markets, and the high prices and low supply of Canadian canola have supported the Australian canola price. The Australian (Kwinana) canola price is forecast to average 45% higher at US$733 per tonne in 2021–22.

Rising vegetable oil prices reflect tight global supply and strong biodiesel demand. Biodiesel demand is supported by the world economic recovery and rising crude oil prices. The easing of pandemic-related restrictions and the global economic recovery have both led to increases in global oil consumption. The September 2021 Resources and Energy Quarterly, released by the Department of Industry, Science, Energy and Resources forecast the Brent crude oil price to remain high in 2022 and average $67 per barrel.

World soybean meal prices have remained at lower levels in recent months. Although Chinese feed demand is expected to continue growing, high global soybean production will put downward pressure on soybean meal prices. Global soybean production is forecast to increase by 5% to a record 385 million tonnes in 2021–22.
Record Australian winter crop production in 2021–22
Total winter crop production is forecast to reach a record of just over 58 million tonnes in 2021–22. If forecast production and prices are realised, this will be Australia’s most valuable winter crop ever at over $22 billion. Favourable seasonal conditions in Queensland, New South Wales and Western Australia are expected to result in well above average yields. Conditions in Victoria and South Australia have not been quite as good. Western Australian production is forecast to reach a record high, Queensland and New South Wales production the second highest on record, Victoria the third highest and South Australia the fifth highest winter crop on record.

Australian wheat production is forecast to reach a new record in 2021–22 of around 34.4 million tonnes, which is 3% higher than the previous record set in 2020–21. Australian barley production is forecast to increase marginally to 13.3 million tonnes. Canola production is forecast to reach a new record of 5.7 million tonnes reflecting both an increase in the area sown to canola and high yields particularly in New South Wales and Western Australia.

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Summer crop prospects favourable
Australian summer crop production is forecast to increase by 43% to 4.8 million tonnes reflecting a 32% increase in the area sown and above-average yields. Above-average spring rainfall has further replenished water availability for irrigated crops, and the moisture profile for dry area crops is well above average. The outlook for summer rainfall is also positive. In New South Wales, record high November rainfall is likely to have damaged some early sown summer crops and may hamper the completion of planting programs if paddocks remain too wet to access. The delay in harvesting winter crops may also limit the area available to plant summer crops.

Australian cotton production is forecast to reach nearly 1.1 million tonnes of lint (or 4.8 million bales) in 2021–22, an increase of 79% from 2020–21. A La Niña event over 2020–21 and a negative Indian Ocean Dipole during the winter months of 2021 have resulted in above average rainfall across much of the cotton-growing regions in the eastern states. High international cotton prices and water availability is estimated to have resulted in 394,000 hectares of irrigated cotton being planted. For dryland cotton, the Australian Bureau of Meteorology expects above-average summer rainfall. However, the promising climate outlook is not all good news. Localised flooding in major production areas of New South Wales during November has prompted growers to replant substantial areas.

Favourable outlook for cotton and sugar
Australian cotton growers are expected to benefit from high international prices and favourable growing conditions in 2021–22. Global demand for cotton is forecast to outpace global production leading to significantly higher prices and a draw down in global stocks. The recent shift towards easing COVID-related restrictions and positive economic growth have improved incomes and lifted consumer confidence, resulting in higher demand for cotton apparel. The Cotlook A price index is forecast to average US$110 cents per pound (A$322 cents per kilo) for 2021–22, an increase of 33% from 2020-21.

Australian sugar production is forecast to increase marginally to just under 4.4 million tonnes in 2021–22. The gross value of Australian sugar production is forecast to increase by 13% in 2021–22 to around
Outlook for crops

$1.5 billion. This increase will be driven by higher international prices which are forecast to reach US 20c/lb for 2021-22 up from 16.6c/lb in 2020-21. Prices are expected to remain elevated due to tightening global supply conditions, as production in Brazil (the largest sugar producing nation) has been hampered by drought and frost throughout the year. Additionally, Indian export subsidies have depressed international prices in recent years and their removal in November will make it less profitable for Indian suppliers to export sugar, further reducing global supply and placing upward pressure on global prices. For detailed analysis of sugarcane farm financial performance in 2020–21 to 2021–22, see ABARES latest sugarcane farm survey report.

