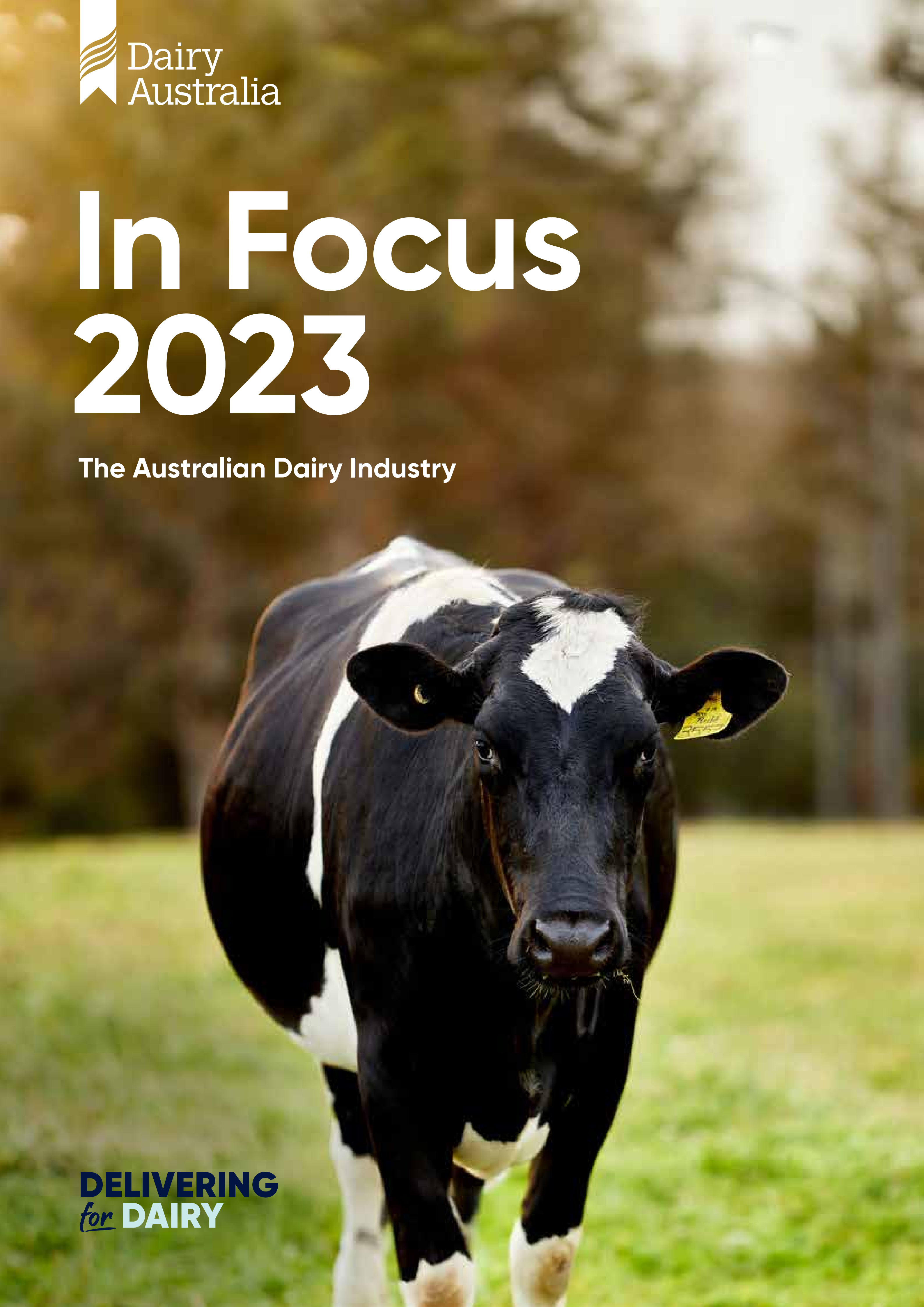
Dairy Australia

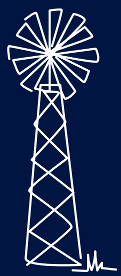
In Focus 2023

The Australian Dairy Industry



DELIVERING for DAIRY

Key facts about Australia's dairy industry



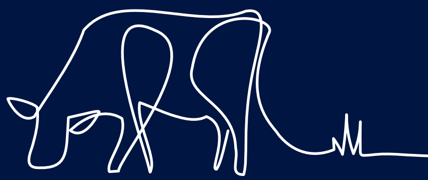
Dairy is Australia's third largest rural industry	**3rd**
Total annual milk production	**8,129** million litres
Value of farmgate production	**$6.1** billion

Annual production of main commodities

411,254 tonnes Cheese

64,871 tonnes Butter/AMF (CBE)

171,957 tonnes Milk powders



Number of dairy farms	**4,163**
Average herd size	**305** cows
Dairy industry workforce	**33,500**
Annual per capita consumption	**15** kg cheese; **90** litres of milk

Australian milk use

43% Cheese

2% Whole milk powder

30% Drinking milk

7% Other

18% Skim milk powder or butter

Milk production exported	**30%**

Major export markets

261,689 tonnes Greater China

64,933 tonnes Singapore

58,641 tonnes Japan

49,416 tonnes Indonesia

41,038 tonnes Philippines

Contents

Foreword

The dairy industry is the third largest rural industry in Australia and a key sector of the agricultural economy, generating close to A$6.1 billion in farmgate value in the 2022/23 financial year.

In this Australian Dairy Industry In Focus 2023 report, you'll find a snapshot of Australia's role in the global dairy industry, based on statistics for the 2022/23 year.

As the national service body for the Australian dairy industry, Dairy Australia is funded by a combination of levies paid by dairy farmers (calculated on the fat and protein content of milk), and matching payments from the Commonwealth Government for eligible research and development (R&D) activities.

Dairy Australia plays a key industry role in quantifying the flow of milk across Australia, which is processed into a wide range of dairy products and then sold into diverse domestic and overseas markets.

This report is made possible through the significant contributions of dairy processors that continue to provide regular data.

Key findings

The 2022/23 season saw a continuation of historically high farmgate milk prices (and high milk costs), with strong competition for milk amongst processors leading to Australian dairy farmers receiving an average of A$9.80/kg MS (US$52 per 100kg of milk). The vast majority of farmers reported that they made an operating profit, with profitability at an all-time high in some regions.

Nevertheless, milk production contracted by 5 per cent compared to the previous season. This is a significant contraction in a single year, especially with historically high farmgate milk prices. Factors that contributed to this decline include a higher cost of milk production, labour availability, land use change to beef enterprises, and dairy farmers deciding to exit the industry. In addition, there were significant flood and wet weather events that disrupted dairy farming and reduced feed quality. Widespread downgrading of both homegrown and tradeable fodder led to hay prices rising well above longer-term averages, similar to grain, fertiliser and fuel costs. As a result, Australia's national milk pool ended the season at 8,129 million litres.

Australia accounts for just over one per cent of the world's estimated milk production but remains a significant exporter of dairy products. The country currently ranks fifth in terms of world dairy trade with a 5 per cent share behind New Zealand, the European Union, United Kingdom, and the United States.

In 2022/23, 30 per cent of milk produced in Australia was exported, worth a total of A$3.7 billion. Almost 90 per cent of Australian exports were destined for Asia in 2022/23, with Greater China remaining our largest export market by volume. Measured by dollar value, our top five export markets were Greater China, Japan, Indonesia, Singapore, and Malaysia.

In terms of manufactured product, such as cheese and butter, in 2022/23, around 42% was exported, while the remaining 58 per cent was sold on the Australian market.

Dairy is considered a 'staple' category in almost all Australian households. Per capita consumption of cheese, butter and yoghurt consumption increased over 2022/23 while drinking milk fell slightly to 90 litres. This has marginally declined over recent years; however, Australia's consumption of drinking milk is high compared to other developed countries. This can be partly attributed to the expansion of the 'coffee culture' in Australia and growth in flavoured milk products.

Further information

Most statistics referred to in this report are updated monthly and available at **dairyaustralia.com.au**.

I trust you will find the Australian Dairy Industry In Focus continues to provide valuable information on one of this country's most important industries.

David Nation Managing Director

The Australian Dairy Industry

An important rural industry

The dairy industry is a major rural industry in Australia. With a farmgate value of production close to A$6.1 billion (as shown in Table 1), the dairy industry ranks third behind the red meat and wheat industries. Dairy is also a significant source of employment across regional areas, adding substantial value through further downstream processing. In 2022/23, approximately 33,500 people were directly employed on dairy farms and by dairy processing companies. Further employment connected to the industry is represented in associated transport, distribution, and farm services, as well as research and development activities. This mostly occurs close to farming areas, thereby generating significant economic activity and employment across regional Australia.

Dairying is well established across the temperate and some subtropical regions of Australia. While most of the milk is produced in South-east Australia, all states have dairy industries that supply fresh drinking milk to nearby cities and towns. Most states produce a range of high-quality consumer products, including fresh milks, custards, yoghurts, and specialty cheeses.

The manufacture of dairy commodity products for export is largely concentrated in South-eastern Australia and includes cheddar, mozzarella cheese, specialised milk powders and butterfats.

The dairy industry experienced strong growth throughout the 1990s, which eventually stalled from the early 2000s. In addition to industry deregulation, this period coincided with the severe and prolonged 'millennium drought.' Increased levels of market and margin volatility undermined confidence in the outlook for many farmers, who seek reliable returns on which to build a longer-term future. This has resulted in ongoing consolidation within both dairy farming and dairy processing.

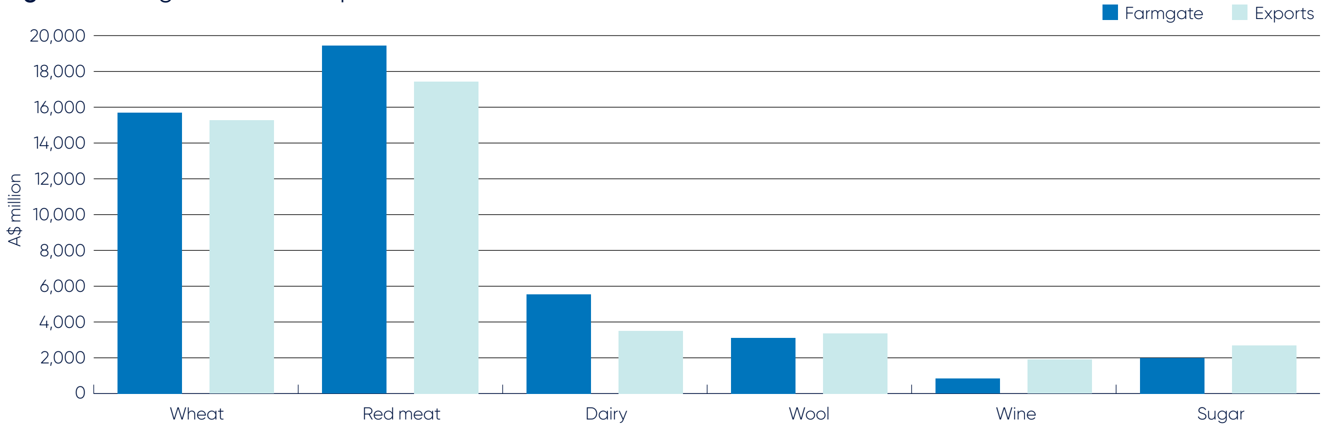
In line with long-term trends, the number of dairy farms continued to fall in 2022/23, down 6 per cent from the previous year. However, while farm numbers decreased, the average size of farms has grown with the number of large farms – and their share of milk production – increasing. There has been further consolidation among processors, with manufacturing facilities facing continued rationalisation.

Table 1 Australian dairy industry – long-term trends

At June 30	1990	2000	CAGR % 1990s	2010	CAGR % 2000s	2020	CAGR % 2010s	2023 (p)	CAGR % 2020s
Milk production (ML)	6,262	10,847	5.6	9,023	-1.8	8,797	-0.3	8,129	-2.6
Dairy cows ('000)	1,654	2,171	2.8	1,596	-3.0	1,394	-1.3	1,270	-3.1
Farm numbers	15,396	12,896	-1.8	7,511	-5.3	5,055	-3.9	4,163	-6.3
Value of farm production*($m)	3,388	4,297	2.4	3,366	-2.4	4,829	3.7	6,082	8.0
Per capita consumption (milk equivalent)	245	274	1.1	301	0.9	319	0.6	327	0.8
Export value*($m)	613	3,918	20.4	2,391	-4.8	3,378	3.5	3,707	3.2
Export share of production (%)	31	54		45		29		30	

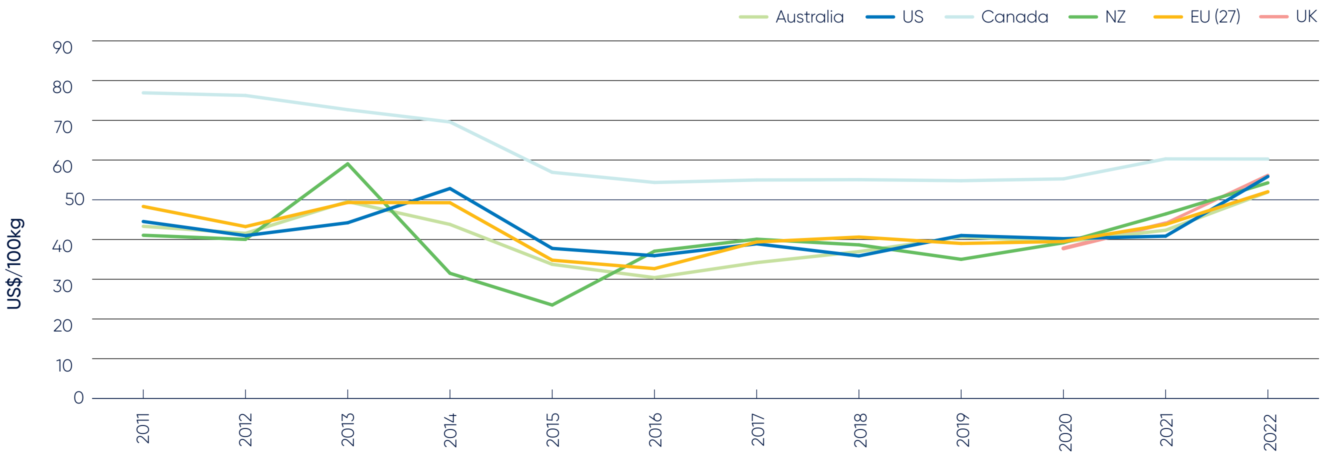
*Expressed in 2022/23 dollars.
CAGR = Compound Annual Growth Rate
Source: ABS, ADC, DA, state authorities

Figure 1 Farmgate value vs export sales value in 2022/23



Source: ABARES Australian Commodity Qtly Report (forecast)

Figure 2 International farmgate milk prices (US$/100kg)



Source: Dairy Australia

A world competitive industry

Since the dairy industry completed deregulation in 2000/01, Australian dairy farmers have operated in an open market with minimal government intervention. As a result, Australia's domestic dairy market is subject to international pressures, either through direct competition for export sales or competition from imports. International markets and events also have a major influence on Australian farmgate milk prices. While most milk produced is consumed domestically, Australia is also a major exporter and importer of dairy products (predominantly from New Zealand).

The 2022/23 season saw a continuation of historically high farmgate milk prices (and high milk costs), with strong competition for milk amongst processors leading to Australian dairy farmers receiving an average of A$9.80/kg MS (US$52 per 100kg of milk). However, across calendar year 2022, this price was below the amount paid to farmers in the United States, New Zealand, the United Kingdom, and the European Union. These indices represent milk receipts only and do not include other components of total farm income, such as decoupled government support, livestock sales or other activities.

As shown in Figure 2, the price received by farmers around the world has continued to converge. Farmgate prices now more closely reflect global dairy commodity price trends due to the removal of many market-distorting industry policies, progressive deregulation and increased global trade. While broadly tracking other producers, for example, Canada's dairy farmers operate in a highly regulated environment which determines prices, production, and imports according to a scheme known as Supply Management.

Historically, Australia has been considered a low-cost producer of dairy products; however, in recent years, farm cost structures have increased in response to the need to adapt to drier conditions. This has been demonstrated through higher expenditure on supplementary feed and temporary water allocations, particularly in Northern Victoria and Southern New South Wales. Since deregulation, local milk production has declined while the size of the domestic market has increased due to population growth. As a result, the share of milk that is exported, and Australia's share of international dairy trade, have both contracted.

Farm facts

Dairy farms are located in all states of Australia, with the majority of milk production occurring in South-eastern Australia, where the climate and natural resources are generally favourable for dairying. This allows the industry to be predominantly pasture-based, resulting in cost efficient systems producing high-quality milk. In a year of 'normal' seasonal conditions, grazed pasture covers approximately 60-65 per cent of cattle feed requirements.

While most farms are located in coastal areas where pasture growth is generally reliant on rainfall, there are also several inland dairying areas which use irrigation schemes, most notably in Northern Victoria and the New South Wales Riverina region. Dairy farm systems vary across Australia – while many farms use pasture as the herd's main feed source, the use of supplementary feed is widespread. There is a greater incidence of more intensive feeding practices observed in states such as New South Wales and Queensland, with high rates of supplementary feeding.

Over the past decade, the use of supplementary feeding has increased significantly as farmers adapt to drier conditions, and/or seek to flatten their farm's seasonal milk production profile. Supplementary feed can be purchased or homegrown, and includes grain, hay, silage and in some situations, feed byproducts.

