

Table 1 Australian dairy industry at a glance

National dairy herd
Dairy: major export industry
1.74 million cows
\$2.88 billion (2014/15)
Average herd size

Dairy: major export industry
\$6% of world dairy trade

284 Cows Percentage of Australian milk production—exported
Milk production

34% (2014/15)

9,731 billion litres

Average annual milk production per cow
5,730 litres

Major markets for Australian dairy products (tonnes)

Australia (inc. drinking milk)

Greater China

Japan

103,900

Dairy: Australia's third-largest rural industry

Singapore

86,600

\$13.5 billion farm, manufacturing and export industry Indonesia 59,400
Milk utilisation 51,100

31% Annual per capita consumption Cheese 105 litres SMP/BMP Drinking milk 27% Cheese 13.6 kilograms Drinking milk 25% **WMP** 8% Dairy industry workforce Other 9%

Annual production of main commodities (tonnes)

Milk powders

Direct employment of approximately 39,000

332,900

344,000

118,700

Acronyms

Cheese Butter

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences	NCE	Natural cheddar equivalent—unit of conversion of processed cheddar,
ABS	Australian Bureau of Statistics		pastes and spreads to natural cheddar (1 kg processed product weight =
ADC	Australian Dairy Corporation		0.806 kg natural cheddar)
AMF	Anhydrous milk fat	NDFS	National Dairy Farmers' Survey 2013
AUST	Australia	(e)	Estimated data
BMP	Buttermilk powder	(p)	Provisional data
CAGR	Compound annual growth rate	(r)	Revised data
CBE	Commercial butter equivalent, a unit of conversion of AMF to butter (1kg butter	SEQ	South-east Queensland/north-east New South Wales
	= 0.805 kg AMF)	SMP	Skim milk powder
cpl	Cents per litre	SNF	Solids non fat
DA	Dairy Australia	UHT	Milk subjected to ultra-high temperature
EU	European Union		treatment to extend shelf life
FNQ	Far north Queensland	USD	US dollar
Gipps	Gippsland	WMP	Wholemilk powder
MD	Murray Dairy (including northern Victoria	WPC	Whey protein concentrate
	and NSW Riverina)	WV	Western Victoria
n.a.	Data not available		

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Foreword

Australian dairy is a \$13.5 billion farm, manufacturing and export industry and is one of the nation's three most important local rural industries. It spans across every Australian state, comprising about 6100 farms, around 120 factories and provides employment for 39,000 people.

In 2014/15 the Australian dairy industry's farmgate value totalled \$4.7 billion, with national milk production increasing 3.8% (360 million litres) to 9.7 billion litres.

Ranking fourth in agricultural exports for the country, dairy export volumes for 2014/15 increased by 3.2% to more than 760,000 tonnes - cheese and skim milk powder make up most of that volume. However, there was a slight drop in total export value to \$2.9 billion. Asia accounted for 78% of Australia's total dairy export value in 2014/15, with Japan taking the largest share at 17% (\$483 million). In terms of volume, China is Australia's largest market, making up 18% (136,000 tonnes). In the last five years, China and Malaysia have been the fastest growing export markets for Australia.

Dairy demand through the local food service and supermarket channels has remained robust for 2014/15. Dairy spreads outpaced all other major dairy categories for both retail volume and value growth - volumes increased 5.4% in 2014/15 and the sales value grew 8.1%. Milk sales increased slowly and the average retail prices for cheese jumped 7.4% on the previous year, delivering a value growth of 5.2% to more than \$2.1 billion.

On the farming front, relatively stable production margins and favourable weather conditions have allowed farmers in many regions to consolidate, even grow, their businesses. The biggest growth in production came out of Victoria, with an increase of almost 230 million litres. New South Wales, southeast South Australia and Victoria are well placed to take advantage of the opportunities a third favourable season would provide, assuming forecast milk prices and a weaker than expected El Niño impact. However, cautious early season milk price commitments, coupled with El Niño-induced seasonal challenges could see farmers adopt a more defensive approach, slowing overall growth. Similar factors will influence the outcome in Tasmania, however a higher baseline rate of expansion is expected to be maintained. Terms of trade for farmers in northern dairy regions and Western Australia remain difficult.

Internationally, prices remained depressed for the 2014/15 financial year, due to abundant supply and lacklustre demand. Buyers in many import markets filled up stocks, limiting their capacity to commit further. The more stable returns generated by the Australian domestic market, which consumes around 60–65% of milk production, have helped cushion the industry through an internationally volatile 2014/15. Having a diverse range of markets and products has also paid dividends for Australian exporters, spreading exposure to global market volatility.

The corporate sector has also been active in 2014/15, with a number of dairy companies commencing fresh dairy exports to China and the farm sector experienced a flurry of corporate investment.

Dairy Australia is the industry-owned national service body, funded through the dairy service levy with matching research and development funds from the Australian Government. Investment is focused on pre- and post-farmgate research, development, extension and industry services.

I would like to thank the dairy processors that contribute to our regular data collections. Without their participation, *Australian Dairy Industry In Focus* could not maintain its reputation as the most comprehensive and credible collection of Australian dairy industry statistics available. Regular monthly updates of much of the industry production data included in this publication are available at dairyaustralia.com.au.

I trust you will find this latest issue of *Australian Dairy Industry In Focus* a valuable source of knowledge and information on this important industry.

lan Halliday

Managing Director

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The Australian dairy industry

An important rural industry

The dairy industry continues to be one of Australia's major rural industries. Based on a farmgate value of production of \$4.7 billion in 2014/15, it ranks third behind the beef and wheat industries. It is estimated that approximately 39,000 people are directly employed on dairy farms and by dairy companies within Australia. Related transport and distribution activities, and research and development projects, represent further employment associated with the industry.

Dairy is also one of Australia's leading rural industries in terms of adding value through further downstream processing. Much of this processing occurs close to farming areas, thereby generating significant economic activity and employment in country regions.

Dairying is a well-established industry across the temperate and some subtropical zones of Australia. Although the bulk of milk production occurs in southeast seaboard states, all states have dairy industries that supply fresh drinking milk to nearby cities and towns. A range of high-quality consumer products, including fresh milks, custards, yoghurts and a wide variety of specialty cheeses, are produced in most Australian states. The manufacturing of longer shelf life products, such as cheese and specialised milk powders, is steadily becoming more concentrated in the south-east region of Australia.