**The outlook for Australian wine more subdued**

Global wine production in 2021 is estimated to remain well below average following unfavourable growing conditions in the three largest EU producing countries - Italy, Spain and France. These declines have more than offset record-high production in the southern hemisphere. Despite low production in 2021, the high inventory levels of European and North American exporters carried over from previous vintages will dampen price rises in major import markets.

Global wine trade has been adversely affected by container shortages and rising transportation costs. These factors are expected to reduce the price competitiveness of imported wine compared with domestically produced wine. Additionally, imports of lower-quality wine are more likely to be affected than higher-quality wine.

The 2021 vintage in Australia was the largest since 2006 and is estimated to produce around 1.4 billion litres of wine. This has added to very low inventories carried over from previous vintages. Australian wine exports in 2021 have been adversely affected by the loss of China as a major market. This has significantly reduced exports of bottled red wine, which has been partially re-directed into bulk exports to the United Kingdom.

Supply chain disruptions and high transportation costs are challenging the capacity of the Australian wine industry to diversify into other markets. Container shortages and high sea-freight costs are also affecting the price competitiveness of Australian wine generally, especially in the US, EU and Canadian markets.

**Horticulture output to increase despite labour challenges**

Wet and mild conditions over late spring in most horticultural regions are expected to boost supplies of summer fruit and vegetables. However, heavy rainfall and flooding in southern Queensland and northern New South Wales have impacted supplies of some produce such as bananas, blueberries and leafy greens.

High supplies of most fruit and vegetables over summer is expected to put downward pressure on farmgate prices, however, price falls will be moderated by the high cost of seasonal labour on farms, as growers look to pass on their costs to consumers. The streamlining of Federal Government programs aimed to increase Pacific labour mobility is expected to help ease some of the labour shortages on farms. From April 2022, the Seasonal Worker Programme and Pacific Labour Scheme will be consolidated, reformed, and replaced by a more flexible and efficient single program. The allowance of quarantine free arrivals for fully vaccinated travellers in some states will also help to increase labour supply.
In 2021–22, labour costs are expected to remain high on horticultural farms and throughout the supply chain, affecting price negotiations and margins. This comes as increasing economic activities from easing of lockdown restrictions and re-opening of state borders will lift demand for workers. The national pool of workers will remain constrained in the short term due to limited overseas arrivals. Heightened competition for overseas and domestic workers in this environment is expected to continue to contribute to farm costs, consistent with other industries in the economy. From 2019–20 to 2020–21, ABARES farm survey data indicates that the total number of workers used by Australian horticulture farms declined around 8% (11,100 workers). The decline in 2020–21 was mainly due to a reduction in the number of seasonal Working Holiday Makers.

Despite the decline in the number of workers used on horticulture farms in 2020–21, overall horticulture output levels are estimated to have remained relatively steady. This is primarily due to an improvement in seasonal growing conditions relative to the previous season. Output was maintained also by changing management practices and by employing more Australians and overseas residents already in Australia.
5. Outlook for livestock

Jonathan Wong, Harry Coë, Damien Thomson and Cameron Van-Lane

Key points

• Value of livestock production is forecast to increase.
• Strong demand and tight supplies are supporting high prices for livestock products.
• Favourable conditions in Australia are forecast to continue into early 2022, supporting flock and herd rebuilding and production.

Economic recovery driving livestock value higher

The gross value of production for the livestock sector is forecast to increase by 8% to $33.4 billion in 2021–22 due to an increase in prices of most meat and livestock products. Global demand for livestock products is forecast to increase as countries continue to reopen. This reopening has prompted a return to positive global economic growth – increasing disposable income, boosting consumer confidence, and giving consumers more opportunities to spend savings accumulated during lockdown.