Such changes in production systems can introduce additional input costs, price risk and management complexity, and can lead to greater variability of farm returns.

The 2023 Dairy Australia National Dairy Farmer Survey showed nearly all dairy farmers engaged in some level of supplementary feeding. Feeding moderate to high levels of concentrates is practised across all regions, with feed rates increasing slightly over this season. The national average feeding rate in 2022/23 was 1.8 tonnes per cow per year– the highest rate since the survey began capturing this data.

See Appendix 3 for detailed tables on feed prices by state dairying regions.

Since 1979/80, the number of dairy farms in Australia has been steadily declining from 21,989 farms to 4,163 in 2022/23 (refer to Table 2). The rate of decrease in farm numbers has historically followed changes in farmgate milk prices from season to season. While strong prices can slow the rate of attrition, periods of weaker farmgate milk prices and/or adverse seasonal conditions can accelerate farm exits. Land prices and the performance of other agricultural industries can also encourage farm exits, regardless of farmgate milk prices.

Table 2 Number of registered dairy farms

	NSW	Vic	Qld	SA	WA	Tas	Aust
2006/07	924	5,346	734	354	222	475	**8,055**
2007/08	886	5,422	664	332	186	463	**7,953**
2008/09	860	5,462	648	320	183	451	**7,924**
2009/10	820	5,159	621	306	165	440	**7,511**
2010/11	807	4,588	595	286	170	437	**6,883**
2011/12	778	4,556	555	275	162	444	**6,770**
2012/13	731	4,284	518	268	160	437	**6,398**
2013/14	710	4,268	475	264	156	435	**6,308**
2014/15	704	4,127	448	252	157	440	**6,128**
2015/16	690	4,141	421	246	151	430	**6,079**
2016/17	661	3,889	406	240	148	427	**5,771**
2017/18	626	3,881	393	228	159	412	**5,699**
2018/19	575	3,516	356	212	150	404	**5,213**
2019/20	534	3,462	327	206	135	391	**5,055**
2020/21	523	3,080	307	198	132	378	**4,618**
2021/22	494	2,984	280	181	116	365	**4,420**
2022/23 (p)	466	2,774	278	182	112	351	**4,163**

Source: State milk authorities and Dairy Australia

Falling farm numbers reflects a world-wide trend in agriculture. Changing business practices have encouraged a shift to larger, more intensive production systems with greater economies of scale. However, while the number of farms across Australia has declined, the average herd size continues to grow. In 1985, the average herd size was 93 cows; this has grown to 305 cows in 2022/23. There is also an emerging trend of large farm operations milking more than 700 cows. Despite the average herd size increasing over time, Australia's national herd has been declining. Increased volatility in farm cash incomes has seen many farmers participate in the export heifer trade or sell dairy cows for slaughter as an additional source of farm income. In 2022/23, strong beef and land prices, labour challenges and extreme weather events encouraged some farmers to destock or diversify their businesses, while others chose to exit the dairy industry.

See Appendix 8 for detailed tables on heifer exports.

Consequently, a smaller national herd limits total milk production, relying on increased per cow yields to maintain production volumes. Improved herd genetics, as well as advances in pasture management and supplementary feeding regimes, have increased average annual per cow yields over time.

Over the past four decades, yields have more than doubled from 2,900 litres in 1980 to 6,164 litres in 2022/23. The average yield figure varies by state and with seasonal conditions.

In Australia, the dominant dairy breed is the Holstein, accounting for around two-thirds of all dairy cows. Other important breeds include the Jersey, Holstein/Jersey cross, Brown Swiss, Ayrshire and local breeds, the Australian Red, and the Illawarra. Australian farmers have access to some of the best genetic material in the world with artificial insemination the most commonly used breeding practice on farm. Herd recording is also widely used with around half of all dairy farms regularly recording herd performance.

The genetic evaluation of dairy cattle was previously conducted by the Australian Dairy Herd Improvement Service (ADHIS). ADHIS has now been superseded by DataGene – an independent, industry-owned, not-for profit organisation that focuses on pre-competitive herd improvement. DataGene is involved in several aspects of herd improvement including genetics, herd testing, herd recording, data systems, herd test standards and evaluation. DataGene goes beyond the ADHIS in seeking to drive genetic gain and herd improvement by combining research, development, and extension within one organisation.

Table 3 Number of dairy cows ('000 head)

At 31 March	NSW	Vic	Qld	SA	WA	Tas	Aust
2006/07	210	1,150	121	114	60	140	**1,796**
2007/08	195	1,055	100	103	54	134	**1,641**
2008/09	201	1,061	107	106	52	149	**1,676**
2009/10	203	1,014	98	92	55	134	**1,596**
2010/11	195	1,010	97	90	59	138	**1,589**
2011/12	204	1,115	101	76	57	148	**1,700**
2012/13	210	1,096	96	77	62	148	**1,688**
2013/14	181	1,093	98	73	66	137	**1,647**
2014/15	177	1,147	91	68	59	147	**1,689**
2015/16	182	1,005	89	78	60	149	**1,562**
2016/17	164	975	86	71	64	160	**1,520**
2017/18	166	1,023	85	67	56	149	**1,547**
2018/19	149	898	78	72	56	175	**1,428**
2019/20	144	883	64	70	51	182	**1,394**
2020/21	159	859	69	69	53	179	**1,388**
2021/22 (r)	151	830	66	65	50	173	**1,335**
2022/23 (e)	140	780	60	65	50	175	**1,270**

From 2018/19, Tas data sourced from TDIA; From 2018/19 to 2020/21, SA data source from Dairysafe SA
Source: ABS, state milk authorities, and Dairy Australia

Farmgate milk prices

The price paid to Australian dairy farmers is based on the milkfat and protein content of the milk produced on farm. Each component is valued differently, with the protein content of milk typically worth more than milkfat. Farmgate milk prices vary between processors and payment structures from dairy companies to individual farmers can differ significantly. Milk supply agreements can provide a range of incentives for milk quality, productivity, or volume levels and for year-round milk supply. There may also be volume growth incentives in place to encourage milk supply to processing plants (to improve operating efficiencies), or loyalty incentives to guarantee supply for long periods. These all influence the final farmgate price received.

Unlike many countries around the world, the Australian government has no legislative control over the farmgate milk price. Since deregulation in 2000/01, all prices within the industry are set by market forces.

Therefore, the returns received by an individual company are affected by various factors, including market and product mix, marketing strategies, utilisation and efficiencies in factory processing capacity, and exchange rate hedging policies. Competition among processors also influences farmgate milk prices from season to season.

Implemented in 2020, the Dairy Code of Conduct stipulates that prior to the start of each season, all dairy processing companies must publicly release a minimum opening milk price by 2pm (AEST) on 1 June. In a feature that is unique to the Australian dairy industry, farmgate milk prices cannot be reduced below the minimum announced price during the season.

Australian dairy companies operate in an open and internationally competitive market. This includes free trade under the Closer Economic Relations (CER) agreement with New Zealand, a major global dairy producer. As a result, the returns local processors can achieve are influenced by global dairy commodity prices, even if they are not directly participating in export trade.

Table 4 Average annual milk production per cow (litres)

	NSW	Vic	Qld	SA	WA	Tas	Aust
1979/80	2,870	3,012	1,984	3,163	3,105	2,958	**2,848**
1989/90	3,602	3,920	3,122	3,934	4,205	3,791	**3,781**
1999/00	4,827	4,989	4,349	6,790	6,338	4,381	**4,996**
2005/06	5,039	5,221	4,076	5,791	5,369	4,581	**5,108**
2006/07	5,151	5,261	4,033	6,417	5,235	4,696	**5,182**
2007/08	5,031	5,393	4,163	5,799	5,907	4,961	**5,275**
2008/09	5,420	5,807	5,032	6,053	6,355	5,140	**5,691**
2009/10	5,329	5,518	5,052	5,907	6,641	4,640	**5,448**
2010/11	5,409	5,860	4,980	6,257	6,637	5,379	**5,758**
2011/12	5,760	6,027	5,008	6,646	5,967	5,636	**5,930**
2012/13	5,534	5,473	4,667	7,099	5,996	5,166	**5,498**
2013/14	5,542	5,639	4,640	6,896	5,443	5,578	**5,615**
2014/15	6,572	5,795	4,388	7,411	5,752	6,400	**5,917**
2015/16	6,719	5,621	4,644	7,634	6,669	5,981	**5,841**
2016/17	6,434	5,749	4,823	6,520	6,342	5,511	**5,813**
2017/18	6,949	6,058	4,670	7,195	6,199	5,805	**6,108**
2018/19	6,757	5,622	4,325	6,937	6,674	5,203	**5,723**
2019/20	7,146	6,289	4,505	7,007	6,661	5,208	**6,201**
2020/21	7,274	6,446	4,734	7,239	7,052	5,369	**6,376**
2021/22 (r)	6,831	6,416	4,382	7,212	6,519	5,112	**6,241**
2022/23 (e)	6,677	6,289	4,322	7,294	6,767	5,224	**6,164**

Source: Dairy manufacturers, ABS, state milk authorities and Dairy Australia

World dairy prices directly affect returns for the 30 per cent of Australian milk exported as butter, cheese, and milk powders, which must compete with other countries' exports. Global prices also influence the additional 41 per cent of production that goes into locally consumed manufactured dairy products, which must be competitively priced against imports. As a result, over 70 per cent of milk produced in Australia is exposed to global dairy prices, while the remainder is consumed domestically as liquid drinking milk.

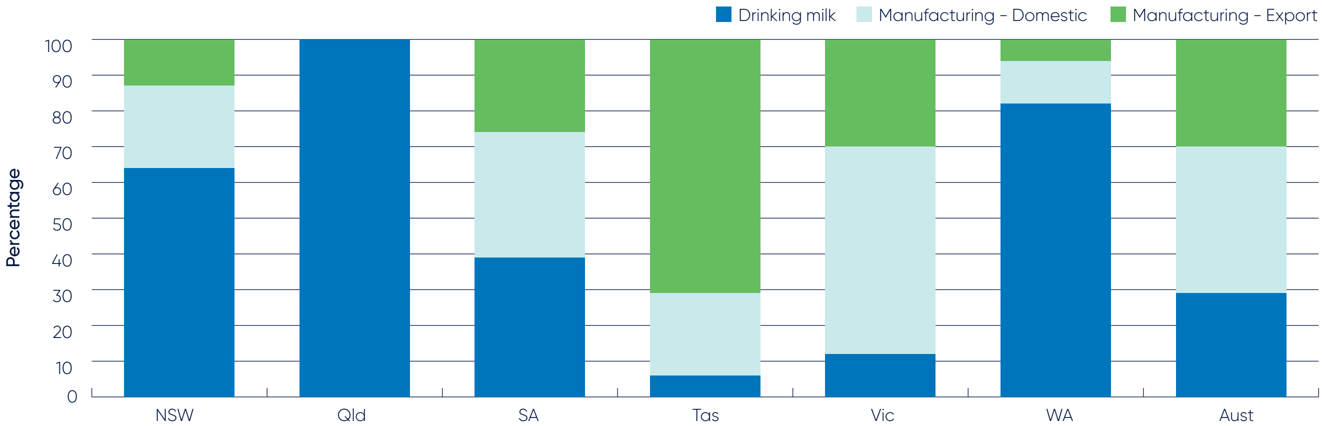
The strength of the Australian dollar on foreign exchange markets also affects farmgate milk prices. Dairy companies benefit from a 'weaker' Australian dollar, which makes exports more competitive and imports relatively more expensive, all other things being equal.

The farmgate milk price received by farmers can therefore vary significantly around Australia, depending on how milk is used in the marketplace.

As shown in Figure 3, in the northern and western dairy regions, fresh drinking milk makes up a larger proportion of the production mix. Farmers in these regions will receive farmgate milk prices tied to the drinking milk market, where a stable year-round supply is more important. Alternatively, in South-east Australia, where milk for processing (export and domestic use) accounts for most of the milk produced, the average farmgate milk price received in these regions tends to follow global markets and export returns. Most farmers in exporting regions receive a 'blended' price that incorporates returns from milk for manufacturing and the proportionately smaller local fresh drinking milk market.

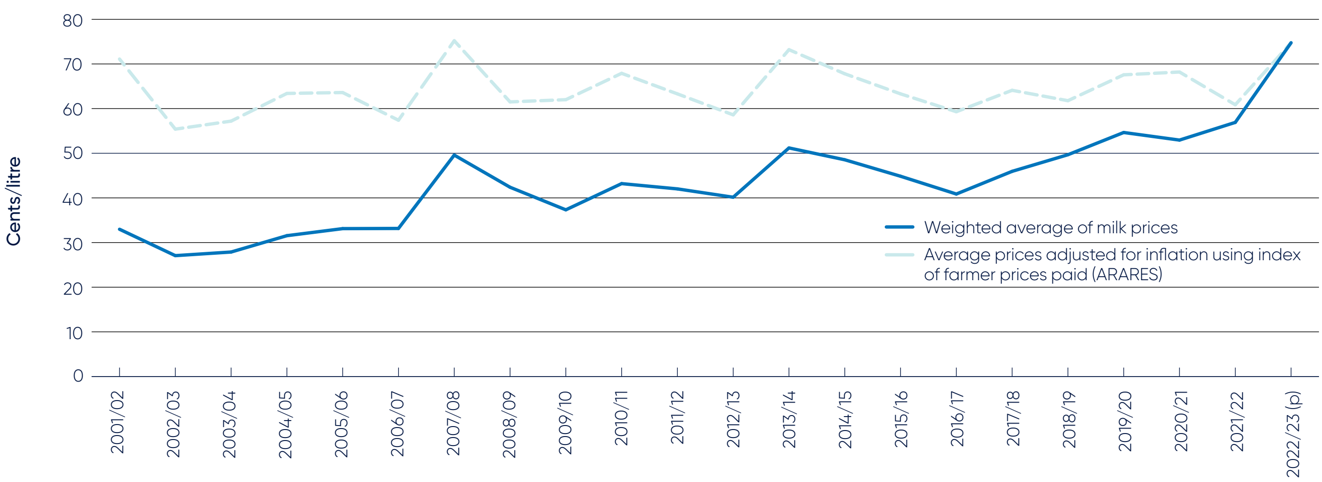
Dairy products produced in some states are often exported out of another. For instance, some product manufactured in South-east South Australia or Tasmania, is regularly exported from the port of Melbourne. As such, this can cause the percentage of milk exported from each state to fluctuate based on changes in shipping arrangements.

Figure 3 Use of Australian milk by state in 2022/23



Source: Dairy Australia

Figure 4 Factory paid milk prices



Index calculated using 2019/20 base
Source: Dairy manufacturers and ABARES

Table 5 Indicative factory paid milk prices by state

		2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
NSW	¢/litre	50.51	54.71	62.01	62.66	64.05	82.07
	$/kg milk solids	6.99	7.67	8.55	8.58	8.78	11.18
Vic	¢/litre	44.16	48.16	53.60	50.83	55.24	73.26
	$/kg milk solids	5.87	6.40	7.01	6.62	7.26	9.58
Qld	¢/litre	57.74	60.96	68.02	66.80	70.00	87.52
	$/kg milk solids	7.84	8.31	9.31	9.06	9.51	11.90
SA	¢/litre	42.91	47.18	53.64	52.89	53.66	71.93
	$/kg milk solids	6.06	6.62	7.40	7.32	7.48	9.96
WA	¢/litre	49.87	50.17	52.28	53.76	55.14	69.02
	$/kg milk solids	6.97	7.05	7.27	7.44	7.67	9.74
Tas	¢/litre	47.03	50.27	53.30	51.00	57.02	75.51
	$/kg milk solids	6.01	6.37	6.70	6.41	7.17	9.46
Aust	**¢/litre**	**45.95**	**49.67**	**54.65**	**52.95**	**56.91**	**74.75**
	$/kg milk solids	**6.14**	**6.64**	**7.19**	**6.95**	**7.52**	**9.85**

Source: Dairy manufacturers

Farm business performance

The Dairy Farm Monitor Project (DFMP) and the Queensland Dairy Accounting Scheme (QDAS) records financial and production data of participant dairy farms in all major dairying regions across Australia. The data allows for analysis of dairy farm productivity and profitability to support government and industry policy and service delivery. It also facilitates comparison and benchmarking by farmers and farm business consultants to improve farm business performance.

Participants are selected for the project in order to represent a distribution of farm sizes, herd sizes and geographical locations within each region. The results presented do not represent population averages, as the participant farms are not selected using random population sampling and may not be representative of the whole dairy industry.

DFMP began as a collaboration between Agriculture Victoria and Dairy Australia, gathering data from 75 model farms spread evenly across Victoria's three dairying regions in Gippsland, Northern and South-west Victoria.

It is currently in its 17th year. This program has since been expanded across all major dairying regions in Australia, in collaboration with local state agriculture departments and universities. Annual reports can be found on the Dairy Australia website, in the Farm Business Management section.

QDAS has been run for over 20 years by the Department of Agriculture and Fisheries, Queensland with support from Dairy Australia.

Data collected through the DFMP and QDAS is housed in DairyBase and provides the high-quality data available to generate accurate industry benchmarks. DairyBase is a web-based tool developed by Dairy Australia which enables farmers and their advisors to assess farm business performance using a consistent industry agreed methodology.

DairyBase also contains additional verified and validated datasets from farm business consultants and service providers, making it the largest and most detailed single repository of Australian dairy farm data. DairyBase is designed to facilitate comparative analysis and measurement of business performance over time and is free to use.