Strong growth characterised the dairy industry through the 1990s, but that growth has stalled in the last decade. The industry has experienced a slow recovery from the severe widespread drought of 2002/03, only to experience ongoing dry conditions; with the resulting low water storage levels significantly limiting water allocations in irrigated dairying regions over a number of years. However, the rains have returned in recent years and water storages have been replenished and irrigation allocations restored. Nevertheless, the increasing level of market and margin volatility within the industry in the last five to six years has served to undermine confidence in the outlook for many farmers who are seeking reliable returns on which to build a longer term future.

Figure 1 provides a comparison across the major agricultural industries in Australia—comparing farmgate and export sales values—and shows the relative importance of the dairy industry within the agricultural sector.

Table 2 details the long-term trends for a number of key industry measures.

Table 2 Australian dairy industry - long term trends

At June 30	1980	1990	CAGR 1980s	2000	CAGR 1990s	2015(p)	CAGR 2000s	CAGR 35 yrs
Milk production (m lts)	5,432	6,262	1.4%	10,847	5.6%	9,731	-0.7%	1.7%
Dairy cows ('000)	1,880	1,654	-1.3%	2,171	2.8%	1,740	-1.5%	-0.2%
Farm numbers	21,994	15,396	-3.5%	12,896	-1.8%	6,128	-4.8%	-3.6%
Value of farm production* (\$m)	\$3,588	\$3,354	-0.7%	\$4,254	2.4%	\$4,723	0.7%	0.8%
Value of ex-factory production* (\$m)	\$9,190	\$8,284	-1.0%	\$12,783	4.4%	\$13,768	0.5%	1.2%
Per capita consumption (milk equiv)	239	244	0.2%	274	1.2%	303	0.7%	0.7%
Export value* (\$m)	\$1,083	\$607	-5.6%	\$3,879	20.4%	\$2,884	-2.0%	2.8%
Export share of production	22%	31%		54%		34%		

Sources: ABS, ADC, DA, State Authorities CAGR = Compound Annual Growth Rate *Expressed in 2014/15 dollars

A world-competitive industry

Australian dairy farmers operate in a deregulated and open market and have done so for over a decade; the only government involvement being in the administration of food standards and food safety assurance systems. Consequently, international markets and prices are the major factors determining the price received by farmers for their milk.

At an average of approximately US\$45 per 100 kg of milk last year, Australian dairy farmers generally received a price below that of the major producing countries of the European Union and the United States; but significantly above those in New Zealand. This represents quite a change in the trend apparent earlier in the decade where local prices received were among the lowest in the world, with the resultant imperative to operate highly cost-efficient production systems. Nevertheless, this was regularly borne out by international comparisons, where Australian farms consistently had costs of production in the lower cost category of all farms in such surveys. The fact that

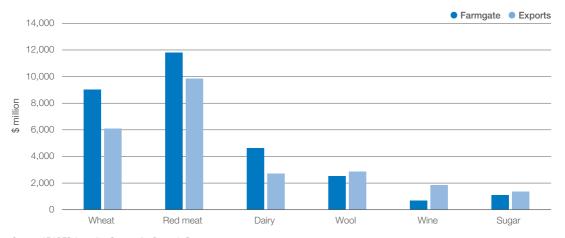
around half of Australia's milk production was exported until recent years reflects this high level of competitiveness.

However, this has become increasingly difficult in recent years. Farm cost structures have increased in response to the need to adapt to drier conditions where rain fed pastures were regularly contributing a lower proportion of the total feed available to the national herd. Despite the increased rainfall in recent seasons, farm cost structures have not returned to those of a decade ago for many reasons. As a result, Australia's share of international trade has trended lower as local milk production has contracted over the past decade.

As shown in Figure 2, the convergence of prices received by farmers around the world during the commodity price boom in 2007 has continued – with the exception of New Zealand in the last season, which is the most 'trade-exposed' of the major dairy producing countries – as milk prices more closely reflect dairy commodity price trends in most of the major producing countries.

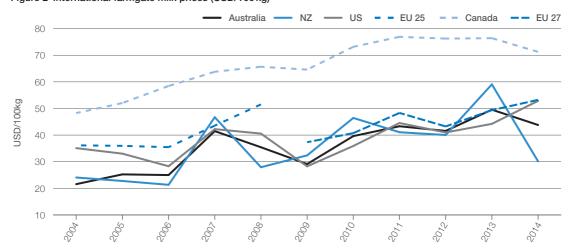


Figure 1 Farmgate value vs export sales value - 2013/14



Source: ABARES Australian Commodity Quarterly Report

Figure 2 International farmgate milk prices (USD/100 kg)



Source: Dairy Australia

Farm facts

South-east Australia's climate and natural resources are generally favourable to dairying and allow the industry to be predominantly pasture-based, with approximately 70–75% of cattle feed requirements coming from grazing in a year of 'normal' seasonal conditions. This results in efficient, high-quality milk production.

Most dairy production is located in coastal areas where pasture growth generally depends on natural rainfall. Nevertheless, there are several inland irrigation schemes, most notably in inland northern Victoria and southern New South Wales.

Total mixed ration (TMR) dairying remains the exception in Australia, although the use of supplementary feed – grains, hay and silage – is widespread and has increased significantly in recent seasons as farmers have had to adapt to drier conditions in many dairying regions. Such changes in production systems have introduced an additional level of risk in the variability of farm returns.

According to the 2015 National Dairy Farmer Survey, 96% of dairy farms fed an average of 1.6 tonnes of grain, grain mixes or feed concentrates per cow during the 2014/15 season. This was unchanged from the average usage in the previous two seasons;

primarily due to more favourable seasonal conditions across many dairying regions and supplementary feed costs remaining at relatively elevated levels during the year.

See Appendix 2 for detailed tables on grain prices by state dairying regions.

Owner-operated farms continue to dominate the Australian dairy industry. Share farming is employed on around 18% of farms, while corporate farms make up just 2% of the total.