Domestically, favourable seasonal conditions throughout 2021 are forecast to continue into early 2022. This is expected to support the production of wool and dairy products, and the rebuilding of cattle herds and sheep flocks. Beef, lamb and mutton production are forecast to increase, but lamb and mutton increasing relatively more than beef. Record high cattle prices are expected to continue providing incentives for farmers to retain cattle for longer and maximise weight gains before sale.

Red meat and livestock prices forecast to increase

The gross value of production of cattle and sheep slaughtered is forecast to increase due to high global meat prices, strong domestic prices (driven by restocking demand) and modest increases in production. The value of cattle slaughtered is forecast to rise by 16% to almost $15 billion, and the value of sheep and lambs slaughtered is also expected to rise by 16% to $4.9 billion. Average saleyard prices are forecast to increase by more than 11% for cattle and 8% for lambs in 2021–22 (Figure 5.1).

Global prices for beef and sheep meat are forecast to increase as global demand recovers alongside tight meat supplies. US meat prices have risen significantly over the last 12 months, resulting in higher lamb exports to the United States and higher Australian lamb prices. Australia’s low beef production will limit its ability to capitalise on this export opportunity. Beef export volumes are forecast to increase by 5% and sheep meat export volumes by 9% in 2021–22, but these will remain well below 2019–20 levels.

Chinese beef import prices are also likely to remain high. In September 2021 Brazil suspended beef exports to China after identifying 2 atypical cases of bovine spongiform encephalopathy (BSE) in its domestic meat plants. China responded by imposing an embargo on Brazilian beef imports, which is still in place at 1 December 2021. Some of these exports have been redirected to the booming United States market. Argentina has also implemented its own beef export restrictions for domestic reasons. The reduction in Argentinian beef exports has had a greater impact on beef exports to...
China than on those to the United States and Europe. Additionally, the US Department of Agriculture has forecast China’s pork production to fall by almost 5% from 2021 to 2022 due to the high price of inputs (notably feed grains). These factors, combined with expected increases in meat demand, is likely to put upward pressure on Chinese meat prices. This will support Australian meat exports to China, especially mutton exports, which are particularly sensitive to Chinese demand.

**Figure 5.1 Average saleyard prices for cattle, sheep and lambs, 2011–12 to 2021–22**

Australia’s lamb and mutton production is forecast to increase by 8% to 680,000 tonnes in 2021–22, and beef production is expected to increase by almost 4% to 2 million tonnes. Sheep slaughter is expected to increase by 13% due to strong prices for marginal ewes that were kept on for an extra season. Lamb production is also forecast to increase as previous flock rebuilding brings more lambs to market.

Beef herds are also rebuilding but forecast increases in the slaughter of cattle will not be as high as those for sheep. Cattle are expected to be held longer by producers to take advantage of pasture availability. Cattle slaughter numbers are expected to increase in the first half of 2022 as heavier cattle are brought to market. The easing and reopening of border restrictions may alleviate labour shortages for some meat processors, providing scope for production to increase.

Export volumes are forecast to increase at a slightly higher rate than production, as high global prices divert additional beef to export markets. This is forecast to result in lower volumes of domestic retail beef, continuing a trend of falling beef and sheep meat consumption per person relative to pork and chicken in Australia (Figure 5.2).

**Figure 5.2 Percentage share of meat consumed per person in Australia, 2016–17 to 2021–22**

Note: Consumption per person is calculated as a residual based on production and export volumes.

Source: ABARES; Australian Bureau of Statistics
Mixed forecasts for live exports

The economies of all major live export destinations are forecast to grow in 2022, resulting in greater demand for live exports. Despite this growth, Australian livestock exporters are expected to be constrained from capitalising on this opportunity. Live sheep exports have fallen in recent years (Figure 5.3), but they are expected to rise by 10% to 662,000 head in 2021–22 due to stronger demand in the Middle East. Live cattle exports are expected to remain steady. Growth will be held back by the high prices of Australian cattle, stock availability and potential shipping issues. Indonesian demand for live cattle may increase if high domestic beef prices persist.