Table 6 Average farm working expenses by state ($/kg MS)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 (r)	2022/23 (p)
NSW	5.75	6.25	7.04	7.69	6.79	7.41	8.36
Vic	4.15	4.51	5.39	5.34	4.94	5.65	6.74
Qld	6.18	6.63	7.49	8.33	7.45	7.95	8.71
SA	5.09	4.89	5.32	5.93	5.41	6.09	7.05
WA	5.33	5.73	6.14	6.35	6.21	6.94	7.47
Tas	4.19	4.36	4.65	4.83	4.92	6.08	6.60

Source: Dairy Farm Monitor Project and Queensland Dairy Accounting Scheme

Table 7 Average Victorian regional farm working expenses ($/kg MS)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 (r)	2022/23 (p)
Eastern	3.74	4.24	5.03	4.74	4.47	5.33	6.55
Northern	4.73	4.74	6.12	6.02	5.53	5.79	7.06
Western	3.98	4.56	5.04	5.12	4.69	5.80	6.54

Source: Dairy Farm Monitor Project

Table 8 Average farm operating cash surplus by state ($/kg MS)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 (r)	2022/23 (p)
NSW	2.01	1.66	1.60	2.13	3.10	2.90	3.84
Vic	1.58	1.76	1.30	2.50	2.61	2.71	3.94
Qld	2.59	2.05	1.79	2.01	3.15	3.32	3.75
SA	1.50	1.95	1.84	2.45	3.07	2.67	3.94
WA	2.51	2.28	2.13	2.33	2.85	2.98	3.49
Tas	1.54	1.99	1.93	2.92	2.56	2.27	4.07

Source: Dairy Farm Monitor Project and Queensland Dairy Accounting Scheme

Table 9 Average Victorian regional farm operating cash surplus ($/kg MS)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Eastern	1.72	1.91	1.42	2.71	2.74	2.61	3.83
Northern	1.11	1.51	0.73	1.95	2.16	2.76	3.75
Western	1.89	1.87	1.76	2.96	3.01	2.73	4.29

Source: Dairy Farm Monitor Project

New South Wales (NSW)

The impacts of La Niña continued to be felt across the dairy regions of Australia in 2022/23, with most regions experiencing above average rainfall across spring and into early summer that significantly impacted both homegrown and purchased fodder quality. Flooding continued to have significant impacts on profitability across multiple regions, as did increased purchased feed costs. The increase in milk prices received was tempered by the increase in both variable and overhead costs across most regions.

The first half of the financial year was predominantly wet across all New South Wales's dairying regions with the continuation of the La Niña events. Given the severity of the conditions, dairies in many Local Government Areas (LGAs) became eligible for Special Disaster Grants and Transport Subsidies as a result of disaster declarations. The widespread flooding, saturated soils and cooler temperatures had significant impacts on paddock access, pasture growth rates and quality, and animal health. Consequently, many farms were heavily reliant on purchased fodder and were unable to generate their 'normal' homegrown feed reserves of hay or silage. Flooding also resulted in loss of pastures, laneways and fencing and other resources on many farms.

On the positive side, it saw high water storage levels for farm dams and regulated river systems. By autumn, the La Niña conditions had started to weaken, and drier conditions were being experienced, particularly in the North Coast, Hunter, and Far South Coast regions. The Murray/Riverina and central inland areas were still experiencing relatively good seasonal conditions at this point.

In Tasmania, the 2022/23 season started with the fifth driest July since 1900, with rainfall 51 per cent below average for the state. However, August rainfall was above average and there was some flooding in the north-east of the state, while temperatures were also above average. In September, the north-east continued to receive more rainfall than the western part of the state, which is typically wetter. In October, rainfall was more than double the monthly average across most of northern and eastern Tasmania. Severe flooding along the Mersey and Meander Rivers had a direct impact; but even for farms that weren't flooded, the very wet conditions across Northern Tasmania were challenging to manage well into November. Most dairy regions received below average rainfall in December, and, on average, it was warmer, despite a series of cold fronts in the first half of the month bringing snow to elevated areas.

Autumn rainfall was well below average for the Derwent Valley and North-west Tasmania but close to average in other regions, while autumn temperatures were close to average across the state. The season finished with a very wet June, with the rainfall total 45 per cent above the state's June average.

Seasonal conditions across many dairy regions in Southern Queensland swung from the effects of extreme wet weather in early 2022 to the rapid onset of hot and dry conditions in 2023. The effects of this sudden onset of dry weather resulted in increased purchased feed costs and a greater requirement for irrigation, with diminishing surface water reserves. The exception to this was Far-north Queensland, which experienced an unseasonal, prolonged wet season that hindered forage production across the region. All areas across the state have been affected by the increased supply and consequently decreased cattle prices.

Western Australia enjoyed higher milk prices over the 2022/23 season due to an increase in c/L price. However, this was offset by a decrease in livestock profit due to lower cattle prices. Lower than average rainfall in some areas also reduced the amount of fodder grown on farm. A lack of available housing and accommodation also restricted access to labour and wage price pressure remains a major challenge for Western Australian farmers.

The three dairy regions of Victoria all experienced seasonal challenges in 2022/23, with Northern Victoria particularly impacted by severe flooding in October 2022. These challenges resulted in the lowest average pasture harvested on the milking area on a statewide level since 2011/12. Many businesses faced the challenge of sourcing high quality fodder and grain, with increased prices impacting the profits achieved by participant farms. The extremely wet conditions in spring and the impacts of floods hindered fodder conservation and resulted in a significant increase in feed costs in Northern Victoria. While South-west Victorian participants achieved a higher average volume of homegrown feed compared to the previous season, the quality of feed produced was lower. Gippsland had mixed climatic conditions, with the Macalister Irrigation District having optimal water availability and strong growing conditions. Other areas of Gippsland faced some challenges in 2022/23, resulting in a large increase in feed costs across the season.

Farms in South Australia predominantly experienced positive seasonal conditions for dairying in 2022/23. They received above average rainfall throughout spring, resulting in above average pasture growth and fodder yields, although fodder quality was compromised.

The mild summer temperatures – combined with good carryover soil moisture from spring – meant there was strong pasture growth and reduced irrigation water usage into summer, along with a reduced reliance on supplementary fodder. Above average rainfall in April produced an early opening to the 2023 growing season and reduced the requirement for supplementary fodder feeding on many farms. However, there was an increased incidence of insect pests on farm that impacted new pasture and crops in autumn.

For a longer national time series, the annual ABARES Farm Survey estimates the financial performance of Australian dairy farms. It should be noted that there are several differences in ABARES' methodology and as a result, the series may not be directly comparable with those shown in the Dairy Farm Monitor Project.

Table 10 Average earnings before interest and tax by state ($/kg MS)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 (r)	2022/23 (p)
NSW	0.82	0.33	0.38	1.05	2.07	1.71	2.79
Vic	0.69	0.66	0.25	1.68	1.86	1.72	2.87
Qld	1.20	0.55	-0.17	-0.08	1.39	1.40	2.53
SA	0.70	1.17	1.09	1.84	2.37	1.44	2.91
WA	1.92	1.31	1.16	1.44	2.24	1.84	2.68
Tas	0.94	1.32	1.44	2.50	2.21	1.77	3.67

Source: Dairy Farm Monitor Project and Queensland Dairy Accounting Scheme

Table 11 Average Victorian regional earnings before interest and tax ($/kg MS)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 (r)	2022/23 (p)
Eastern	0.65	0.84	0.51	2.07	1.78	1.43	2.73
Northern	0.37	0.67	-0.45	1.22	1.76	1.98	2.68
Western	1.06	0.48	0.71	1.83	2.04	1.71	3.24

Source: Dairy Farm Monitor Project

Table 12 Average return on total assets by state (%)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 (r)	2022/23 (p)
NSW	2.1	1.2	0.7	2.7	4.9	3.5	6.1
Vic	2.3	2.5	0.7	5.4	5.7	4.6	7.0
Qld	3.6	1.8	0.0	0.3	3.6	3.2	5.0
SA	2.6	4.4	3.5	5.8	6.7	4.1	6.8
WA	6.5	3.8	3.2	3.9	5.5	3.9	5.7
Tas	3.6	5.1	5.2	8.7	7.1	5.2	10.0

Source: Dairy Farm Monitor Project and Queensland Dairy Accounting Scheme

Table 13 Average Victorian regional return on total assets (%)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Eastern	2.1	3.0	1.7	6.6	5.4	4.2	6.9
Northern	1.0	2.6	-1.7	4.1	6.0	5.6	7.2
Western	3.9	1.9	2.3	5.8	5.5	3.9	6.7

Source: Dairy Farm Monitor Project

Milk production

While farm numbers in Australia have steadily decreased, average farm size has grown. This had led to an increase in cow numbers and improved cow yields, until the major widespread 'millennium drought' in 2002/03. The next decade was a period of consolidation for the industry, with falling cow numbers and dry seasonal conditions constraining production. This was especially the case in Northern Victoria, where reduced availability of irrigation water saw prices rise significantly.

In recent years, volatility in farmgate milk prices and farm incomes have impacted farmer confidence and the industry's ability to grow. The disruption caused by the late season step-downs in 2015/16, lower average milk prices and challenging seasonal conditions in the subsequent years, shifted the focus of many farmers. Their priority transitioned from longer-term investments and increasing milk production, to cost control, refinancing and business consolidation. In many cases, farmers culled extensively during these years, taking advantage of higher beef prices to maintain cashflow.

In 2022/23, milk production contracted by 5 per cent compared to the previous season. This is a significant contraction in a single year, especially with historically high farmgate milk prices. Factors that contributed to this decline include a higher cost of milk production, labour availability, land use change to beef enterprises, and dairy farmers deciding to exit the industry. In addition, there were significant flood and wet weather events that disrupted dairy farming and reduced feed quality. Widespread downgrading of both homegrown and tradeable fodder led to hay prices rising well above longer-term averages, similar to grain, fertiliser and fuel costs. Nonetheless, due to the record farmgate milk prices offered, the vast majority of farmers reported that they made an operating profit - with profitability at an all time high in some regions. As a result, Australia's national milk pool ended the season at 8,129 million litres.

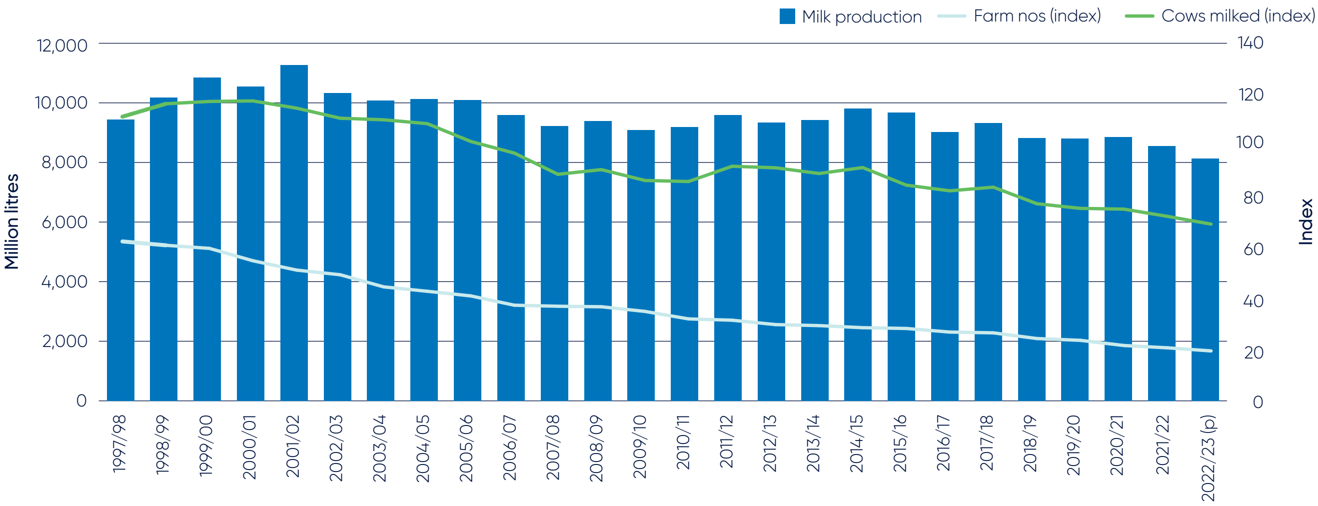
As Figure 5 indicates, the underlying trend has continued towards fewer farms, larger herds and increasing levels of milk production per farm.

Table 14 Milk production by state (million litres)

	NSW	Vic	Qld	SA	WA	Tas	Aust
2006/07	1,104	6,297	537	655	349	641	**9,583**
2007/08	1,048	6,102	486	606	319	661	**9,223**
2008/09	1,064	6,135	513	628	340	709	**9,388**
2009/10	1,099	5,813	530	605	359	677	**9,084**
2010/11	1,087	5,936	487	572	372	726	**9,180**
2011/12	1,136	6,246	491	575	349	792	**9,589**
2012/13	1,137	6,076	465	542	349	765	**9,334**
2013/14	1,124	6,174	446	525	342	810	**9,421**
2014/15	1,184	6,411	422	530	367	891	**9,805**
2015/16	1,198	6,249	421	538	392	883	**9,681**
2016/17	1,141	5,732	425	497	385	836	**9,016**
2017/18	1,144	5,979	399	505	385	913	**9,325**
2018/19	1,094	5,576	359	497	374	910	**8,810**
2019/20	1,054	5,625	315	489	364	950	**8,797**
2020/21	1,075	5,651	309	500	362	961	**8,858**
2021/22	1,072	5,465	299	490	341	887	**8,554**
2022/23 (p)	990	5,141	279	474	338	907	**8,129**

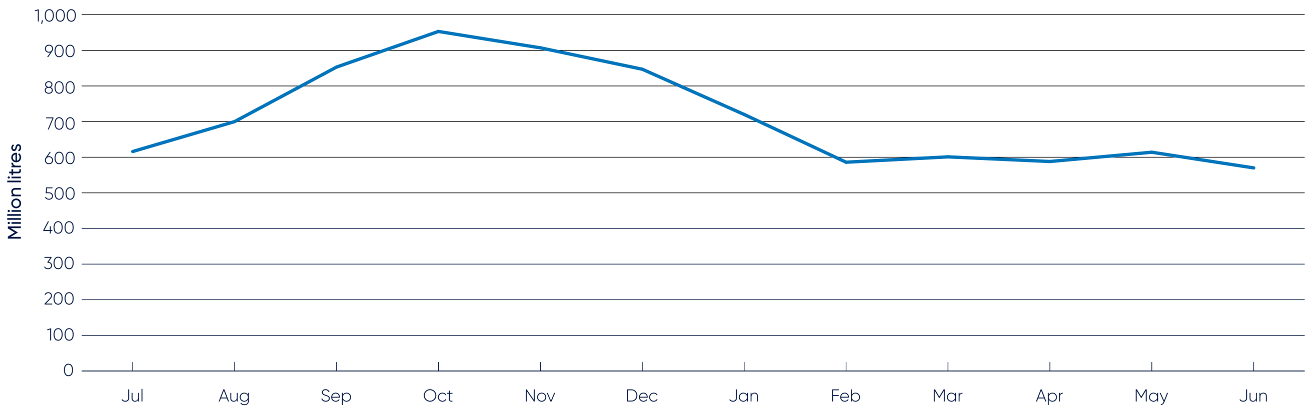
Source: Dairy manufacturers

Figure 5 Australian milk production vs indices of farms and cows milked



Source: Dairy manufacturers, ABS, state authorities and Dairy Australia

Figure 6 Seasonality of milk production in Australia in 2022/23



Source: Dairy manufacturers

As shown in Table 14, dairy farming is concentrated in the temperate zone of Australia. Australian milk production remains strongly seasonal in key south-eastern dairying regions, reflecting the predominantly pasture-based nature of the industry. Milk production peaks in October, tapers off until late summer, and then flattens out into the cooler winter months (as illustrated in Figure 6). The production of long shelf-life manufactured products in these parts of the country has enabled maximum milk utilisation within the seasonal cycle. However, the seasonality of milk output in Queensland, New South Wales and Western Australia is much less pronounced, due to a greater focus on drinking milk and fresh products. Farmers in these states manage calving and feed systems to ensure flatter, year-round milk production.

See Appendix 4 for more details on the seasonality of milk production by state dairying regions.

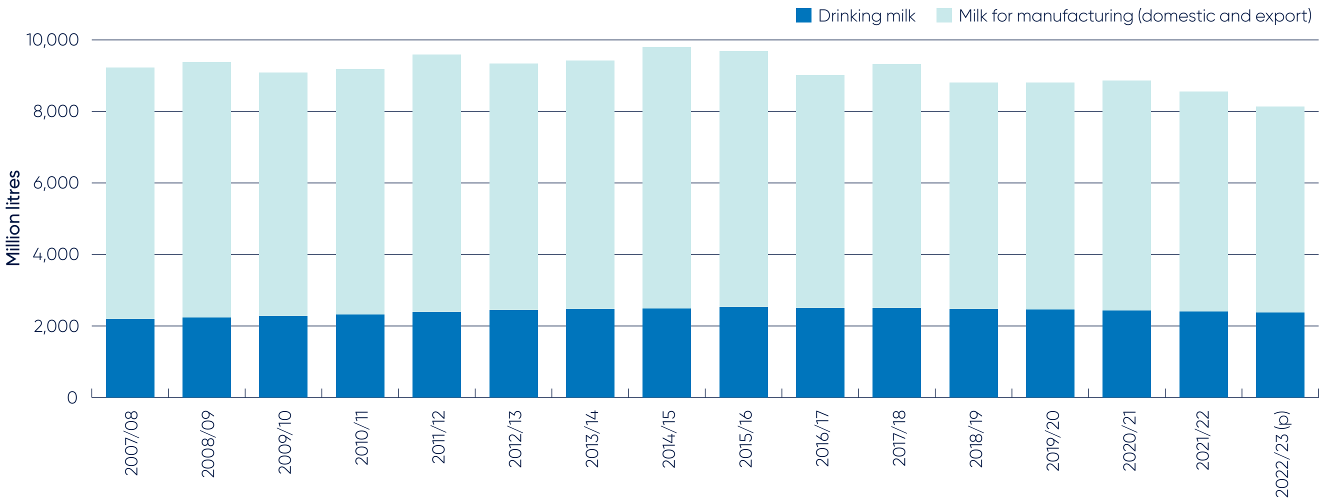
Solids such as milkfat, protein, lactose, and minerals are the core constituents of cows' milk, with water comprising about 87 per cent of the volume. Companies base their farmgate milk prices on the milkfat and protein components of the milk.