The number of farms has fallen by more than two-thirds over the last three decades from 19,380 in mid-1985 to 6,128 in mid-2015. The trend in farm numbers will often follow the trend in farmgate milk prices from season to season, with strong prices either slowing the rate of attrition or even reversing the long-term trend. At times of low farmgate milk prices, farmers do choose to leave the industry or else cease dairying operations until market conditions improve.

Nevertheless, falling farm numbers do reflect a long term trend observed in agriculture around the world, as reduced price support and changing business practices have encouraged a shift to larger, more efficient operating systems.

Table 3 Number of registered dairy farms

	NSW	VIC	QLD	SA	WA	TAS	AUST
1979/80	3,601	11,467	3,052	1,730	622	1,522	21,994
1989/90	2,220	8,840	1,970	969	496	901	15,396
1999/00	1,725	7,806	1,545	667	419	734	12,896
2005/06	1,024	5,892	802	383	245	498	8,844
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 (p)	704	4,127	448	252	157	440	6,128

Source: State Milk Authorities

Average herd size has increased from 93 cows in 1985 to an estimated 284 currently. There is also a steady trend emerging to very large farm operations of more than 1,000 head of dairy cattle.

The dominant breed in Australia is the Holstein. accounting for around 65% of all dairy cattle. Other important breeds include the Jersey, the Holstein/ Jersey cross, Brown Swiss, Ayrshire and local breeds, the Australian Red and the Illawarra.

Most breeding is by artificial insemination and so Australian farmers have access to some of the best genetic material in the world. Herd recording is widely practiced, with around half of all dairy farms regularly recording herd performance.

The genetic evaluation of dairy cattle is conducted by the Australian Dairy Herd Improvement Service (ADHIS), using one of the most sophisticated evaluation systems available.

See adhis.com.au for further details and statistics.

Improved herd genetics, as well as advances in pasture management and supplementary feeding regimes, have seen average annual yield per cow double from 2,900 litres to as high as 5,900 litres over the past three decades. Nevertheless, the average yield figure does vary with seasonal conditions. Recent years have also seen a slowing in the growth trend in improvements in yields.

Combining this increase in yields per cow with average herd sizes that are over two and a half times larger, the average milk production per farm has increased from 311,000 litres to 1,588,000 litres per year over the same period.

Despite the strong increase in cow yields over the longer term, one of the variables placing a limit on total milk production in recent years has been a fairly static national herd size. One factor contributing to this situation is that the increased volatility in farm cash incomes has led many farmers to participate in the export heifer trade in an attempt to stabilise farm income.

See Appendix 7 for detailed tables on heifer exports.

Table 4 Number of dairy cows ('000 head)

	NSW	VIC	QLD*	SA	WA	TAS	AUST
At March 31							
1979/80	311	1,047	247	103	71	103	1,880
1989/90	238	968	201	89	64	92	1,654
1999/00	289	1,377	195	105	65	139	2,171
New Series***							
2005/06	222	1,217	127	104	67	143	1,880
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 (r)	200	1,093	98	73	66	155	1,684
2014/15 (e)	215	1,123	90	77	65	170	1,740

^{*}For 1999 and 2000, Qld state figure includes Northern Territory cow numbers.

^{**}From 2001 census date is June 30. NT and ACT numbers are included in national total

^{***}Change in ABS data collection Source: ABS and Dairy Australia

Table 5 Average annual milk production per cow

	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 (r)	5,409	5,860	4,980	6,257	6,637	5,379	5,758
2011/12 (r)	5,753	6,023	4,965	6,589	5,967	5,636	5,921
2012/13 (r)	5,527	5,469	4,618	7,025	5,996	5,166	5,487
2013/14 (r)	5,317	5,632	4,546	6,776	5,418	5,407	5,555
2014/15 (e)	5,692	5,808	4,276	6,998	5,557	5,615	5,731

Source: Dairy manufacturers, ABS and Dairy Australia

Farmgate milk prices

Australian farmgate milk prices are based on the milkfat and protein solids content of the milk supplied off farm. Unlike many countries around the world, there is no legislative control over the price milk processing companies pay farmers for their milk, with all prices within the industry set by market forces.

Australian dairy farmers operate in an open and deregulated market, an environment that includes effectively a free trade agreement with New Zealand: a major regional low-cost dairy producing country. Consequently, local Australian prices are driven by world dairy commodity prices which determine local export returns. Therefore, world dairy prices directly impact on the company returns for the 35-40% of local milk production that finds its way into export products such as butter, cheese and milk powders; as well as the additional 30-35% of production that goes into locally consumed butter, cheese and milk powders. This means that up to 75% of milk production is exposed to world prices for butter, cheese and milk powders; while the remaining 25% is consumed within Australia as liquid drinking milk.

Hence average Australian farmgate milk prices are strongly correlated with export returns, and over the last three decades more than 90% of the annual variation in farmgate milk prices is explained by movements in average export returns.

Apart from Australia's actual export product mix and prevailing world dairy commodity prices, another layer of complexity is the value of the Australian dollar against the US dollar in foreign exchange markets, as it is critical in determining company returns.

Australian dairy industry returns benefit from a 'lower' Australian dollar (compared to the US dollar) as was the case early last decade when it was as low as USD\$0.52 to \$0.55. However, the local currency has been much 'stronger' in recent years (around and even above parity with the US dollar) and this significantly lowered the Australian dollar returns despite relatively strong export markets over much of this period. As commodity prices have come off their peaks since early-2014, so the Australian dollar has also fallen significantly since early-2015, and helped to maintain local milk prices paid to farmers. Consequently, the exchange rate can significantly affect what the dairy companies can pay for milk.

Farmgate milk prices will vary between manufacturing companies, with individual company returns being affected by factors such as market and product mix, marketing strategies, the utilisation and efficiencies in factory processing capacity, and exchange rate hedging policies. Competition for milk among processors will also influence farmgate milk prices from season to season, as can the dividend policies of farmer-owned cooperatives.

Furthermore, payments from processors to individual farmers can also vary significantly as companies operate a range of incentive / penalty payments related to milk quality, productivity or volume levels and for year-round milk supply. There may be volume growth incentives in place to encourage milk supply to particular processing plants to improve operating efficiencies.