In contrast, live dairy cattle exports have been relatively resilient during the recent economic downturn (Figure 5.3). Demand for Australia’s dairy cattle is driven by Chinese producers looking to serve a growing domestic dairy market, by increasing the size and improving the genetics of their dairy herd. This means dairy cattle exporters are less exposed to the price and supply issues currently facing feeder/slaughter cattle exporters. Dairy cattle exports are forecast to be slightly lower in 2021–22 but remain historically high. New Zealand’s ban on live cattle exports by sea from 2023 is expected to keep demand for Australian cattle high in the medium term.

Securing shipping for the remainder of 2021–22 remains a risk for the live export industry. The slowdown in the live cattle trade has seen several vessels servicing the Australia to South-East Asia trade redirected to other routes. Live exporter profit margins may also be affected by costs (such as flights and quarantine) associated with bringing support staff back to Australia.

Wool exports to increase as global demand continues to recover

The gross value of wool production is forecast to increase by 25% to just over $3 billion. Recovering demand for Australian wool is expected to continue due to increased consumer spending in advanced economies. The Eastern Market Indicator is subsequently forecast to increase by 16% to 1,390 cents per kg clean for 2021–22.

Wool exports are forecast to increase by 28% to $3.4 billion due to higher export prices and higher production volumes. The increased demand for woollen products will come from advanced economies such as the United States, European Union, Japan and the Republic of Korea. Export volumes from July to September were up by 62% compared with the same period last year, despite higher freight costs.
Outlook for livestock

The energy crisis affecting industrialised provinces in China was expected to dampen demand for Australian wool because processing capacity was restricted. However, the crisis has eased, and Chinese processors have returned to Australian wool auctions, following a slight dip in wool auction clearance rates and prices. On the other hand, Chinese consumers are being more cautious in their spending. Following the recent real estate and energy crises, along with slower economic growth (Figure 5.4), apparel sales in China fell by around 5% year-on-year in August and September.

**Figure 5.4 Chinese GDP growth and consumer confidence, 2017–18 to 2020–21**

![Graph showing Chinese GDP growth and consumer confidence from 2017 to 2021](image)

Sources: National Bureau of Statistics of China; OECD

Shorn wool production is forecast to increase by 8% to 315,000 tonnes in 2021–22. Favourable climatic conditions in eastern Australia are expected to continue, with the formation of another La Niña event in November 2021 supporting pasture growth in the months ahead. This is likely to support flock rebuilding and slightly increase wool cut to 4.58 kg per head. Recovering wool prices are bringing producers and their stocks to market. The number of wool bales offered between July and October jumped by 30.5% compared with 2020–21 levels, resulting in increased exports.

**Milk prices and production forecast to increase**

The gross value of milk production is forecast to rise by 7% to $5 billion in 2021–22 due to higher prices and increased production volumes. The average farmgate milk price is forecast to increase by 6.3% to 56 cents per litre or $7.34 per kilogram of milk solids in 2021–22. Competition for milk supply has led to price step-ups by Saputo and Fonterra in October. Rising export prices are likely to result in further step-ups. Low global supply has supported global dairy prices while import demand has remained firm in South-East Asia and China. Domestic demand is forecast to remain strong through 2021–22 as high, vaccination rates and continued economic recovery see consumption shift from groceries back to food service channels.

Australian milk production is forecast to increase slightly to 8.9 billion litres in 2021–22, a small downward revision from the September quarter forecast. This is due to high cull cow volumes and lower yields following wet and cold conditions over winter and early spring. July to September production was 3.3% below the same period in 2020–21. Production is expected to recover in late 2021 and early 2022. This assumes that forecast high soil moisture and higher pasture availability for late spring and early summer will lead to a rebound in per cow milk production yields. Australian dairy farmers have enjoyed consecutive years of strong prices and favourable seasonal conditions. Low irrigation and feed prices and record nominal farmgate milk prices in 2021–22 should help promote industry profitability, despite increased fuel and fertiliser costs.
Milk production in the European Union and the United States is forecast to increase slightly in 2020–21 but will still fall short of average year-on-year production growth. Dairy production in both economies is more intensive than in Australia. This leaves producers more exposed to forecast high feed costs and is expected to limit milk production volumes in both economies. High beef prices in the United States have also led to higher cull numbers. The trend of falling cow numbers is consistent in the European Union, Australia and New Zealand. The New Zealand dairy industry has been particularly affected by reforestation regulations, which reduce the area available for dairy farms.