Milk composition can vary between regions and seasons, as shown in Table 15. This can be due to several factors, including cow breed, age, nutrition, and feed quality.

With ongoing population growth since 2001/02, the proportion of milk destined for domestic consumption, as either drinking milk or manufactured products (e.g., cheese and butter), has increased. In 2022/23, 29 per cent of Australia's production was used for domestic drinking milk, compared to 18 per cent in 2001/02. About 41 per cent of milk produced in 2022/23 was used for domestically consumed manufactured products, up from 26 per cent in 2001/02.

Conversely, the proportion of milk available for export, as manufactured product, has declined from 56 per cent in 2001/02 to 30 per cent in 2022/23. Over recent years, Australia's imports of dairy products for local consumption have increased. This has enabled the Australian dairy industry to continue to export a significant share of its milk production, despite having a larger domestic market and a smaller milk pool.

Figure 7 Drinking and manufacturing milk production



Source: Dairy manufacturers

Table 15 Average fat/protein composition by state (%)

	NSW	Vic	Qld	SA	WA	Tas	Aust
Milkfat							
2011/12	3.90	4.08	4.00	3.85	3.86	4.25	4.05
2012/13	3.92	4.12	4.02	3.81	3.87	4.32	4.08
2013/14	3.91	4.10	3.98	3.80	3.88	4.30	4.07
2014/15	3.93	4.15	4.01	3.77	3.89	4.35	4.11
2015/16	3.92	4.12	4.00	3.77	3.92	4.30	4.08
2016/17	3.91	4.13	4.00	3.84	3.92	4.34	4.10
2017/18	3.93	4.12	4.05	3.80	3.91	4.31	4.09
2018/19	3.89	4.12	4.05	3.84	3.90	4.39	4.10
2019/20	3.95	4.18	4.01	3.90	3.91	4.37	4.15
2020/21	3.99	4.24	4.03	3.88	3.92	4.41	4.19
2021/22	4.00	4.21	4.04	3.85	3.96	4.40	4.17
2022/23 (p)	4.01	4.21	4.04	3.88	3.94	4.40	4.17
Protein							
2011/12	3.28	3.36	3.31	3.27	3.16	3.44	3.34
2012/13	3.27	3.36	3.29	3.26	3.20	3.47	3.35
2013/14	3.28	3.39	3.29	3.27	3.18	3.47	3.37
2014/15	3.29	3.40	3.32	3.29	3.22	3.49	3.38
2015/16	3.29	3.40	3.32	3.28	3.23	3.48	3.38
2016/17	3.28	3.41	3.30	3.31	3.24	3.50	3.39
2017/18	3.30	3.41	3.31	3.28	3.24	3.51	3.39
2018/19	3.25	3.40	3.29	3.29	3.22	3.50	3.38
2019/20	3.30	3.47	3.30	3.35	3.28	3.58	3.45
2020/21	3.31	3.44	3.35	3.34	3.31	3.55	3.43
2021/22	3.29	3.40	3.32	3.33	3.23	3.55	3.40
2022/23 (p)	3.33	3.44	3.32	3.35	3.15	3.58	3.42

Source: Dairy manufacturers

Dairy manufacturing

Farmer-owned cooperatives no longer dominate the Australian industry, with a wide range of companies now operating including national and multinational companies, both privately owned and publicly listed. Some large multinational companies have been established within the industry for many years, including Fonterra (New Zealand), Lactalis (France) and Saputo (Canada).

Over the past two decades, Australia's contracting milk pool has reduced the need for local dairy companies to invest in processing capacity. Nevertheless, there have been several new developments throughout 2022/23. The age of existing plants and the need to rationalise production have seen some processors close plants to reduce costs. Others have chosen to increase capacity at remaining sites or upgrade plants to produce higher specification products.

During 2022/23, there were some acquisitions and developments in Australian dairy processing.

- September 2022: Fonterra expanded their cheese processing capacity at its Tullamarine (VIC) site.
- October 2022: After initially announcing the closure of Norco's ice cream plant due to flood damage, the co-op announced that it will rebuild the Lismore (NSW) ice cream factory, with some government assistance.
- November 2022: Saputo Dairy Australia announced closure of its Maffra factory in Gippsland (VIC), as well as the shutdown of its bulk powders production site in Leongatha and cheese packaging at Mil-Lel in South Australia.
- November 2022: ProviCo invested $20 million to revive and expand its Dennington lactoferrin factory in South-west Victoria.
- February 2023: Saputo Dairy Australia announce $20 million investment at its Smithton plant in Tasmania – with the money being spent on infrastructure for cream cheese processing that was previously done at its Maffra factory in Victoria.
- February 2023: Bega Cheese announce closure of Capitol Chilled Foods (ACT).
- April 2023: Coles supermarket initiated a deal with Saputo Dairy Australia to acquire two milk processing plants in Laverton (Melbourne) and Erskine Park (Sydney). This deal remains subject to approval by the Australian Competition and Consumer Commission (ACCC).
- June 2023: Country Valley milk factory in Picton, New South Wales closed.

In 2022/23:

42% **manufactured product*, such as cheese and butter, was exported.**

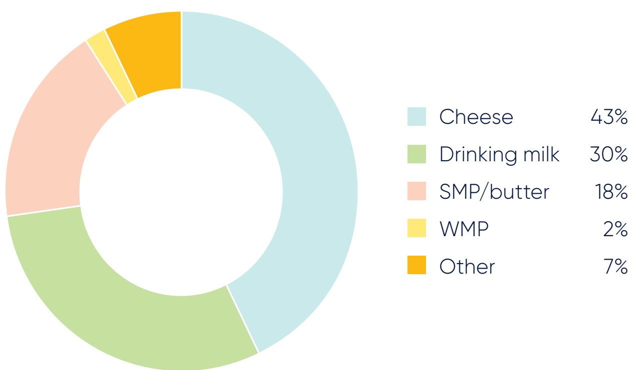
58% **manufactured product* sold on the Australian market.**

* in milk equivalent terms

This contrasts with drinking milk, where most was consumed domestically.

Cheese is consistently the largest utiliser of milk, accounting for 43 per cent of Australia's milk production in 2022/23. Investments in cheese production over recent years suggest this is likely to remain the case in future. Drinking milk and skim milk powder/butter represent the next two largest production streams, accounting for 30 per cent and 18 per cent of Australian milk respectively.

Figure 8 Australian milk utilisation in 2022/23



Source: Dairy Australia

Dairy markets

In Australia, milk production exceeds the volume required for domestic consumption, with surplus product therefore destined for export markets. As illustrated in Figure 9, the share of total production destined for export has declined from around 50 per cent two decades ago, to approximately one-third in recent years. In 2022/23, Australia exported 30 per cent of milk produced. The share of milk exported has contracted due to population growth and an overall decline in milk production.

Australia accounts for just over 1 per cent of the world's estimated milk production but remains a significant exporter of dairy products. The country currently ranks fifth in terms of world dairy trade with a 5 per cent share behind New Zealand, the European Union, United Kingdom, and the United States.

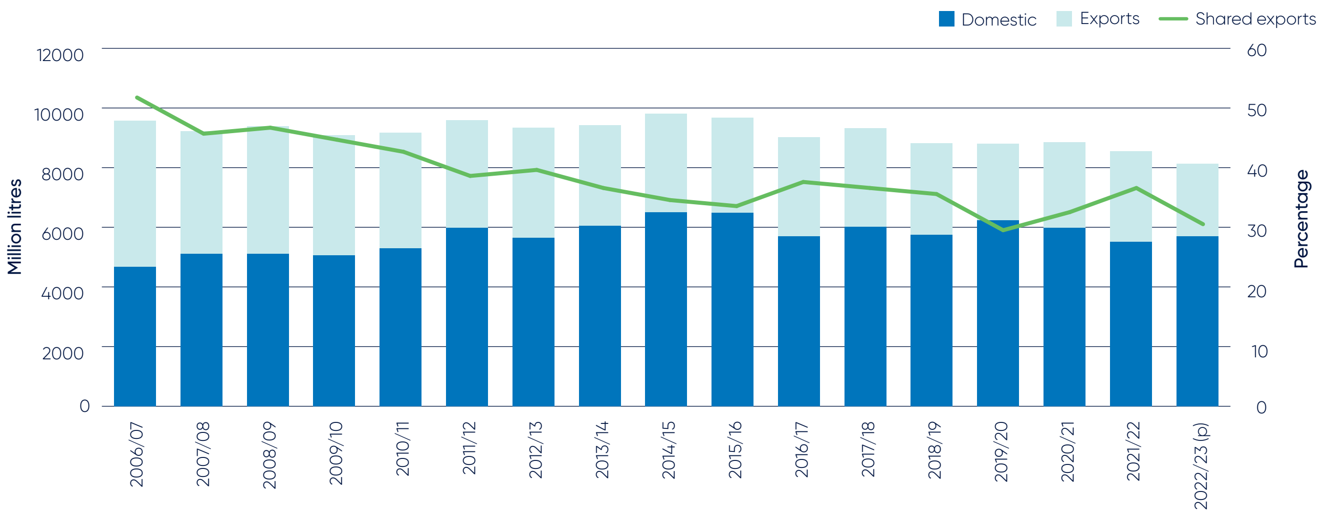
For a number of years, Greater China (including China, Hong Kong and Macau) has been Australia's largest market and a destination for about 37 per cent of exports by volume. While Greater China remains one of Australia's fastest growing export markets by volume, other large export destinations include Singapore, Japan, Indonesia, and the Philippines. As a mature, high-value market with long established business relationships, Japan is a vital trade partner for Australian exporters. Almost 90 per cent of Australian exports in 2022/23 were destined for Asia.

In 2022/23, Australia's total exports were valued at A$3.7 billion. Measured by dollar value, the top five export markets were Greater China, Japan, Indonesia, Singapore, and Malaysia. This order differs slightly from export rankings by volume, highlighting the differences in value for various dairy products imported.

The concentration of Australian exports to Asia reflects the geographical proximity to these markets, and the extent to which Australia has been hindered from accessing other major markets by direct restrictions (as in the case of the European Union). Increased competition in key importing markets has also played a role in creating this concentration. Asian markets hold considerable potential for consumption growth as incomes rise and diets become more 'westernised'. Australian dairy companies also have proven track records in supplying these markets over several decades.

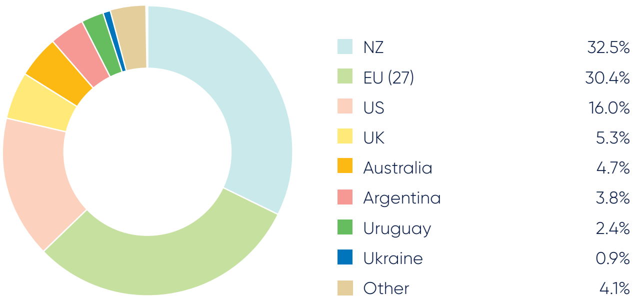
See Appendix 8 for detailed tables of Australia's export markets.

Figure 9 Australian production and exports (milk equivalents)



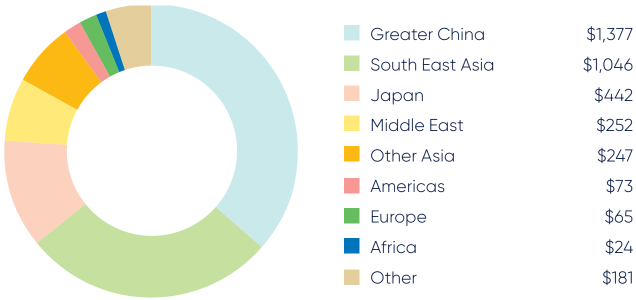
Source: Dairy manufacturers and ABS

Figure 10 Exporters' share of world dairy trade in 2022 (milk equivalents)



Source: Dairy Australia

Figure 11 Australian exports by region in 2022/23 (A$ million)



Source: ABS

Table 16 Australian dairy exports by product by region 2022/23 ($A million)

	SE Asia	Other Asia	Europe	Middle East	Africa	Americas	Other	Total
Butter/AMF	50	29	1	0	2	2	4	88
Cheese	247	627	1	41	16	32	35	998
Milk	118	185	0	1	1	0	27	331
SMP	239	464	0	60	1	0	8	772
WMP*	126	332	0	94	1	20	6	579
Other	267	430	63	55	3	19	101	939
Total	**1,046**	**2,067**	**65**	**252**	**24**	**73**	**181**	**3,707**

*Also includes infant powder.
Other includes buttermilk powder, casein, condensed milk, ice cream, lactose, whey powder, yoghurt and mixtures.
Source: ABS

Table 17 Top 10 Australian export destinations in 2022/23

Country	Volume (tonnes)	% of total	Country	Value (A$ million)	% of total
Greater China*	261,689	37	Greater China*	1,377	37
Singapore	64,933	9	Japan	442	12
Japan	58,641	8	Indonesia	303	8
Indonesia	49,416	7	Singapore	181	5
Philippines	41,038	6	Malaysia	168	5
Malaysia	40,871	6	United Arab Emirates	147	4
United Arab Emirates	27,523	4	Thailand	143	4
Thailand	23,608	3	Philippines	134	4
Vietnam	20,087	3	New Zealand	120	3
New Zealand	18,804	3	Korea, South	119	3

*Includes China, Hong Kong and Macau
Source: Dairy Australia and ABS

Australian consumption of dairy products

Dairy is considered a 'staple' food in many Australian households. Consumption trends have varied quite significantly over the past two decades, reflecting changes in tastes in response to multicultural influences on food trends; health perceptions around dairy products; and flavour and packaging innovations. In Australia, the main consumer dairy products are drinking milk, cheese, yoghurt, and butter/butter blends.

Currently, per capita consumption of drinking milk is estimated at 90 litres. This has marginally declined over recent years, however, in comparison to other developed countries, Australia's consumption of drinking milk remains high. Fresh milk remains the most popular variety among consumers, despite the popularity growth of UHT milk during the COVID-19 pandemic years.

Annual per capita consumption of cheese in Australia was about 15kg in 2022/23. While cheddar types remain the most popular variety of cheese, non-cheddar cheese varieties available in Australia have increased. These varieties have grown in popularity due to rising demand for mozzarella cheese in the foodservice sector and retail stores, as well as growth in specialist cheese varieties.

Combining convenience and health attributes, yoghurt is a healthy snack for consumers with a growing per capita consumption estimated at 9.7kg in 2022/23.

Consumer preferences have shifted in line with a heightened focus on natural and healthy products, and increased awareness of the health risks of sugar. As a result, consumers have transitioned away from sweetened and flavoured yoghurt varieties, towards Greek and natural style yoghurts.

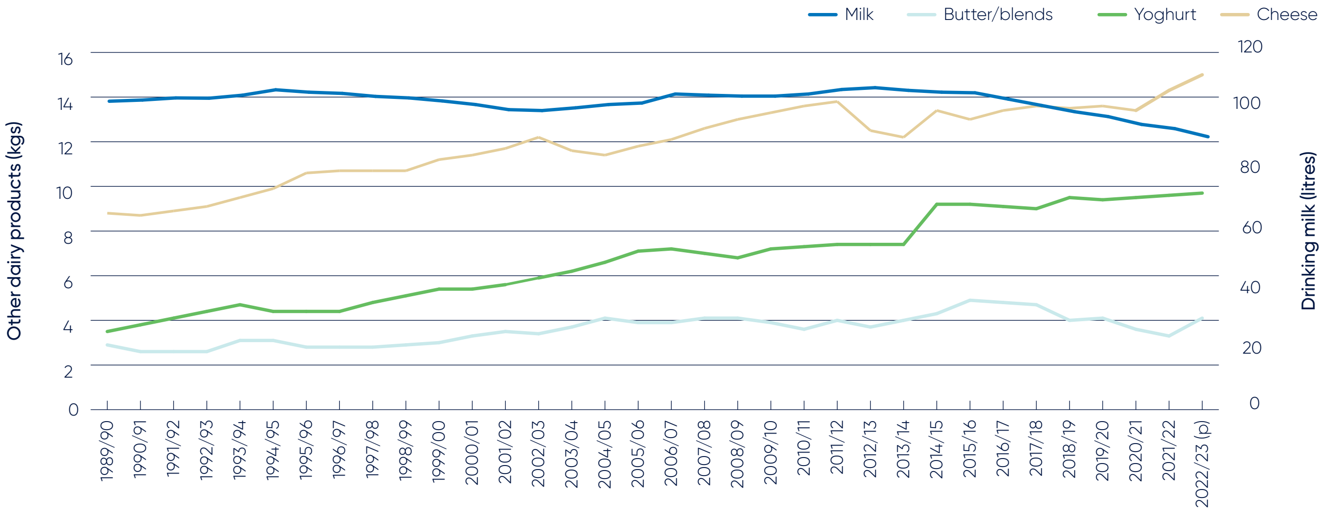
In 2022/23, per capita consumption of butter in Australia was approximately 4.1kg. Australian consumers are attracted to the natural characteristics of butter, along with its superior taste and cooking functionality. Sales of this product are also underpinned by findings in health and nutritional science, changing consumer perception of health risks associated with saturated fats and butter.