Thus, farmgate milk prices farmers receive can vary significantly around Australia and simply reflect how milk is used in the marketplace, as illustrated in Figure 3 – Use of Australian milk by state – 2014/15. This chart shows the relative importance of how raw milk is used, showing the split between drinking milk, manufacturing for locally consumed product and manufacturing of export products across the different regions around Australia.

Figure 3 shows how farmgate milk prices in southern regions are primarily driven by international commodity prices and competition for milk supply. The majority of farmers in these exporting regions receive a 'blended' price that incorporates returns from the milk used in manufacturing dairy products such as butter, cheese and milk powders which are exposed to international prices whether as exports or consumed locally (over 90% in Tasmania and Victoria).

Conversely, in the northern and western dairy regions, fresh drinking milk makes up a much larger proportion of the production mix (100% in Queensland and over 80% in Western Australia), and so higher farmgate milk prices are generally paid to ensure the yearround supply of milk.

The long-term downward trend in inflation-adjusted farmgate milk prices (Figure 4) until early last decade is in line with returns from most other agricultural commodities. Despite the occasional peaks—in 1992/93, 2001/02, 2007/08 and 2013/14—the line has traditionally returned to trend and clearly illustrates the imperative to continually improve productivity throughout the industry. While it does appear that the international dairy market might be undergoing a structural realignment in recent years to support stronger farmgate milk prices, the level of volatility has also increased significantly over this time.

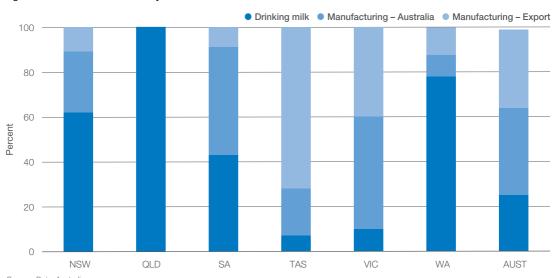


Figure 3 Use of Australian milk by state-2014/15

Source: Dairy Australia

Table 6 Indicative factory paid prices by state

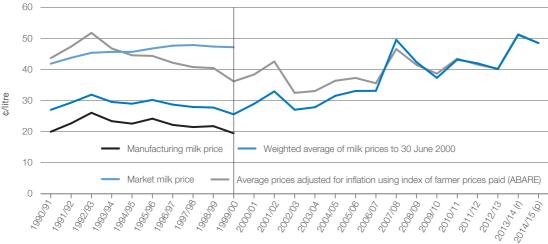
		2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 (p)
NSW	¢/litre	52.4	48.7	48.3	47.4	46.4	51.0	52.8
	\$/kg milk solids	7.29	6.72	6.74	6.60	6.45	7.10	7.31
VIC	¢/litre	39.1	33.9	42.0	40.6	37.8	51.0	47.1
	\$/kg milk solids	5.14	4.49	5.58	5.46	5.05	6.81	6.24
QLD	¢/litre	57.2	55.8	53.1	53.6	53.6	53.4	57.4
	\$/kg milk solids	7.89	7.57	7.26	7.33	7.33	7.36	7.59
SA	¢/litre	44.6	34.6	38.0	41.0	38.3	49.6	46.1
	\$/kg milk solids	6.19	4.73	5.36	5.76	5.42	7.02	6.53
WA	¢/litre	49.0	42.4	43.4	41.9	45.0	46.8	49.0
	\$/kg milk solids	6.77	5.96	6.03	5.97	6.37	6.63	6.91
TAS	¢/litre	41.3	34.6	43.2	39.9	40.2	54.1	49.6
	\$/kg milk solids	5.40	4.46	5.59	5.19	5.16	6.96	6.33
AUST	¢/litre	42.4	37.3	43.2	42.0	40.2	51.2	48.5
	\$/kg milk solids	5.66	4.98	5.80	5.69	5.41	6.89	6.49

Source: Dairy manufacturers

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Figure 4 Factory paid milk prices



Source: Dairy manufacturers and ABARES

Farm business performance

The annual ABARES Farm Survey estimates the financial performance of Australian dairy farms. The two main measures are farm cash income (defined as total cash receipts less total cash costs) and farm business profit (which takes into account any build-up in trading stocks, less depreciation and the value of farm labour).

Trends in farm cash income and farm business profit have shown significant variability over the past decade.

Figure 5 illustrates how both farm business profit and farm cash income were strong in the year of record high milk production volumes in 2001/02, encouraged by a combination of favourable climatic and market conditions: fell due to the dramatic impact of the drought in the 2002/03 season; slowly recovered and consolidated over the following three years, before feeling the impact another financially significant drought in 2006/07.

Significant financial recovery occurred in 2007/08 driven by high farmgate milk prices; only to be reversed again in 2009/10 by sharply falling farmgate milk prices. Two years of relatively strong farm cash incomes in 2010/11 and 2011/12 were offset by significant falls in 2012/13. However, adverse seasonal conditions in major exporting regions subsequently supported higher international dairy commodity prices, which in turn lifted farmgate milk prices to record or near record levels in 2013/14. Financial performance softened in 2014/15, with lower farmgate milk prices delivering declines in both farm cash income and farm business profit figures.

ABARES estimates that average farm cash income decreased to \$97,000 in 2014/15, approximately 14% below the 10-year average to 2013/14. It was estimated that 17% of farms had negative farm cash income (marginally up from 16% last year). Lower farmgate milk prices across the big south-eastern exporting regions didn't offset fairly stable input costs despite relatively favourable seasonal conditions across many dairying regions. Dairy farm businesses in Queensland, northern New South Wales and Western Australia are expected to see stable farm cash incomes.