Australian dairy cow numbers have been revised lower in 2021–22 due to continued farm exits and retirements. Labour shortages, high land values and beef prices may make reducing herds or exiting the dairy industry appealing for some producers, despite the favourable operating conditions. Cull cow prices in Victoria are at a record high, leading to the sale of any marginal or unproductive cattle. Live export of dairy cattle to China is also expected to place downward pressure on Australian dairy herd numbers.
Abbreviations

All values and prices are in nominal terms unless stated otherwise.

Small discrepancies in totals are generally caused by rounding. Zero is used to denote nil or a negligible amount.

$\text{m}$ million dollars (Australian)

$\infty$ euro

£ pound sterling

¥ yen

A$ dollar (Australian)

ABARE Australian Bureau of Agricultural and Resource Economics

ABARES Australian Bureau of Agricultural and Resource Economics and Sciences

ABS Australian Bureau of Statistics

ACT Australian Capital Territory

AFMA Australian Fisheries Management Authority

ANZSIC Australian and New Zealand Standard Industrial Classification

ASMC Australian Sugar Milling Council

AWEX Australian Wool Exchange

b billion (Australian)

BAE Bureau of Agricultural Economics (now ABARES)

BR S Bureau of Rural Sciences (now ABARES)

c cent (Australian)

CBA Commonwealth Bank of Australia

CIS Commonwealth of Independent States

cif cost, insurance and freight

CL Chemical Lean

CME Chicago Mercantile Exchange - Chicago Board of Trade

cw carcase weight

DA Dairy Australia

DAWR Department of Agriculture and Water Resources (now Department of Agriculture, Water and the Environment)

DFAT Department of Foreign Affairs and Trade

doi digital object identifier

DM deutschmark

ECU European currency unit

EMI Eastern Market Indicator

EU European Union

EVAO estimated value of agricultural operations

FAO Food and Agriculture Organization of the United Nations

fas free alongside ship

fob free on board

fot free on truck

GDP Gross Domestic Product

GL gigalitres (1,000,000,000 litres)

GST Goods and Services Tax

ha hectare (2.471 acres)
**Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>IGC</td>
<td>International Grains Council</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>ITC</td>
<td>International Trade Centre</td>
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<tr>
<td>kg</td>
<td>kilogram (2.20462 pounds)</td>
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<tr>
<td>kL</td>
<td>kilolitre (1,000 litres)</td>
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<tr>
<td>kt</td>
<td>kilotonne (1,000 tonnes)</td>
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<tr>
<td>L</td>
<td>litre (1.761 pints)</td>
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<tr>
<td>lb</td>
<td>pound (454 grams)</td>
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<td>na</td>
<td>not available</td>
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<tr>
<td>NAFTA</td>
<td>North American Free Trade Agreement</td>
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<td>nec</td>
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<td>nei</td>
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<td>nfd</td>
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<td>no.</td>
<td>number</td>
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<td>NT</td>
<td>Northern Territory</td>
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<tr>
<td>m</td>
<td>million (Australian)</td>
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<tr>
<td>m3</td>
<td>cubic metre (1.307 cubic yards)</td>
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<tr>
<td>ML</td>
<td>megalitre (1,000,000 litres)</td>
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<tr>
<td>MLA</td>
<td>Meat &amp; Livestock Australia</td>
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<tr>
<td>Mt</td>
<td>megatonne (1,000,000 tonnes)</td>
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<td>org</td>
<td>organisation</td>
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<tr>
<td>RBA</td>
<td>Reserve Bank of Australia</td>
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<td>Rep.</td>
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<td>sw</td>
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