Table 18 Per capita consumption of major dairy products

	Milk (l)	Cheese (kg)	Butter/ blends (kg)	Yoghurt (kg)
2018/19	98.6	13.5	4.0	9.5
2019/20	97.0	13.6	4.1	9.4
2020/21	94.4	13.4	3.6	9.5
2021/22 (r)	93.0	14.3	3.3	9.6
2022/23 (p)	90.3	15.0	4.1	9.7

Source: Dairy manufacturers and Dairy Australia

Figure 12 Per capita consumption



Source: Dairy manufacturers and Dairy Australia

Drinking milk

Drinking milk is a staple item in almost all Australian households. It is widely consumed, convenient and versatile and contains a valuable package of protein, vitamins, and minerals.

Australian consumers overwhelmingly prefer fresh, pasteurised milk (heated to 74 degrees for 15 seconds). This preference for fresh milk generally requires dairy farming close to major population centres and extensive cold-chain logistics to provide reliable, year-round fresh milk. While fresh milk accounts for the vast majority of milk sales in Australia, the share of supermarket sales by volume for UHT milk (heated to 140 degrees for two seconds) has increased over the past two decades. This was further accelerated by the COVID-19 pandemic and associated panic buying, due to its longer shelf-life.

Regular or full cream milk has a milkfat content of 3.4 to 3.6 per cent, while low-fat and skim milks are modified to contain less than 1.5 and 0.15 per cent milkfat respectively. The cream removed during modification can be bottled as table cream or manufactured into butter and other dairy products. As the composition of milk produced changes through the course of a season, most milk is standardised to ensure a consistent taste and nutritional profile all year-round. Drinking milk generally undergoes further processing in the form of homogenisation, which disperses the fat equally throughout the milk, rather than allowing it to separate at the top.

The share of fresh white full cream milk as a percentage of the total fresh white milk market has increased over time, as sales volumes of low-fat and skim milks have declined. While white milk (unflavoured) still accounts for most of drinking milk sold, sales of flavoured milk have also grown.

Flavoured milk is an important source of revenue for the industry due to its higher unit prices. Sales of this milk variety remain distinctly regional, with strong local brands and varying consumption patterns. South Australia has historically consumed between two and three times the national average of flavoured milk, with much flatter year-round demand. Demand in states such as Victoria tends to be seasonal.

There are several major players in the Australian drinking milk market. The two largest are Bega Cheese and Lactalis Australia. Fonterra Australia and Saputo Dairy Australia both entered the drinking milk market after 2011, securing major supermarket private label contracts in Victoria and New South Wales. Some major retailers also directly source milk for private label supermarket sales. Brownes (Western Australia) and Norco (Queensland and northern New South Wales) have more localised distribution.

See Appendix 7 for more details of supermarket milk sales and average prices.

Historically, Australia only exported relatively small volumes of liquid milk. However, in recent years, export volumes have grown significantly. After growing over the last five years, in 2022/23 Australian exports of liquid milk fell 16 per cent, totalling close to 238 million litres. This product was predominantly UHT. Almost 95 per cent of the total volume was exported to Asia, with the remainder going towards the island countries of the Pacific and some markets in the Middle East and Africa.

See Appendix 8 for more details of drinking milk exports.

Table 19 Drinking milk sales by type (million litres)

	Regular	Reduced	No fat	Flavoured	UHT	Total
1989/90	1,257	322		111	40	**1,730**
1999/00	1,099	498		173	164	**1,933**
2009/10 (r)	1,133	590	117	215	211	**2,267**
2010/11 (r)	1,140	630	109	227	208	**2,314**
2011/12 (r)	1,160	677	104	236	208	**2,385**
2012/13 (r)	1,171	689	100	240	243	**2,443**
2013/14 (r)	1,192	688	93	241	250	**2,464**
2014/15 (r)	1,244	656	88	241	257	**2,486**
2015/16 (r)	1,311	615	80	246	266	**2,518**
2016/17 (r)	1,362	563	71	246	256	**2,498**
2017/18 (r)	1,398	536	64	242	251	**2,491**
2018/19 (r)	1,408	518	60	233	248	**2,467**
2019/20 (r)	1,396	512	69	227	256	**2,460**
2020/21 (r)	1,368	497	63	234	259	**2,421**
2021/22 (r)	1,340	485	61	232	276	**2,394**
2022/23 (p)	1,348	465	60	235	265	**2,373**

(Dairy Australia estimates that this collection covers over 95% of milk sales)
Source: Milk processors and state milk authorities

Table 20 Drinking milk sales by state (million litres)

	NSW	Vic	Qld	SA	WA	Tas	Aust
1979/80	531	437	249	127	119	41	**1,504**
1989/90	582	449	316	150	164	47	**1,730**
1999/00	597	440	383	185	190	48	**1,933**
2009/10 (r)	708	545	497	213	247	57	**2,267**
2010/11 (r)	714	566	501	213	262	58	**2,314**
2011/12 (r)	720	582	531	220	274	58	**2,385**
2012/13 (r)	718	600	562	222	280	61	**2,443**
2013/14 (r)	710	612	583	221	279	59	**2,464**
2014/15 (r)	714	624	581	221	285	61	**2,486**
2015/16 (r)	731	636	583	222	285	61	**2,518**
2016/17 (r)	719	632	578	226	283	60	**2,498**
2017/18 (r)	718	626	583	223	281	60	**2,491**
2018/19 (r)	706	634	576	217	276	58	**2,467**
2019/20 (r)	689	649	575	215	277	55	**2,460**
2020/21 (r)	680	621	573	212	280	55	**2,421**
2021/22 (r)	664	612	573	213	279	53	**2,394**
2022/23 (p)	654	609	570	212	275	53	**2,373**

(Dairy Australia estimates that this collection covers over 95% of milk sales)
State figures exclude interstate traded milk prior to 2001, NSW includes ACT after June 2000.
Source: Milk processors and state milk authorities

Cheese

In 2022/23, Australia produced approximately 411,000 tonnes of cheese – close to the production volumes of the early to mid-2000s. In recent years, dairy companies have adjusted export mixes to take advantage of favourable movement in international commodity prices, which significantly impacts production volumes. This can lead to increased cheese production as international price trends can make it an attractive revenue stream (as has been the case for the past few years).

Cheese is a major product for the Australian dairy industry, utilising more than one-third of Australian milk. Cheddar cheeses have historically held the majority share of total cheese production, however, there has been a long-term production trend away from cheddar varieties towards non-cheddar cheese types. As such, the non-cheddar share of total production volumes has increased from 30 per cent three decades ago, to 49 per cent in 2022/23.

+19%(pp) **non-cheddar share of cheese produced (over three decades).**

The trend away from cheddar cheeses towards non-cheddar cheese types is also evident in Australia's cheese exports. The non-cheddar share of total export sales has increased steadily from around 60 per cent two decades ago, to around 87 per cent in 2022/23.

Australia exported approximately 128,000 tonnes of cheese to just over 60 different countries in 2022/23, worth close to A$997 million.

Japan continues to be Australia's most important overseas market for cheese, accounting for around 42 per cent of cheese exported in 2022/23. This product is mostly fresh or cream cheese varieties, used for processing. Other important overseas markets include Greater China, Malaysia, South Korea, the Philippines, Singapore, and Thailand.

Australia is also a major importer of cheese. Over the past 10 years, imports have grown almost 44 per cent. Imports from New Zealand and the United States totalled close to 43,000 tonnes and 34,000 tonnes respectively, with the European Union accounting for the balance.

Table 21 Australian cheese production by type of cheese (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Cheddar	202,032	191,852	189,244	170,043	215,292	208,053
Semi hard	60,511	61,815	62,030	82,716	75,522	88,811
Hard grating	4,022	8,417	10,006	15,366	19,267	20,582
Fresh	103,510	104,586	90,138	91,717	94,927	91,032
Mould	7,652	7,628	6,775	6,795	3,238	2,776
Total cheese	**377,727**	**374,298**	**358,192**	**366,638**	**408,246**	**411,254**

(Dairy Australia estimates that this collection covers over 90% of cheese production)
Source: Dairy manufacturers

Butter

In 2022/23, Australia produced over 64,000 tonnes of butter and anhydrous milkfat (AMF) in commercial butter equivalent terms (CBE). AMF (commonly known as butter oil) is butter with the water removed, similar to ghee. When manufacturing butter, skim milk powder is created as a coproduct, using the solids non-fat components of the milk. It is primarily produced for export and domestic food manufacturing applications, such as bakery and confectionery. While these sectors all utilise butter, most domestic butter sales are through retail and foodservice outlets.

In 2022/23, around 64 per cent of domestic dairy spread sales were through supermarkets. Since the COVID-19 pandemic, sales through grocery outlets have held a significantly larger share compared to foodservice. However, volumes sold through supermarkets have also declined. Retail prices increased substantially over 2022/23, due to high inflation.

Butter imports accounted for just over 40 per cent of the Australian butter market by volume in 2022/23. Of the 50,000 tonnes of butter and AMF imported into Australia, 90 per cent was from New Zealand, while the remaining product was sourced from various European countries and the United States.

Australian exports of butter and AMF can vary significantly from year to year, depending on milk availability during the season and how local dairy companies respond to international prices for competing products.

In 2022/23, export volumes of butter and AMF fell 55 per cent to around 10,300 tonnes. Out of 38 countries, Australia's most important overseas markets for butter and AMF were South Korea, Greater China, Singapore, and Malaysia.

See Appendix 8 for more details of butter and AMF exports.

Table 22 Butter and AMF production (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Butter/butter blends (CBE)	79,749	61,177	63,567	69,227	58,559	53,683
AMF (CBE)	13,570	12,270	9,601	12,477	14,460	11,188

(Dairy Australia estimates that this collection covers over 85% of butter/AMF production)
Source: Dairy manufacturers

Table 23 Australian exports of butter and AMF (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Butter/butter blends (CBE)	9,721	13,182	8,044	17,478	15,824	5,983
AMF (CBE)	6,354	8,089	3,809	7,201	6,723	4,832

Source: ABS

Other fresh and frozen dairy products

Australian manufacturers produce a range of fresh dairy products, including yoghurts, dairy desserts, chilled custards and creams, and frozen products such as ice-cream.

Over the past two decades, yoghurt production has grown considerably. The product category's ability to meet rising consumer preferences for convenient, yet healthy snacks has been advantageous in an environment of time-poor lifestyles. Growth in yoghurt sales has also been underpinned by regular product innovation, particularly in areas such as packaging, flavour combinations and the use of probiotic cultures. New products, such as drinking yoghurts and single snack servings in convenience outlets, have also helped drive growth.

Yoghurt sales strengthened from the initial COVID-19 outbreak, as consumers looked for healthy products and purchased more for cooking and baking at home. Featuring international brands, such as Ski, Yoplait and Chobani, there is an ongoing trend away from sweetened and flavoured varieties in the yoghurt market. Traditional, unflavoured types, such as Greek-style yoghurt, are perceived to be healthier and more 'natural' to health-conscious consumers. This shift in perception has strengthened sales of unflavoured, traditional type yoghurts, overtaking sweetened and flavoured yoghurts as the most sold product.

Dairy desserts are a low volume and high value dairy category, including products such as mousses, crème caramels and fromage frais. Marketed as an indulgence or treat item, these products are generally targeted to adult consumers however, fromage frais and flavoured custards are examples of children's products which often feature popular cartoon characters on-pack.

As a traditional favourite, chilled custard sales have marginally increased in recent years, as manufacturers expand their product offerings. This includes branching out into new flavours and small, snack-sized, single serve plastic cups sold in multi-packs.

Despite cream sales falling five per cent in 2022/23, the product remains an important fresh dairy product widely used in cooking. Regular and sour creams are used extensively as accompaniments or ingredients and similar to butter, consumers remain interested in cream's superior taste and cooking functionality, relative to plant-based substitutes.

See Appendix 6 for more details on cream, custard and dairy dessert sales.

Milk powders

Australian manufacturers produce a wide range of milk powders. The technology used in the production and utilisation of powders, has allowed the range of specifications available from Australian manufacturers to expand in line with customer needs.

Up to the year 2000, as milk production grew steadily, whole milk powder (WMP) production expanded to represent a larger share of total milk powder production. However, this trend reversed in 2001/02, with skim milk powder (SMP) becoming more prominent. In 2022/23, skim milk powder accounted for close to 80 per cent of milk powders produced.

Following several challenging years for the dairy industry, manufacturers have had access to a smaller national milk pool and a wider variety of markets. As a result, companies have had to be more flexible with their product mixes, taking advantage of relative movements in international commodity prices.

Differing market access arrangements also impact the competitiveness of product pricing. For example, local producers will be at a competitive disadvantage where Australia may not have negotiated a free trade agreement, but a competitive supplier country has done so. This impacts local production mixes because the bulk of Australia's milk powders are exported overseas.

Only a small portion of Australia's powder production is sold domestically, with local product primarily used as an ingredient in food manufacturing. Infant formula is a high-value product that has shown considerable growth in recent years, generated through Australian supermarket sales (partly due to the demand from informal re-export trades, such as the Diagou trade), and through direct exports.

In 2022/23, Australia also imported over 78,000 tonnes of milk powders, increasing 11 per cent from 2021/22. This is reflective of the steady growth in imports of milk powders that has been occurring over the past decade, most of which is sourced from New Zealand.

Exported milk powder is often recombined into liquid milk products, particularly in tropical climates where fresh milk supplies are not readily available. This is mainly due to insufficient local production and/or limited development of cold chain distribution facilities. These products are also used in bakery items (improving the volume and binding capacity of bread and ensuring crisper pastry and biscuits), confectionery and milk chocolates, processed meats, ready-to-cook meals, baby foods, ice-cream, yoghurt, health foods and reduced-fat milks. Industrial grade powder is often used for animal stockfeed.

The major export markets for Australian milk powders are concentrated in Asia.

90% skim milk powder **65%** whole milk powder **exports were destined for Asia in 2022/23.**

Out of 30 export destinations, the largest export market for Australian-produced skim milk powder in 2022/23 was Greater China, followed by Indonesia, Kuwait, Thailand, Singapore, and the Philippines.

Australian-produced whole milk powder was exported to 33 destinations in 2022/23, with Greater China representing the largest market. This was followed by United Arab Emirates, Indonesia, Thailand, Bangladesh, and Singapore.

See Appendix 8 for more details on milk powder exports.