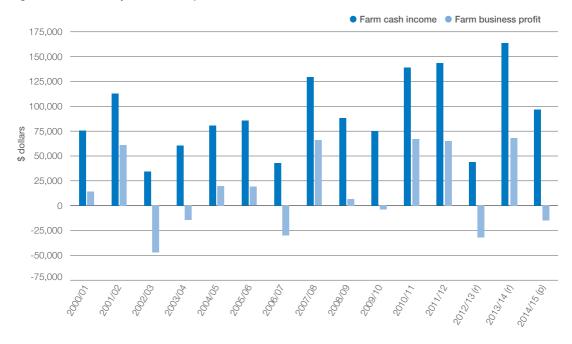
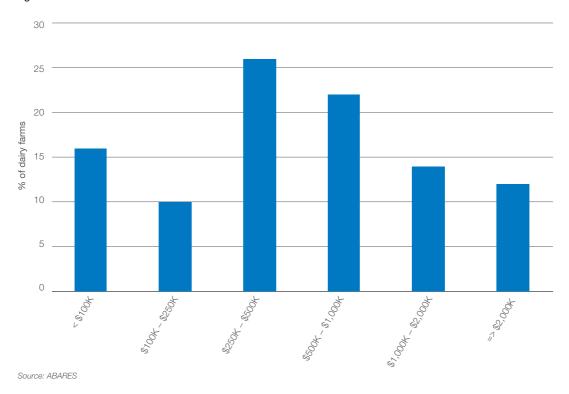


Figure 6 Distribution of farm debt in 2013/14



After changes in trading stocks, depreciation and imputed family management and labour costs, these figures translated to a national average farm business loss estimated at <\$15,000> in 2014/15, compared to a strong average profit figure of \$65,100 in 2013/14. Farm businesses in Western Australia and Tasmania are expected to record profits in 2014/15. Meanwhile, farm businesses in all other regions are expected to record average losses; while those in Queensland were expected to record a third consecutive year of negative average profits given fodder expenditure in view of prevailing drier conditions, affecting many of the state's dairying regions.

Along with increased farm cash incomes, ABARES farm survey data estimates a 4% increase in average debt from \$821,400 in 2013/14 to an estimated \$854,000 in 2014/15. While the average farm debt is at these levels, just over half of all dairy farms have farm debt of less than \$500,000. (See Figure 6)

Over recent years, the composition of farm debt has reflected a marked trend towards the use of debt for working capital purposes, to manage climate and market volatility.

While the level of farm debt has steadily increased over many years, farm asset values have also increased so that the average level of farm business equity has remained around the long-term average of around 80%. Furthermore, ABARES estimates that some 30% of dairy farms have equity levels of 90% or above.

Milk production

While farm numbers have steadily decreased over the past three decades, milk output generally increased, due to increasing cow numbers and improved cow vields—up until the major widespread drought of 2002/03. The following decade has been a period of consolidation for the industry, with falling cow numbers and dry seasonal conditions constraining production.

Recent years have seen generally improved seasonal conditions across most dairying and grain growing regions: although volatility in farmgate milk prices and farm incomes have constrained farmer confidence with lower cow numbers limiting growth in milk production. Nevertheless, there has been some volume growth in four out of the last five seasons.

There have been significant on-farm adaptation strategies employed to manage the highly variable seasonal conditions of the last decade, particularly in the inland irrigation regions of northern Victoria, and central and southern inland New South Wales where water allocations were very low for a number of years.

Interestingly, with much improved water supplies in the last five years, many farmers have re-adjusted their production systems back towards the more traditional pasture-based systems while others continue to leverage investments made during drought years.

As Figure 7 indicates, the underlying trend has continued towards fewer farms, larger herds and increasing levels of milk production per farm.

Farmers have made many changes to their general farm management practices and adopted a range of improved technologies, including soil testing, fodder conservation, supplementary feeding and the use of animal nutritionists to balance cow diets, improved animal genetics, artificial insemination programs, the use of new milking equipment and techniques, and the widespread use of computers to record and monitor herd and individual cow performance.

Milk production is concentrated in the temperate zone of Australia, as can be seen in Table 7 and the map of dairying regions in Appendix 3. Australian milk production remains strongly seasonal in the 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 (refer to Figure 8). 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 in these states. Farmers in these states manage calving and feed systems to ensure more even year-round milk production.

See Appendix 3 for more details on the seasonality of milk production by state dairying regions.

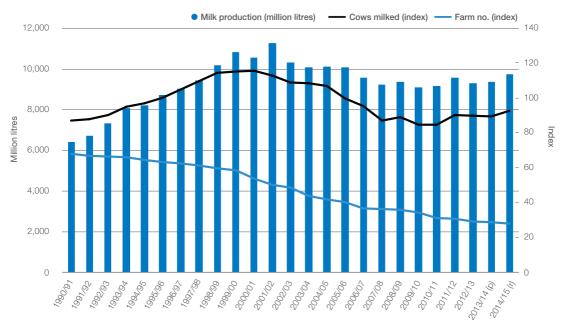
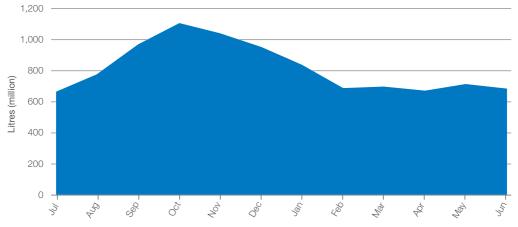


Figure 7 Australian milk production vs indices of farms and cows milked

Source: Dairy manufacturers, ABS, State Authorities and Dairy Australia

Figure 8 Seasonality of milk production in Australia, 2014/15 (million litres)



Source: Dairy manufacturers

Table 7 Milk production by state (million litres)

	NSW	VIC	QLD	SA	WA	TAS	AUST
1979/80	907	3,151	508	329	222	315	5,432
1989/90	879	3,787	629	356	267	344	6,262
1999/00	1,395	6,870	848	713	412	609	10,847
2005/06	1,197	6,651	597	646	377	622	10,089
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 (r)	1,099	5,813	530	605	359	677	9,084
2010/11 (r)	1,087	5,936	487	572	372	726	9,180
2011/12 (r)	1,135	6,241	487	570	349	792	9,574
2012/13 (r)	1,136	6,071	460	536	349	765	9,317
2013/14 (r)	1,104	6,166	437	516	340	810	9,372
2014/15 (p)	1,159	6,390	411	516	364	891	9,731

*From July 2005, data collection based on farm location rather than factory location **From July 2009, data revised to reflect additional data collection Source: Dairy manufacturers

Australian milk production increased by nearly 360 million litres, or 3.8%, to 9.73 billion litres in 2014/15— reflecting improved conditions on a difficult prior year for many dairy farmers. Although seasonal conditions remained drier and generally unfavourable in northern regions, broadly more favourable rainfall and temperatures prevailed across the south-eastern dairying regions.

Cows' milk consists of solids (milkfat, protein, lactose and minerals) in water, with water making up about 87% of the volume. The milkfat and protein components are those on which companies base their farmgate milk prices.

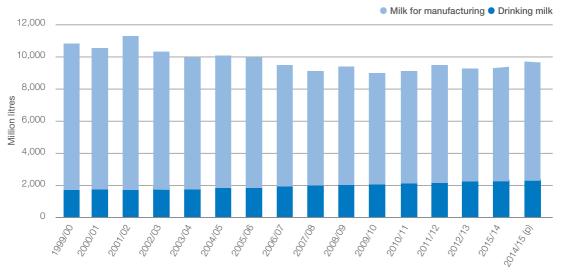
Milk composition varies between regions due to a number of factors, such as cow breed and age, nutrition and feed quality, as shown in Table 8.

Table 8 Average protein/fat composition by state (%)

	NSW	VIC	QLD	SA	WA	TAS	AUST
Milkfat							
2009/10	3.97	4.20	4.05	4.05	3.91	4.34	4.15
2010/11	3.92	4.15	4.00	3.82	3.96	4.28	4.10
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 (p)	3.93	4.15	4.01	3.77	3.89	4.35	4.11
Protein							
2009/10	3.27	3.35	3.33	3.27	3.20	3.41	3.34
2010/11	3.26	3.38	3.31	3.28	3.23	3.44	3.35
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 (p)	3.29	3.40	3.32	3.29	3.22	3.49	3.38

Source: Dairy manufacturers

Figure 9 Drinking and manufacturing milk production (million litres)



Source: Dairy manufacturers

With total milk output lifting only modestly year on year, growth in the volumes of milk going into the drinking milk sector over the years has seen its share of total milk production increase from a low point of 17% in 2001/02—the year of peak milk production—to around 25% in the last couple of seasons. Conversely, the volume and proportion of milk used for manufactured dairy products, and hence available for export, has declined over the decade, as shown in Figure 9.

The use of milk varies significantly around the states and was mentioned previously in the discussion around what drives farmgate milk prices (see page 8) and is graphically illustrated in Figure 3 Use of Australian milk by state – 2014/15 (see page 9). This chart showed the relative importance raw milk usage has between drinking milk, manufacturing for locally consumed product and manufacturing of export products across the different dairying regions around Australia.



Dairy manufacturing

As in the farm sector, the milk processing sector is undergoing continuing rationalisation. This has resulted in improved factory capacity, as larger operations have improved their efficiency and economies of scale. The lack of growth in milk production over the past decade or so relieved the pressure on Australian dairy companies to invest in increasing processing capacity - at least in the short to medium term. Instead, the challenge had been to remove surplus capacity and to utilise the existing capacity as profitably as possible. Nevertheless, there has been on-going investment by local manufacturers focused on meeting demand from key export markets.

The Australian dairy manufacturing sector is diverse and includes farmer-owned co-operatives, public. private and multinational companies.

Farmer-owned cooperatives no longer dominate the industry and now account for less than 40% of Australia's milk production. The largest co-operative is Murray Goulburn (MG) accounting for nearly 37% of national milk output.

Murray Goulburn opened 'greenfield' fresh milk processing plants in Melbourne and Sydney during the year to service major supermarket private label contracts in Victoria and New South Wales - the first such investments in the industry in nearly two decades.

In early-July 2015 Murray Goulburn also successfully completed the implementation of a new capital structure, with the listing of an MG Unit Trust on the ASX. The initial public offering attracted Australian and international investors, at both the retail and institutional level. Unitholders will have an economic exposure to MG's business but will not have voting rights in relation to MG or its operations. The proceeds of around \$500 million will reportedly be spent on three major projects; producing higher margin infant formulas at MG's Koroit facility, investing in the Cobram plant to take bulk cheese into consumer and food service markets, and developing a new fully automated UHT beverage plant.

Large multinational companies have operated in the Australian dairy industry for many years and currently include Fonterra (New Zealand), Kirin (Japan) and Lactalis (France).

Lion Dairy & Drinks (owned by Kirin) upgraded their specialty cheese plant, The Heritage, at Burnie, Tasmania. It is now the largest specialty cheese factory in the southern hemisphere and will allow Lion to increase market penetration of their specialty cheese ranges within Australia and into Asian markets.

Parmalat (owned by Lactalis) continued its recent expansion when it purchased Gippsland-based Longwarry Food Park (LFP) in late-2014 giving Parmalat additional milk supply and a manufacturing facility in Victoria with bolt-on export capabilities in

ingredients including milk powder (WMP), cream cheese, fresh and UHT products.

Other Australian dairy companies cover a diverse range of markets and products, from the publicly listed Bega Cheese Limited and Warrnambool Cheese & Butter WCB (88% controlled by Canadian dairy company Saputo since early-2014) to the privately owned Regal Cream (Bulla Dairy Foods), Burra Foods and Australian Consolidated Milk to name just a few, together with many highly specialised cheese manufacturers.

Warrnambool Cheese & Butter bolstered its presence in consumer branded cheese by acquiring the 'everyday cheese business' (EDC business) of Lion Dairy & Drinks. Situated adjacent to WCB's plant at Allansford (on property leased from WCB), the EDC business cuts and wraps cheese manufactured by WCB that is sold under 'everyday cheese' brands including Coon. Mil Lel. Cracker Barrel and Fred Walker.

A flurry of renewed interest in export opportunities followed the signing of three key Free Trade Agreements during the 2014/15 season with Korea, Japan and China. Consequently, the three themes that emerged within the manufacturing sector this season were changing ownership rather than increasing (ownership) concentration; developing export-focused infant formula capacity; and growing export-focused liquid UHT milk capacity.

Fonterra agreed to purchase a share in Chinese company Beingmate; with the companies forming a joint venture focused on Fonterra's Darnum site (in Victoria).

There was a range of announcements regarding investment in infant formula capacity from Bega's northern Victorian subsidiary Tatura; Burra Foods in Gippsland; and ViPlus in east Gippsland.