Table 24 Australian production of milk powders (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Skim milk powder	201,426	192,373	160,180	153,741	150,473	135,338
Whole milk powder*	83,999	48,534	44,636	52,458	42,150	36,619

*Includes infant powder
(Dairy Australia estimates that this collection covers over 80% of WMP production and over 85% of SMP production)
Source: Dairy manufacturers

Table 25 Australian exports of skim milk powder by region (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia	137,629	136,669	94,576	112,334	132,752	105,904
Middle East	11,630	12,559	11,140	9,944	14,147	9,731
Africa	5,761	236	25	150	175	160
Pacific	1,586	1,737	1,901	478	1,850	1,299
Americas	0	0	0	0	7	0
Europe	0	0	0	5	0	0
Total	**156,606**	**151,201**	**107,642**	**122,911**	**148,931**	**117,094**

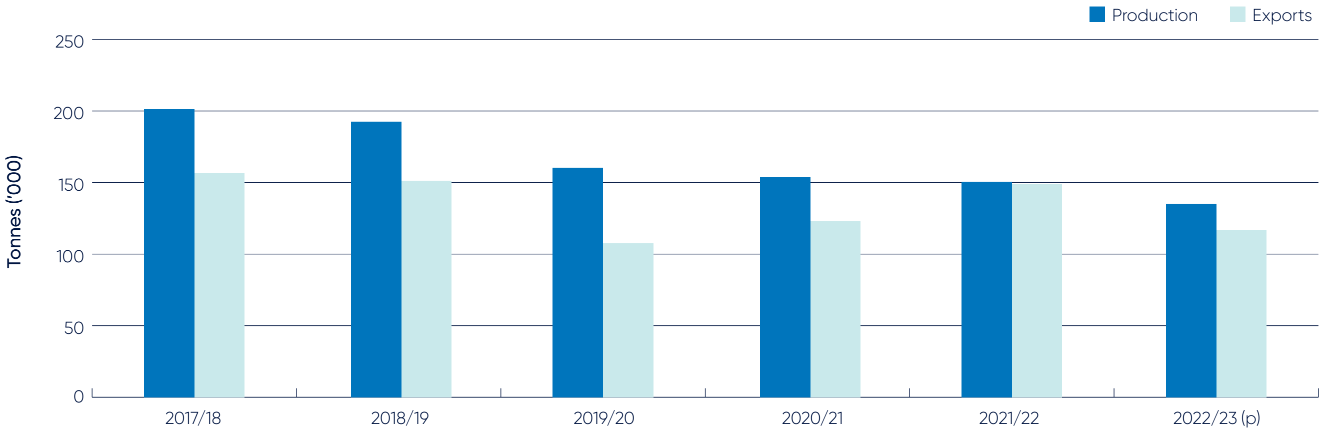
Source: ABS

Table 26 Australian exports of whole milk powder by region* (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia	73,851	49,508	44,174	52,029	54,517	38,058
Middle East	4,467	1,953	846	636	5,973	18,041
Africa	5,558	67	13	172	668	186
Pacific	2,170	1,860	1,032	1,125	1,094	1,018
Americas	1,315	1,324	491	217	618	1,134
Europe	200	0	0	0	0	0
Total	**87,561**	**54,712**	**46,556**	**54,179**	**62,871**	**58,436**

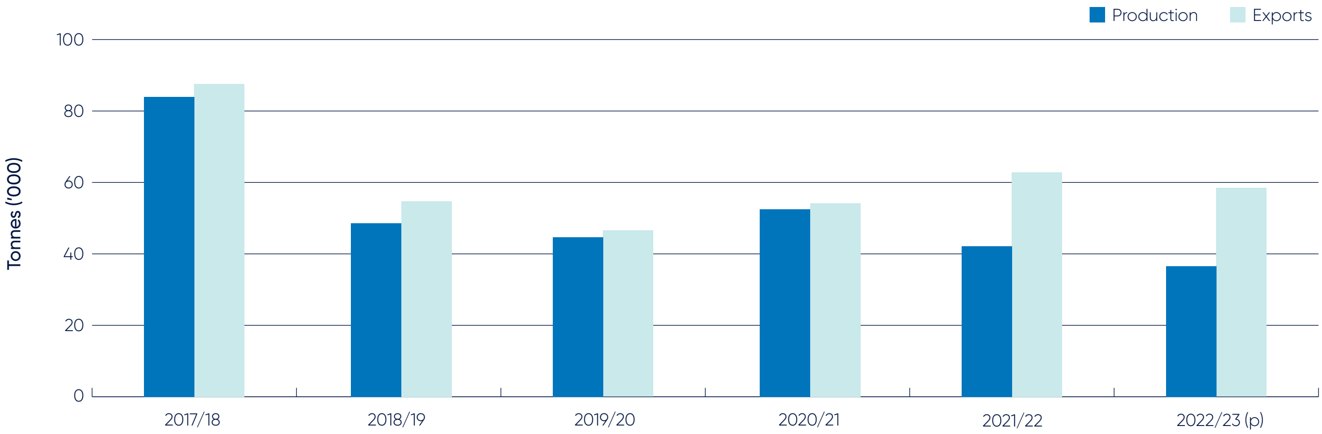
*Includes infant powder
Source: ABS

Figure 13 Australian production and exports of skim milk powder



(Dairy Australia estimates that this collection covers over 85% of SMP production)
Source: Dairy manufacturers and ABS

Figure 14 Australian production and exports of whole milk powder



(Dairy Australia estimates that this collection covers over 80% of WMP production)
Source: Dairy manufacturers and ABS

Whey products and casein

As a byproduct of the cheese-making process, whey has traditionally been disposed of in its liquid form. However, over the past few decades, the value of whey's components and properties have been recognised, increasing the utilisation of whey powder and protein concentrates.

Food-grade whey powder is used in the manufacture of ice-cream, bakery products (cakes, biscuits), chocolate flavouring, infant formula, yoghurt, beverages, and processed meat. Industrial uses include animal feed (for pigs, horses, and poultry), calf milk replacer and even as a carrier for herbicides.

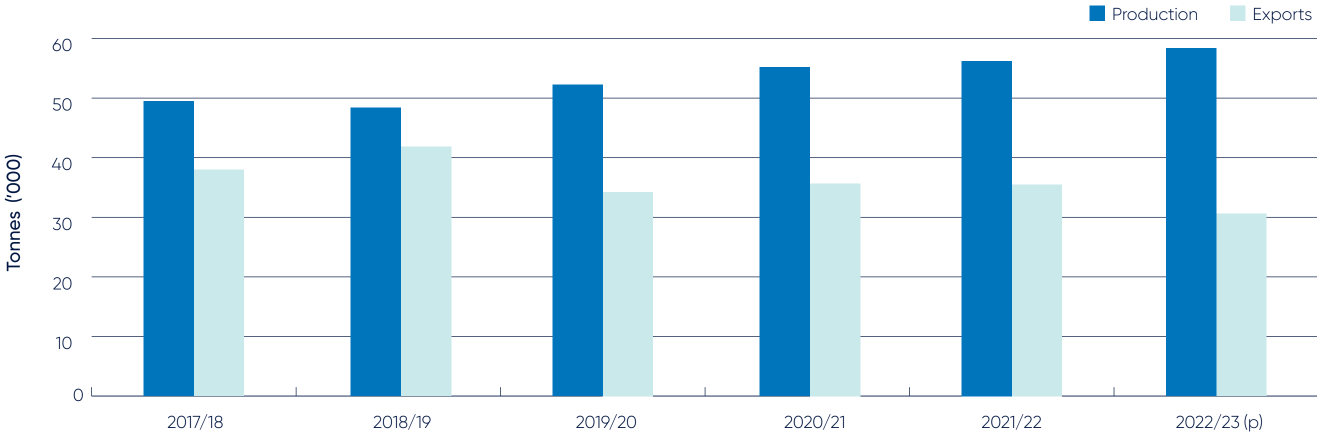
Whey protein concentrates are used in snack foods, juices, confectionery, ice-cream, biscuits, processed meats, protein drinks, desserts, infant foods, and dietetic products. Products such as cosmetics, skin creams, bath salts and detergents also contain protein concentrates.

In Australia, whey is used domestically in manufacturing infant formula, biscuits, and ice-cream, while the remainder is exported. In 2022/23, Indonesia, Greater China, Singapore, Thailand, and Japan were the largest export markets for Australian whey powders.

Casein and caseinates are used as binding ingredients, emulsifiers, and milk substitutes in processed foods such as noodles, chocolate, sweets, mayonnaise, ice-cream, and cheese. Industrial uses of casein and caseinates include plastics (buttons, knitting needles); the manufacture of synthetic fibres and chemicals (plants, glues, glazed paper, putty, and cosmetics); a nutritional supplement and binder in calf milk replacers; as well as a range of other technical applications.

Australia is no longer a significant producer of casein and imports the vast majority of its requirements. These mostly originate from New Zealand (over 58 per cent of the total volume), with the balance being met by Europe, the United States and China in 2022/23.

Figure 15 Australian production and exports of whey products



(Dairy Australia estimates that this collection covers over 95% of whey production)
Source: Dairy manufacturers and ABS

Industry organisations and structure

Dairy Australia

- is the dairy industry's national service body
- is funded through the Dairy Service Levy with matching funding from the Commonwealth Government on research and development activities
- works towards shaping a profitable and sustainable dairy industry by providing services that benefit and advance dairy farm businesses and the industry.

These services deliver value by enhancing farm business management, supporting employment and people development, driving herd and feed innovation, managing climate and environment, promoting Australian dairy and the commitment to sustainability, supporting international dairy markets, contributing to policy development, and responding to critical issues and events.

Dairy Australia is one of several regional and national organisations that support the Australian dairy industry. It is essential these organisations work together to help achieve the dairy industry vision. Dairy Australia contributes funding, planning and management to eight Regional Development Programs. Additionally, Dairy Australia is committed to working closely with state and national representational bodies to collectively deliver the dairy industry's goal.

Figure 16 The structure of Australian dairy industry organisations

National level

Australian Dairy Industry Council Inc. (ADIC)

Australian Dairy Farmers Ltd (ADF)

Australian Dairy Products Federation Inc. (ADPF)

Dairy Australia (DA)

State/regional level

Representational bodies

State Dairy Farmer Organisations that are members of ADF

- NSW Farmers' Association (Dairy Committee)
- eastAUSmilk
- South Australian Dairyfarmers' Association
- Tasmanian Farmers and Graziers Association (Dairy Council)
- Victorian Farmers Federation (United Dairyfarmers of Victoria)
- Western Australian Farmers Federation (Dairy Council)

Other Dairy Representational Bodies

- Dairy Farmers Victoria

Regional offices

- Dairy NSW
- DairySA
- DairyTas
- GippsDairy
- Murray Dairy
- Subtropical Dairy
- Western Dairy
- WestVic Dairy

Industry levies

Dairy Service

Dairy Australia is the national service body for the Australian dairy industry. Dairy Australia is funded by a combination of levies paid by dairy farmers, calculated on the fat and protein content of milk, and matching payments from the Commonwealth Government for eligible research and development (R&D) activities.

Animal Health Australia

Australian dairy farmers contribute funding to Animal Health Australia (AHA), as do farmers in all other livestock industries. AHA is a non-profit public company limited by guarantee. Members include Australian state and territory governments as well as key commodity and interest groups. AHA's task is to facilitate partnerships between governments and livestock industries and provide a national approach to animal health systems. The Animal Health Levy is the dairy industry's contribution to AHA programs.

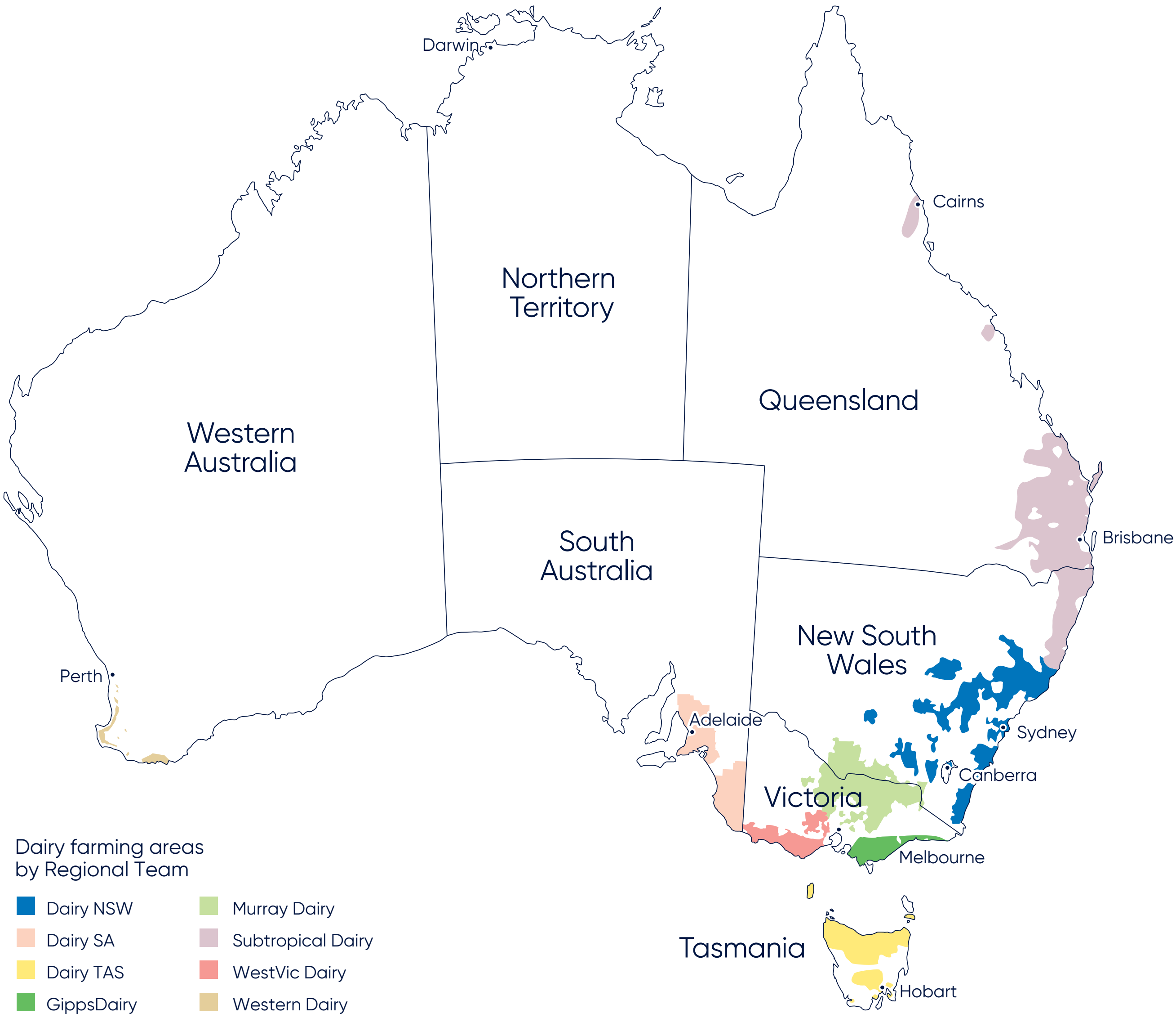
Table 27 Average rate of milk levies for 2022/23

	Milkfat (¢/kg)	Protein (¢/kg)	Milk* (¢/litre)	Milk solids (¢/kg)
Animal Health Australia	0.0580	0.1385	0.007	0.09
Dairy Service	2.8683	6.9914	0.359	4.73

*Based on average 2022/23 Australian milk composition of 4.17% milkfat and 3.42% protein

Appendices

Appendix 1 Dairy regions



Appendix 2 Australian industry footprint

Table A1 Australian state/region breakdown 2022/23

	Qld	NSW	Vic	SA	WA	Tas	Aust
Dairy farms[1]	278	466	2,774	182	112	351	**4,163**
Cows in milk and dry ('000)[2]	60	140	780	65	50	175	**1,270**
People employed on farm (full time and part-time)[3]	900	2,300	8,400	1,200	500	1,600	**14,900**
People employed in processing (full time and part-time)[3]	1,800	3,700	10,500	800	600	1,200	**18,600**
People directly working in dairy (full time and part-time)[3]	2,700	6,000	18,900	2,000	1,100	2,800	**33,500**
Volume of milk produced (ML)[4]	279	990	5,141	474	338	906	**8,129**
Share of national milk production (%)	3.4	12.2	63.2	5.8	4.2	11.2	
Value of milk leaving farms ($m)	244	812	3,766	341	234	684	**6,082**
Value of dairy products exported ($m)[5]	55	464	2,364	221	37	567	**3,707**
Share of national dairy exports – value (%)	1	13	64	6	1	15	
Volume of dairy products exported ('000)	11	41	513	47	22	64	**699**
Share of national dairy exports – volume (%)	2	6	73	7	3	9	

Source: [1] State milk authorities and Dairy Australia; [2] ABS and Dairy Australia; data as at 31 March [3] Employment derived from a three-yearly median state level figures from ABS Labour Force statistics, May 2023 quarter publication and Dairy Australia: split on the basis of milk production within states; [4] dairy manufacturers; [5] ABS export data: split on the basis of milk production.

	Subtropical Dairy	Dairy NSW	Gipps Dairy	Murray Dairy	WestVic Dairy	DairySA	Western Dairy	Dairy Tas	Aust
Dairy farms[1]	371	317	1,028	861	941	182	112	351	**4,163**
Cows in milk and dry ('000)[2]	77	91	281	255	276	65	50	175	**1,270**
People employed on farm (full time and part-time)[3]	1,200	1,800	3,000	2,700	2,900	1,200	500	1,600	**14,900**
People employed in processing (full time and part-time)[3]	2,200	2,900	3,800	3,500	3,600	800	600	1,200	**18,600**
People directly working in dairy (full time and part-time)[3]	3,400	4,700	6,800	6,200	6,500	2,000	1,100	2,800	**33,500**
Volume of milk produced (ML)[4]	409	728	1,816	1,609	1,847	474	338	906	**8,129**
Share of national milk production (%)	5.0	9.0	22.3	19.8	22.7	5.8	4.2	11.2	
Value of milk leaving farms ($m)	358	597	1,330	1,184	1,353	341	234	684	**6,082**
Value of dairy products exported ($m)[5]	68	439	815	762	799	221	37	567	**3,707**
Share of national dairy exports – value (%)	2	12	22	21	22	6	1	15	
Volume of dairy products exported ('000)	16	33	180	159	178	47	22	64	**699**
Share of national dairy exports – volume (%)	2	5	26	23	25	7	3	9	

Source: [1] State milk authorities and Dairy Australia; [2] ABS and Dairy Australia; data as at 31 March; [3] Employment derived from a three-yearly median state level figures from ABS Labour Force statistics, May 2023 quarter publication and Dairy Australia: split on the basis of milk production within states; [4] dairy manufacturers; [5] ABS export data: split on the basis of milk production.