There were also plans announced to establish vertically integrated operations spanning on-farm milk production through to post-farmgate manufacturing and export marketing of milk and nutritional powders more generally from Camperdown Dairy International (CDI) in Camperdown, western Victoria; and a Midfield Meats' proposal to establish two milk powder plants in Penola in south-eastern South Australia and Warrnambool, western Victoria.

Beston Global Food Company purchased UDP (out of receivership) and its two cheese plants at Murray Bridge and Jervois. The Adelaide-based company plans to invest to upgrade the two factories, raise production capacity, and introduce new products for Asian markets. Beston's other dairy interests cover a number of dairy farms in South Australia and a stake in niche processor B-D Paris Creek.

A Sino-Australian dairy farming and milk processing consortium, Australian Fresh Milk Holdings (AFMH), comprising New Hope Dairy Holdings, Leppington

Pastoral Company and Freedom Foods Group purchased the Moxey Farms business during the year. Moxey Farms is one of Australia's largest single-site dairy operations in the Lachlan Valley in central NSW. The Moxey family picked up a strategic stake in AFMH as part of the deal. The agreement allows AFMH to leverage Freedom Foods' processing capabilities and New Hope Dairy's Asian footprint to access export markets in China and south-east Asia.

The major manufactured product streams are:

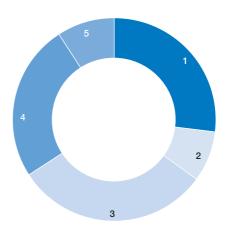
- > drinking milk fresh and UHT long-life;
- skim milk powder (SMP)/buttermilk powder (BMP)/butter;
- > butter/casein;
- > cheese;
- > whole milk powder (WMP);
- other consumer products, such as yoghurts, custards and dairy desserts; and
- > specialised ingredients, such as whey proteins, nutraceuticals, etc.

Cheese is consistently the major product stream, utilising just under a third of Australia's milk production in 2014/15 and has remained around this level for a number of years.

Drinking milk and skim milk powder / butter production were the two next largest users of milk, each taking around a quarter of the total milk produced in Australia.

Around 65% of manufactured product (in milk equivalent terms) was exported and the remaining 35% sold on the Australian market in the 2014/15 season. This contrasts with drinking milk, where some 94% is consumed in the domestic market.

Figure 10 Australian milk utilisation in 2014/15



- 1 SMP/Butter 27%
- 2 WMP 8%
- 3 Cheese 31%
- 4 Drinking milk 25%
- 5 Other 9%

Source: Dairy Australia

Dairy markets

Over recent decades Australian milk production has been well above the volume required for domestic consumption, so that a significant proportion is destined for export markets. The share of total production exported has ranged from around 40-60% over the period shown in Figure 11. Over recent years Australia has exported closer to 40% of its milk production—the lowest proportion since the mid-1990s, due to the reduced availability of product from a declining milk production base.

Although Australia accounts for an estimated 2% of the world's milk production, it is a significant exporter of dairy products. Australia currently ranks fourth in terms of world dairy trade— with a 6% share—behind New Zealand, the European Union as a bloc and the United States.

Japan is the single most important export market for Australia, accounting for 17% of exports by value; while Greater China (including China, Hong Kong and Macau) accounts for 18% of exports by volume. Australian exports are concentrated in Asia, which represented 78% of the total dairy export value of \$2.88 billion in 2014/15.

This concentration of exports in Asia reflects both Australia's geographic proximity to these markets and the extent to which Australia has been excluded from other major markets by direct restrictions (as in the case of the European Union) or the impact of the export subsidy programs of major competitor countries.

Asian markets have considerable potential for consumption growth as incomes rise and diets become more 'westernised.' Australian dairy companies have proven track records in supplying these markets over a number of decades. The Middle East and the Americas are also becoming increasingly important markets for many Australian exporters.

Australia's top five export markets by value in 2014/15 were Japan, Greater China, Indonesia, Singapore and Malaysia. The top five by volume differed only slightly by order: Greater China, Japan, Singapore, Indonesia and Malaysia.

The fastest growing export markets for Australia in the last five years have been Greater China and Malaysia.

See Appendix 7 for detailed tables of Australia's export markets.

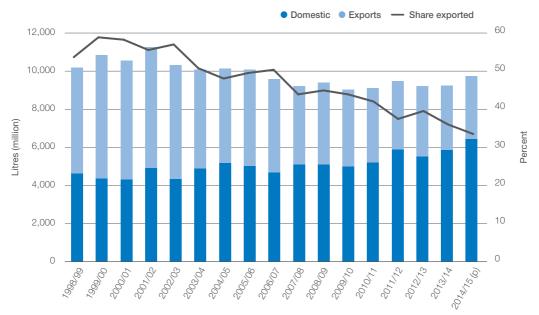
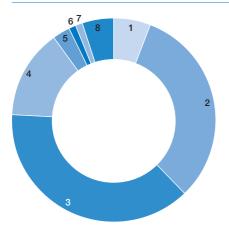


Figure 11 Australian consumption and exports (milk equivalents)

Source: Dairy manufacturers and ABS

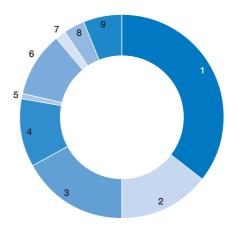
Figure 12 Exporters' share of world dairy trade in 2014 (milk equivalents)



- 1 Australia 6%
- 2 EU **32%**
- 3 NZ **38%**
- 4 USA 14%
- 5 Argentina 3%
- 6 Ukraine 1%
- 7 Uruguay 1%
- 8 Other **5%**

Source: Dairy Australia

Figure 13 Australian exports by region, 2014/15 (A\$ million)



- 1 South East Asia \$1022
- 2 Greater China \$424
- 3 Japan **\$483**
- 4 Other Asia **\$308**
- 5 Europe **\$19**
- 6 Middle East \$303
- 7 Africa **\$44**
- 8 Americas **\$108**
- 8 Other **\$175**

Source: ABS

Table 9 Australian dairy markets by product, 2014/15 (A\$ million)

	SE Asia	Other Asia	Europe	Middle East	Africa	Americas	Other	Total
Butter/AMF	68	50	7	35	9	21	7	197
Cheese	138	552	2	57	19	32	21	820
Milk	60	107	0	2	1	1	23	194
SMP	404	151	2	100	1	5	19	683
WMP*	103	195	1	23	11	23	10	365
Other	249	160	7	85	3	27	95	625
Total	1,022	1,214	19	303	44	108	175	2,884