Appendix 3 Feed prices

Table A2 Indicative Australian grain prices ($ per tonne)

		Wheat	Barley	Maize	Sorghum	Canola meal	Oats	Triticale
Atherton Tablelands	2020/21	358	306	391	343			
	2021/22	412	351	374	357			
	2022/23	419	387	443	411			
Darling Downs	2020/21	328	283	379	325			
	2021/22	355	325	366	321			
	2022/23	403	403	431	388			
North Coast NSW	2020/21	293	242	359	311			
	2021/22	318	274	361	299			
	2022/23	389	352	416	344			
Central West NSW	2020/21	266	212	364	288			
	2021/22	322	269	359	284			
	2022/23	399	354	410	330			
Bega Valley	2020/21	320	255	381		437		
	2021/22	345	291	367		492		
	2022/23	403	350	424		553		
Goulburn/Murray Valley	2020/21	298	235	364		431		
	2021/22	368	309	365		492		
	2022/23	390	346	424		537		
Gippsland	2020/21	313	254	385		440		
	2021/22	390	336	392		511		
	2022/23	420	370	463		553		
South West Victoria	2020/21	296	236	387		431		
	2021/22	366	314	393		496		
	2022/23	398	337	462		539		
South East South Australia	2020/21	305	232	415		433		
	2021/22	386	328	398		541		
	2022/23	404	333	454		584		
Central Districts SA	2020/21	302	226	424		328		
	2021/22	373	302	401		308		
	2022/23	394	348	459		380		
South West WA	2020/21	322	258				303	313
	2021/22	366	313				278	320
	2022/23	355	308				320	293
North West Tasmania	2020/21	407	337	395		516		
	2021/22	480	426	402		601		
	2022/23	510	460	473		643		

(Data represents a simple average of yearly data in each region)
Source: Profarmer

Table A3 Indicative Australian hay prices ($ per tonne)

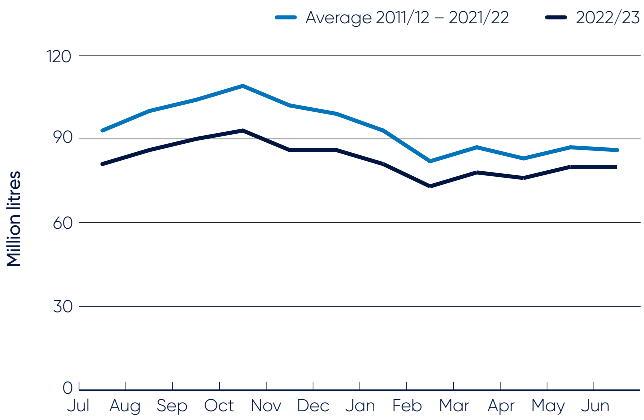
		Pasture hay	Cereal hay	Lucerne hay	Straw
Atherton Tablelands	2020/21	305			
	2021/22	306			
	2022/23	350			
Darling Downs	2020/21	220	312	419	65
	2021/22	221	268	403	73
	2022/23	301	318	460	136
North Coast NSW	2020/21	227	285	421	125
	2021/22	210	245	405	125
	2022/23	297	352	503	179
Central West NSW	2020/21	180	262	504	70
	2021/22	182	195	331	70
	2022/23	256	267	414	122
Bega Valley	2020/21	408	344	615	215
	2021/22	358	293	509	210
	2022/23	361	325	510	220
Goulburn/Murray Valley	2020/21	274	203	475	90
	2021/22	238	189	412	90
	2022/23	286	272	436	130
Gippsland	2020/21	126	302	600	82
	2021/22	103	224	563	84
	2022/23	215	287	511	128
South West Victoria	2020/21	165	208	451	70
	2021/22	162	193	355	79
	2022/23	225	274	413	122
South East South Australia	2020/21	190	230	341	110
	2021/22	194	211	341	110
	2022/23	292	319	418	146
Central Districts SA	2020/21		221	437	115
	2021/22		202	417	117
	2022/23		298	440	157
South West WA	2020/21	210	326	470	130
	2021/22	186	267	469	139
	2022/23	203	280	420	119
North West Tasmania	2020/21	273	240	328	175
	2021/22	220	247	321	175
	2022/23	228	268	338	172

(Data represents a simple average of yearly data in each region)
Source: Australian Fodder Industry Association (AFIA)

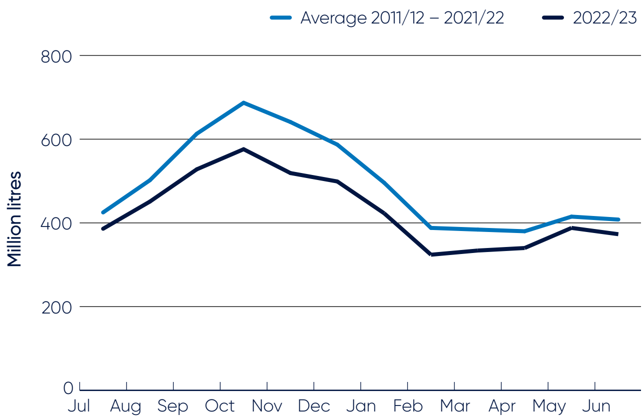
Appendix 4 Milk production

Figure A1 Seasonality of milk production in 2022/23

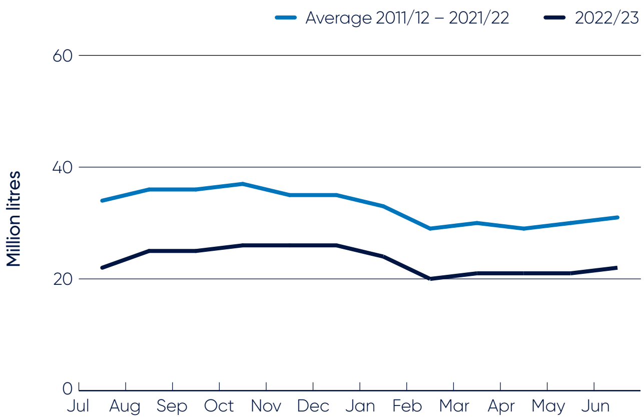
New South Wales



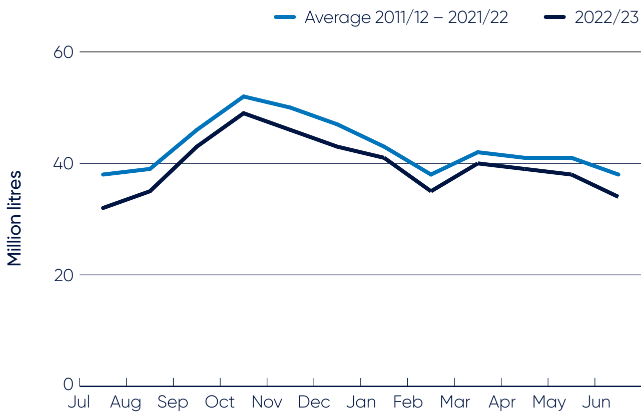
Victoria



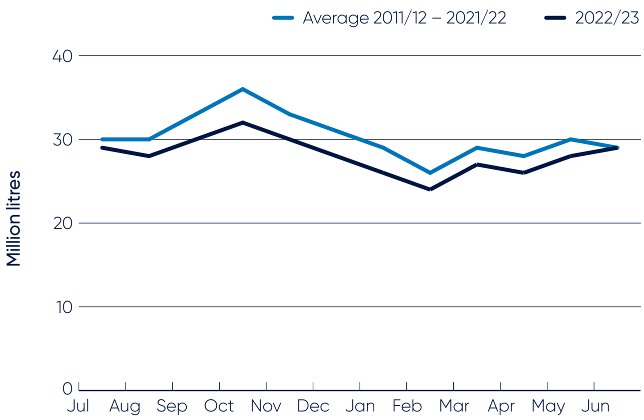
Queensland



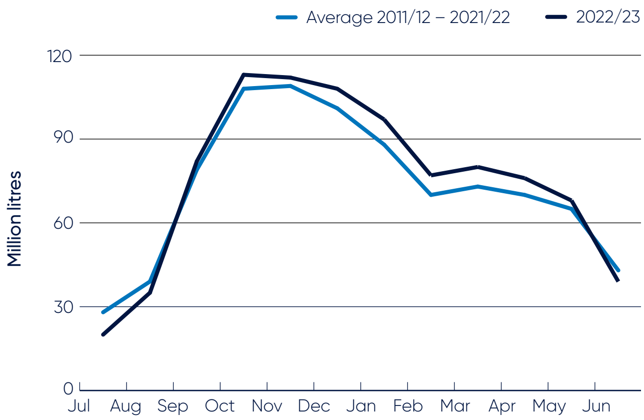
South Australia



Western Australia



Tasmania



Appendix 5 Manufacturing processes

Figure A2 Product yield from 10,000 litres of milk 2022/23

10,000 litres milk
417 kg fat
342 kg protein
899 kg SNF

Butter/SMP
899 kg SMP
503 kg butter
50 kg BMP

Butter/casein
309 kg casein
503 kg butter
50 kg BMP

WMP
1,283 kg WMP
104 kg butter
10 kg BMP

Cheddar
1,090 kg cheddar
22 kg butter
2 kg BMP
622 kg whey powder

The milkfat and solids in manufacturing milk can be used to produce a wide variety of dairy products. There are four major production processes: two joint product processes for butter/skim milk powder (SMP) production and butter/casein production, and single product processes for whole milk powder (WMP) and cheese production. For each of these separate product lines, numerous other dairy products can be made from the residual milk components.

The first step in making butter is to separate whole milk into cream and skim milk. The liquid skim milk is evaporated, and spray dried to produce SMP. The cream is churned until the fat globules form into solid butter, leaving a liquid by-product, buttermilk. This liquid can be dried to make buttermilk powder (BMP).

While there are various ways of making casein, one of the most common methods stems from the joint product process for creating butter. After separating whole milk into cream and skim milk, the skim milk can be set by mixing with acid to produce curd. The curd is shaken to remove large clumps, leaving a liquid whey by-product which is removed. The curd is then repeatedly rinsed in water and drained, with any excess moisture extracted by pressing the curd. This is then milled, dried, ground down and passed through a sieve to be broken into particle size.

To produce WMP, milk, with some cream removed, is evaporated, concentrated and dried, either by roller or spray process to form a powder. The spray drying method is more commonly used and involves spraying a fine mist of concentrated milk into a current of hot air to form granules of powder. The granules can be treated with steam to 'instantise' the powder and make it easier to reconstitute into milk.

The techniques to produce cheese can vary substantially, differing by the producer and variety of cheese created. To make cheddar cheese, some cream is removed from the pasteurised milk. Starter culture is added to the milk to produce both acid and flavour. Then rennet is added to form curd and whey.

The curd is cut, heated, and stirred to allow the whey to drain. A process called cheddaring then takes place, and involves the curd being allowed to mat together, before it is milled, salted, pressed and packed. The cheese is stored to develop the desired maturity and flavour – the longer it is stored, the stronger the flavour. Mild cheddar is matured for approximately three months, semi-matured cheddar for three to six months, and mature or tasty cheddar for up to a year.

The liquid whey extracted during cheese manufacturing contains protein, lactose, and a small portion of fat. It can be dried to make products for pharmaceutical purposes, as a useful supplement in stock feed, and in the creation of ice-cream.

The cream from the standardisation of milk for WMP, casein and cheddar production can be used to make butter and BMP.

Table A4 Product composition

	% fat	% SNF
Skim milk powder	1.0	94.5
Butter	80.5	2.0
Ghee	99.6	0.1
Casein	1.5	88.5
Whole milk powder	26.0	70.4
Cheddar cheese	33.0	31.0
Gouda	31.5	23.5
Edam	21.2	31.8
Parmesan	21.8	46.2
Cottage cheese	4.0	16.0
Brie	25.0	25.0
Mozzarella	23.1	30.9

Table A5 Australian production of dairy products (tonnes)

	Butter*	AMF (CBE)	SMP	WMP**	Whey products
1989/90	78,053	26,105	130,976	56,476	19,895
1999/00	110,325	71,295	236,322	186,653	66,258
2005/06	92,850	52,904	205,495	158,250	98,436
2006/07	101,666	31,434	191,475	135,364	86,198
2007/08	99,202	28,416	164,315	141,974	82,652
2008/09	109,753	38,742	212,030	147,544	81,136
2009/10	100,134	28,245	190,233	126,024	79,094
2010/11	96,326	26,160	222,484	151,269	61,488
2011/12	100,551	19,164	230,286	140,424	64,645
2012/13	99,035	19,193	224,061	108,838	63,440
2013/14	101,705	14,417	210,964	126,322	55,506
2014/15	101,641	16,943	242,266	96,840	51,806
2015/16	99,015	19,610	255,792	66,125	44,669
2016/17	85,459	14,539	222,109	63,342	50,209
2017/18	79,749	13,570	201,426	83,999	49,469
2018/19	61,177	12,270	192,373	48,534	48,385
2019/20	63,567	9,601	160,180	44,636	52,251
2020/21	69,227	12,477	153,741	52,458	55,202
2021/22	58,559	14,460	150,473	42,150	56,235
2022/23 (p)	53,683	11,188	135,338	36,619	58,355

*Includes butter blends as CBE **Includes infant powder
Source: Dairy manufacturers

Table A6 Australian cheese production by variety (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Cheddar & cheddar types						
Cheddar[1]	159,361	151,184	156,388	138,578	176,532	170,300
Reduced fat cheddar	15,804	12,955	13,271	13,500	11,872	12,575
Other cheddar type cheese[2]	26,867	27,713	19,584	17,965	26,888	25,178
Total cheddar	**202,032**	**191,852**	**189,244**	**170,043**	**215,292**	**208,053**
Semi hard cheese						
Mozzarella and pizza	52,419	54,217	54,809	73,101	68,337	81,110
Other stretch curd and shredding	2,465	2,717	1,863	3,599	2,095	1,667
Other semi hard/eye cheese[3]	5,628	4,881	5,359	6,016	5,089	6,034
Total semi hard cheese	**60,511**	**61,815**	**62,030**	**82,716**	**75,522**	**88,811**
Hard grating cheese						
Total[4]	**4,022**	**8,417**	**10,006**	**15,366**	**19,267**	**20,582**
Fresh types						
Cream cheese and neufchatel	86,446	87,909	82,691	84,255	90,004	86,295
Fetta	8,175	8,111	4,926	4,853	2,274	2,299
Ricotta	6,266	5,956	2,233	2,306	2,346	2,135
Other fresh types[5]	2,622	2,610	288	303	303	303
Total	**103,510**	**104,586**	**90,138**	**91,717**	**94,927**	**91,032**
Mould ripened						
Blue vein	716	550	332	270	2	2
Brie and camembert	6,297	6,437	5,945	5,629	2,678	2,207
Other mould ripened	639	641	498	896	558	567
Total	**7,652**	**7,628**	**6,774**	**6,796**	**3,238**	**2,776**
Total cheese	**377,727**	**374,298**	**358,192**	**366,638**	**408,246**	**411,254**

1 Includes Vintage
2 Includes Cheedam, Colby, Cheshire, Gloucester, Lancashire, Leicester, Nimbin and semi processed cheddar
3 Includes Edam, Gouda, Swiss, Emmenthal, Fontina, Raclette, Havarti, Samsoe, Tilsit, Buetten, Vacherin, Bakers, Casalinga, Goya
4 Includes Parmesan, Pecorino, Romano, Fresh Pecorino, Melbourno, Pepato, Parmagiano
5 Includes Cottage, Quark, Stracchino, Mascarpone

(Dairy Australia estimates that this collection covers over 90% of cheese production)
Source: Dairy manufacturers

Appendix 6 Domestic sales

Table A7 Dairy company domestic sales (tonnes)

Major dairy products (excl drinking milk)	Sales channel	2020/21 (r)	2021/22 (r)	2022/23 (p)
Butter	Grocery	43,108	44,092	42,750
	Non-grocery	24,369	23,343	24,424
Butter total		**67,477**	**67,435**	**67,174**
Cheese	Grocery	141,694	147,916	146,871
	Non-grocery	111,132	100,612	98,515
Cheese total		**252,826**	**248,528**	**245,386**
Cream	Grocery	78,306	79,484	76,482
	Non-grocery	80,390	56,522	52,094
Cream total		**158,696**	**136,006**	**128,576**
Custard	Grocery	21,135	20,617	20,059
	Non-grocery	1,602	1,701	1,912
Custard total		**22,737**	**22,318**	**21,971**
Dairy desserts	Grocery	9,101	9,533	9,483
	Non-grocery	155	183	174
Dairy desserts total		**9,256**	**9,716**	**9,657**
Milk powder	Grocery	3,551	1,690	2,082
	Non-grocery	56,814	55,965	50,045
Milk powder total		**60,365**	**57,655**	**52,127**
Yoghurt	Grocery	128,181	113,502	115,354
	Non-grocery	10,597	10,591	11,248
Yoghurt total		**138,778**	**124,093**	**126,602**

This data is dairy company wholesale sales to distributors/warehouses/retailers. Grocery refers to major supermarket chains. Non-Grocery refers to other retailers including convenience stores, the foodservice and industrial channels.
Source: Dairy manufacturers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434
LAC1
434

Appendix 7 Supermarket sales

Milk

Table A8 Supermarket milk sales by state ('000 litres)

	NSW	Vic	Qld	SA & NT	WA	Tas	Total
MAT 17 Jul 2022	471,705	348,800	302,777	124,618	158,555	34,164	1,440,620
MAT 16 Jul 2023	446,990	333,255	303,068	126,950	159,002	34,486	1,403,751

Table A9 Supermarket milk sales by type ('000 litres)

	Regular	Reduced Fat	No Fat	UHT	Total
MAT 17 Jul 2022	829,158	355,055	25,831	230,577	1,440,620
MAT 16 Jul 2023	812,072	349,419	24,691	217,570	1,403,751

Table A10 Supermarket milk sales – flavoured vs unflavoured ('000 litres)

	Flavoured	Unflavoured	Total
MAT 17 Jul 2022	113,282	1,327,338	1,440,620
MAT 16 Jul 2023	109,099	1,294,652	1,403,751

Table A11 Supermarket milk sales – branded vs private label

	MAT 17 Jul 2022			MAT 16 Jul 2023		
	Volume	Value	Price/Litre	Volume	Value	Price/Litre
	'000 litres	'000 dollars		'000 litres	'000 dollars	
Total branded milk	605,169	1,376,850	$2.28	544,896	1,453,124	$2.67
Total private label milk	835,450	1,137,320	$1.36	858,855	1,393,231	$1.62
Total milk	**1,440,620**	**2,514,170**	**$1.75**	**1,403,751**	**2,846,354**	**$2.03**

NielsenIQ Homescan based on a continuous panel of 10,000 households; excludes non-private dwellings & businesses, non-permanently occupied households & out-of-home/impulse purchasing. DAIRY AUSTRALIA calculation based in part on data reported by NielsenIQ through its Homescan Service for the dairy category for the 52-week period ending 16/07/2023, for the total Australian market, according to the NielsenIQ standard product hierarchy.

Dairy spreads

Table A12 Supermarket yellow spreads sales by type

	MAT 17 Jul 2022			MAT 16 Jul 2023		
	Volume	**Value**	**Price/Litre**	**Volume**	**Value**	**Price/Litre**
	Tonnes	'000 dollars		Tonnes	'000 dollars	
Butter	27,719	335,823	$12.12	26,341	374,688	$14.23
Butter blends	33,343	334,404	$10.03	33,154	383,712	$11.57
Margarine	32,573	199,287	$6.12	31,072	242,876	$7.82
Total yellow spreads	**93,635**	**869,514**	**$9.29**	**90,647**	**1,001,571**	**$11.05**

Table A13 Retail sales of dairy spreads by pack size

	MAT 17 Jul 2022			MAT 16 Jul 2023		
	Volume	**Value**	**Price/kg**	**Volume**	**Value**	**Price/kg**
	Tonnes	'000 dollars		Tonnes	'000 dollars	
Butter						
250 gram	9,383	124,509	13.27	8,211	130,875	15.94
500 gram	16,147	179,036	11.09	15,267	198,085	12.98
Other sizes	2,189	32,279	14.75	2,863	45,727	15.97
Butter blends						
250 gram	1,077	17,901	16.62	830	15,601	18.80
500 gram	19,901	195,858	9.84	20,360	237,842	11.68
Other sizes	12,365	120,645	9.76	11,965	130,268	10.89
Total dairy spread sales	**61,062**	**670,227**	**$10.98**	**26,341**	**374,688**	**$14.22**

Table A14 Retail sales of margarine by pack size

	MAT 17 Jul 2022			MAT 16 Jul 2023		
	Volume	**Value**	**Price/kg**	**Volume**	**Value**	**Price/kg**
	Tonnes	'000 dollars		Tonnes	'000 dollars	
250 gram	408	4,545	11.15	401	5,456	13.59
500 gram	19,066	131,878	6.92	16,766	150,258	8.96
Other sizes	13,100	62,865	4.80	13,984	87,457	6.25
Total margarine sales	**32,573**	**199,287**	**$6.12**	**31,152**	**243,172**	**$7.81**

NielsenIQ Homescan based on a continuous panel of 10,000 households; excludes non-private dwellings & businesses, non-permanently occupied households & out-of-home/impulse purchasing. DAIRY AUSTRALIA calculation based in part on data reported by NielsenIQ through its Homescan Service for the dairy category for the 52-week period ending 16/07/2023, for the total Australian market, according to the NielsenIQ standard product hierarchy. Copyright © 2023, Nielsen Consumer LLC.

Appendix 8 Australian exports

Table A15 Australian exports of cheese (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia						
China, Hong Kong	22,555	22,762	20,898	25,520	27,747	20,692
Indonesia	4,527	3,701	3,960	2,491	3,298	3,200
Japan	86,793	84,770	76,626	60,446	60,210	53,285
Korea, South	9,112	8,782	8,140	7,926	8,385	7,656
Malaysia	8,081	7,743	9,065	12,889	11,756	6,296
Philippines	7,062	5,663	6,599	7,488	7,717	7,077
Singapore	4,902	4,860	4,933	5,505	5,642	4,274
Taiwan	3,541	3,069	3,200	3,193	3,792	3,041
Thailand	4,093	4,389	5,211	4,075	5,447	5,752
Other Asia	2,209	2,442	3,034	3,573	2,892	2,777
Total Asia	**152,875**	**148,181**	**141,666**	**133,106**	**136,886**	**114,050**
Middle East						
Saudi Arabia	1,520	1,003	1,278	1,451	1,357	1,324
U.A.E.	1,577	1,474	1,254	1,150	1,067	954
Other Middle East	4,176	4,475	3,974	2,884	2,317	2,775
Total Middle East	**7,273**	**6,952**	**6,506**	**5,485**	**4,741**	**5,053**
Africa	**2,403**	**2,903**	**1,649**	**1,733**	**1,918**	**1,778**
Pacific						
New Zealand	4,059	3,489	3,516	3,491	4,664	2,724
Others	1,279	1,289	1,201	1,328	1,401	1,297
Total Pacific	**5,338**	**4,778**	**4,717**	**4,819**	**6,065**	**4,021**
Americas						
Caribbean	28	34	0	139	782	62
United States	1,944	1,709	1,323	5,551	2,804	1,327
Others	351	654	1,366	1,877	3,195	1,914
Total Americas	**2,323**	**2,397**	**2,689**	**7,567**	**6,781**	**3,303**
Europe	**605**	**633**	**380**	**698**	**169**	**76**
Total	**170,817**	**165,844**	**157,607**	**153,408**	**156,560**	**128,281**

Source: ABS

Table A16 Australian exports of whole milk powder* (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia						
Bangladesh	5,663	4,211	716	5,184	1,571	2,086
China, Hong Kong	47,084	28,330	28,976	29,146	24,021	20,847
Indonesia	299	312	154	365	6,265	4,789
Japan	1	80	8	9	950	0
Malaysia	1,227	878	535	2,734	2,175	451
Philippines	275	111	7	172	48	8
Singapore	4,990	3,554	3,511	3,474	3,616	1,655
Sri Lanka	407	3,139	1,638	2,047	233	139
Taiwan	2,197	2,061	1,398	1,076	1,162	902
Thailand	9,000	5,563	5,658	4,891	11,154	4,493
Others	2,708	1,269	1,573	2,931	3,322	2,688
Total Asia	**73,851**	**49,508**	**44,174**	**52,029**	**54,517**	**38,058**
Africa	**5,558**	**67**	**13**	**172**	**668**	**186**
Americas	**1,315**	**1,324**	**491**	**217**	**618**	**1,134**
Europe	**200**	**0**	**0**	**0**	**0**	**0**
Middle East	**4,467**	**1,953**	**846**	**636**	**5,973**	**18,041**
Pacific	**2,170**	**1,860**	**1,032**	**1,125**	**1,095**	**1,017**
Total	**87,561**	**54,712**	**46,556**	**54,179**	**62,871**	**58,436**

*Also includes infant powder
Source: ABS

Table A17 Australian exports of butter* (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia						
China, Hong Kong	2,758	3,714	2,386	7,009	5,088	1,180
Japan	236	507	175	177	696	107
Korea, South	470	932	574	910	2,892	1,309
Malaysia	1,662	1,809	1,206	1,483	1,227	778
Singapore	1,666	1,418	1,275	1,893	1,908	838
Taiwan	712	992	868	926	975	436
Others	762	732	960	1,052	1,077	444
Total Asia	**8,266**	**10,104**	**7,444**	**13,450**	**13,863**	**5,092**
Middle East	**695**	**115**	**1**	**1,332**	**833**	**13**
Africa	**217**	**211**	**152**	**1,030**	**229**	**236**
Pacific	**264**	**213**	**107**	**236**	**183**	**605**
Americas	**277**	**2,519**	**320**	**1,230**	**666**	**37**
Europe	**2**	**20**	**20**	**200**	**50**	**0**
Total	**9,721**	**13,182**	**8,044**	**17,478**	**15,824**	**5,983**

*Includes butter blends converted at the rate of 1kg butter blend = 0.7kg butter
Source: ABS

Table A18 Australian exports of skim milk powder (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia						
China, Hong Kong	30,311	43,354	32,460	56,817	62,150	64,042
Indonesia	33,828	32,352	24,698	23,508	30,340	22,281
Japan	8,287	4,973	3,019	2,201	793	384
Malaysia	13,368	9,139	2,825	3,158	5,537	2,256
Philippines	8,403	5,026	7,864	3,335	4,227	2,768
Singapore	11,573	9,636	6,068	4,851	7,674	3,165
Taiwan	1,900	1,404	1,950	1,763	986	894
Thailand	10,882	9,261	8,550	5,171	7,839	5,916
Others	19,077	21,524	7,142	11,530	13,206	4,198
Total Asia	**137,629**	**136,669**	**94,576**	**112,334**	**132,752**	**105,904**
Africa	**5,761**	**236**	**25**	**150**	**175**	**160**
Americas	**0**	**0**	**0**	**0**	**6**	**0**
Europe	**0**	**0**	**0**	**5**	**0**	**0**
Middle East	**11,630**	**12,559**	**11,140**	**9,944**	**14,147**	**9,731**
Pacific	**1,586**	**1,737**	**1,901**	**478**	**1,850**	**1,299**
Total	**156,606**	**151,201**	**107,642**	**122,911**	**148,931**	**117,094**

Source: ABS

Table A19 Australian exports of AMF (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia						
Bangladesh	101	151	0	34	17	0
Indonesia	67	118	0	0	39	5
Malaysia	823	50	134	370	252	621
Philippines	286	84	185	1,077	67	454
Singapore	101	28	0	134	102	67
Others	3112	4,297	2,268	2,505	2,476	2,239
Total Asia	**4,490**	**4,728**	**2,587**	**4,120**	**2,953**	**3,386**
Middle East	**0**	**101**	**18**	**0**	**941**	**0**
Africa	**32**	**44**	**0**	**298**	**252**	**1**
Americas	**287**	**1,155**	**262**	**722**	**948**	**223**
Europe	**303**	**314**	**197**	**603**	**240**	**142**
Pacific	**4**	**171**	**1**	**54**	**78**	**138**
Total	**5,116**	**6,513**	**3,065**	**5,797**	**5,412**	**3,890**

Actual product weight (not CBE)
Source: ABS

Table A20 Australian exports of liquid milk ('000 litres)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia						
Singapore	42,538	42,074	48,420	46,808	51,408	43,366
Philippines	19,329	17,763	16,637	19,871	24,558	22,979
Malaysia	19,753	22,362	26,995	23,428	20,881	13,786
Indonesia	241	144	152	295	311	170
Hong Kong	15,297	17,367	14,955	15,034	13,641	10,928
China	82,304	94,146	90,301	126,087	129,657	110,281
Other Asia	21,004	23,273	27,328	28,148	29,197	22,412
Total Asia	**200,466**	**217,129**	**224,788**	**259,671**	**269,653**	**223,922**
Africa	**487**	**519**	**425**	**95**	**344**	**492**
Pacific	**16,008**	**17,931**	**18,795**	**14,581**	**14,342**	**13,500**
Others	**334**	**219**	**99**	**298**	**145**	**177**
Total	**217,295**	**235,798**	**244,107**	**274,645**	**284,484**	**238,091**

**Dairy Australia estimate*
Source: ABS

Table A21 Australian exports of whey products* (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia	34,895	38,374	30,755	33,177	33,747	28,703
Europe	571	327	198	173	135	75
Other	2,535	3,123	3,294	2,329	1,618	1,797
Total	**38,001**	**41,824**	**34,247**	**35,679**	**35,500**	**30,575**

*Includes whey protein concentrates
Source: ABS

Table A22 Australian exports of live dairy heifers (cows) by market

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Asia						
China	28,412	74,963	77,210	86,228	93,216	100,207
Indonesia	4,118	1,933	1,746	338	2,193	1,590
Japan	2,936	2,193	1,657	350	0	0
Malaysia	2,201	3,002	2,403	3,267	2,836	3,859
Pakistan	5,620	2,428	4,860	0	0	1,388
Taiwan	1,813	1,827	434	0	0	0
Vietnam	958	231	0	0	4	0
Other Asia	531	467	3,136	200	215	3,363
Total Asia	**46,589**	**87,044**	**91,446**	**90,383**	**98,464**	**110,407**
Middle East	275	5,303	2,837	0	0	0
Others	15			340		
Total	**46,879**	**92,347**	**94,283**	**90,723**	**98,464**	**110,407**

Source: ABS

Table A23 Australian exports of live dairy heifers (cows) by state

	NSW	Vic	Qld	SA	WA	Tas	Aust
2010/11	219	61,817	978		12,081	103	**75,198**
2011/12	806	57,926	304	3,130	2,656	454	**65,276**
2012/13	305	69,359	620	2,282	12,188	2,668	**87,422**
2013/14		89,640	1,171	4	1,525		**92,340**
2014/15	910	64,638	122		7,535		**73,205**
2015/16	242	69,486		230	1,949		**71,907**
2016/17	647	70,395	240		1,769		**73,051**
2017/18	1,612	43,258	345	48	1,616		**46,879**
2018/19	719	90,869	459	24	276		**92,347**
2019/20		86,007	2,660		5,616		**94,283**
2020/21	92	89,612	340		679		**90,723**
2021/22	4	91,679	3,813		2,968		**98,464**
2022/23 (p)		107,494		1,600	1,313		**110,407**

Source: ABS

Appendix 9 Australian imports

Table A24 Australian imports of dairy products from New Zealand and other countries (tonnes)

	New Zealand	Other	Total 2021/22	New Zealand	Other	Total 2022/23 (p)
Skim milk powder	7,584	5,419	**13,003**	9,180	5,357	**14,537**
Buttermilk powder	1,249	2,511	**3,760**	3,180	1,366	**4,546**
Whole milk powder*	48,797	9,107	**57,904**	53,893	10,167	**64,060**
Whey powder and concentrates	906	8,712	**9,618**	1,595	7,815	**9,410**
Condensed milk	6	14,221	**14,227**	221	14,908	**15,129**
Milk	1,463	332	**1,795**	2,249	395	**2,644**
Cream	2,808	205	**3,013**	4,233	269	**4,502**
Yoghurt	289	841	**1,130**	265	1,157	**1,422**
Butter**	22,587	4,514	**27,101**	37,774	3,609	**41,383**
AMF	6,280	1,246	**7,526**	8,148	1,278	**9,426**
Cheese***	35,941	56,613	**92,554**	43,120	61,361	**104,481**
Casein	714	292	**1,006**	720	975	**1,695**
Caseinates	1,187	428	**1,615**	847	144	**991**
Lactose	1,115	12,007	**13,122**	1,199	9,962	**11,161**
Ice cream ('000 lts)	2,685	19,457	**22,142**	5,721	28,071	**33,792**
Total imports	**133,613**	**135,905**	**269,518**	**172,345**	**146,834**	**319,179**

*Includes infant powder **Includes butter blends converted at the rate of 1kg butter blend = 0.7kg butter
***Excludes goats cheese (Tariff code: 0406901040)
Source: ABS

Table A25 Australian cheese imports by country (tonnes)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 (p)
Austria	640	893	540	537	482	631
Bulgaria	1,141	738	964	970	768	922
Denmark	1,821	1,834	1,955	2,464	2,183	2,359
France	2,022	1,846	1,845	1,856	2,333	3,256
Germany	2,356	2,398	2,715	2,703	2,567	2,394
Greece	1,921	2,077	2,147	2,544	2,236	1,836
Italy	4,774	4,889	5,107	5,318	5,451	6,046
Netherlands	2,704	3,234	3,096	3,704	3,662	3,041
Poland	1,126	1,070	1,128	1,122	892	116
Other	3,759	3,364	3,982	3,767	4,365	4,289
Total EU	**22,264**	**22,343**	**23,479**	**24,985**	**24,939**	**24,890**
New Zealand	**56,571**	**42,734**	**44,131**	**42,110**	**35,941**	**43,120**
United States	**28,113**	**24,475**	**25,330**	**24,713**	**28,978**	**34,121**
Norway	**916**	**1,264**	**1,085**	**588**	**253**	**20**
Switzerland	**232**	**244**	**207**	**248**	**323**	**379**
United Kingdom	**1,024**	**1,313**	**1,281**	**1,706**	**1,867**	**1,822**
Other	**286**	**313**	**406**	**274**	**254**	**130**
Total cheese imports	**109,406**	**92,688**	**95,918**	**94,624**	**92,554**	**104,482**

Source: ABS (excludes goats cheese: tariff code 0406901040)

ACRONYMS

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ADC	Australian Dairy Corporation
ADF	Australian Dairy Farmers Ltd
ADHIS	Australian Dairy Herd Improvement Service
ADIC	Australian Dairy Industry Council Inc.
ADPF	Australian Dairy Products Federation Inc.
A$	Australian Dollar
AEST	Australian Eastern Standard Time
AHA	Animal Health Australia
AMF	Anhydrous milk fat
Aust	Australia
BMP	Buttermilk powder
CAGR	Compound annual growth rate
CBE	Commercial butter equivalent, a unit of conversion of AMF to butter (1kg butter = 0.805kg AMF)
CER	The Closer Economic Relations Agreement between NZ and Australia
DA	Dairy Australia
DFMP	Dairy Farm Monitor Project
(e)	Estimated data
EU	European Union
LGA	Local Government Area
ML	Million litres
NSW	New South Wales
NT	Northern Territory
NZ	New Zealand
(p)	Provisional data
pp	percentage points
QDAS	Queensland Dairy Accounting Scheme
Qld	Queensland
(r)	Revised data
SA	South Australia
SE	South-east
SMP	Skim milk powder
SNF	Solids non fat
Tas	Tasmania
U.A.E	United Arib Emirates
UHT	Milk subjected to ultra-high temperature treatment to extend shelf life
UK	United Kingdom
US$	United States Dollar
Vic	Victoria
WA	Western Australia
WMP	Whole milk powder
WPC	Whey protein concentrate

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