Source: Dairy Australia estimates and ABS *Also includes infant powder

Table 10 Top 10 Australian export destinations, 2014/15

Country	Volume (tonnes)	% of Total	Country	Value (A\$ million)	% of Total
Greater China*	136,441	18%	Japan	483	17%
Japan	103,906	14%	Greater China*	424	15%
Singapore	86,647	11%	Indonesia	256	9%
Indonesia	59,359	8%	Singapore	243	8%
Malaysia	51,111	7%	Malaysia	201	7%
Philippines	40,879	5%	New Zealand	129	4%
Thailand	30,966	4%	Thailand	127	4%
New Zealand	28,470	4%	Philippines	124	4%
United Arab Emirates	26,182	3%	United Arab Emirates	116	4%
Taiwan	22,217	3%	South Korea	93	3%

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

Australian consumption of dairy products

The major Australian consumer dairy products are drinking milk, cheese, butter and butter blends, and yoghurt.

Per capita consumption trends over the past two decades have varied quite significantly by individual product. These trends reflect changes in consumer tastes and preferences in response to a multitude of variables, such as multicultural influences on food trends, health perceptions around dairy products and manufacturers' responses (with low-fat variants), new product development, flavour and packaging innovations, competitive category offerings, and the distribution and hence availability of products.

Per capita consumption of drinking milk is currently estimated at around 105 litres, falling back over the last two years from a recent peak reached at the time the supermarket channel saw an outbreak of 'milk price wars' when one of the major chains reduced its private label milk price to \$1-00 per litre for both full

cream milks and modified milks and all competitors followed. Nevertheless, it remains at very high levels compared to many countries – thanks in no small part to the relentless expansion of the 'coffee culture' in Australia during the last decade.

Cheese consumption has stabilised in recent years at around 13.5 kg per person, as has the split between cheddar to non-cheddar varieties, with nearly 55% being cheddar types and the remaining 45% spread across the wide range of non-cheddar cheese varieties available in Australia.

Annual per capita consumption of butter in Australia is around 4.0 kgs. Consumers continue to remain interested in the 'naturalness' of butter, together with its superior taste and cooking functionality.

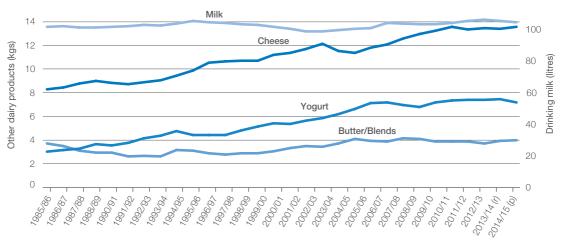
Yoghurt is the ultimate 'healthy snack' for timepressed consumers, combining both convenience and health attributes, with per capita consumption at 7.2 kg per year.

Table 11 Per capita consumption of major dairy products (litres/kg)

	Milk (Its)	Cheese (kgs)	Butter / Blends (kgs)	Yoghurt (kgs)
2010/11 (r)	104.5	13.6	3.9	7.3
2011/12 (r)	106.0	13.4	3.9	7.4
2012/13 (r)	106.7	13.5	3.7	7.4
2013/14 (r)	105.8	13.5	3.9	7.4
2014/15 (p)	105.0	13.6	4.0	7.2

Source: Dairy manufacturers and Dairy Australia

Figure 14 Per capita consumption (litres/kg)



Source: Dairy manufacturers and Dairy Australia

Drinking milk

Regular or full cream milk is standardised to a milkfat content of around 3.4 to 3.6%. Modified, reduced and low-fat milks are standardised to other specifications, with varying milkfat and solids non-fat levels. The cream removed during standardisation can be bottled as table cream or manufactured into butter or other dairy products.

Australian milk consumption has been steadily shifting from regular full cream milk to modified milks, such as reduced and low-fat milks, over many years. Over the last two decades, full cream white milk volumes have consistently lost share in a steadily growing market from 67% in the early - 1990s to 50% share of total drinking milk in 2014/15. This long-term trend appears to have been marginally reversed in the last 12-18 months. The share trends across the other segments have all been upwards; with total modified milks' share up from 23% to 30%; fresh flavoured milks increasing share from 7% to 10%; and the UHT milk volume share increasing from 3% to 10% over the 20 years.

There are now two major players in the Australian drinking milk market: Lion Dairy & Drinks (with the Pura and Dairy Farmers brands) and Parmalat (with the Pauls brand). Murray Goulburn and Fonterra Australia have recently increased their presence in the milk market with supply contracts for the supply of supermarket private label milks. In addition, there is also an increasing number of smaller players in the marketplace with strong specialty and regional brands, with most showing significant growth in recent years as many consumers have chosen to support local brands.

The supermarket channel's share of Australian drinking milk sales has been relatively steady over the last five years at around 53-54%. In late-January 2011 the supermarket channel saw an outbreak of 'milk price wars' when one of the major chains reduced its private label milk price to \$1-00 per litre for both full cream milks and modified milks. This was immediately followed by all major supermarket competitors and led to a one-off shift of sales of around 1.5% market share points from convenience and other route trade outlets to supermarkets.

Supermarket sales volumes grew by 1.3% in 2014/15; with the comparative sales performance between private label milks (+1.6%) and dairy company branded milks (+1.0%) delivering marginal market share growth to private label milks of 0.1% share points to 53.7%.

The private label brands' share of total supermarket milk volumes has been relatively stable over the last couple of years: and up from around 25% back in 1999/2000. Looking more closely at the fresh white milk segments, where the majority of the pricing activity of recent years has occurred, private label brands currently account for 64% of fresh white regular full cream milk and 51% of modified fresh white milk sales.

In 2014/15, the average price of branded milk dipped very slightly from \$2.17 to \$2.16 per litre, with increases in modified fresh white and flavoured milks offsetting a fall in the average prices of UHT milks. Average private label milk prices have been stable at \$1.02 per litre since early 2011. With little change in either relative shares or average prices, the average supermarket price remained unchanged from the prior year at \$1.55 per litre. When combined with the modest volume growth seen during the year, this meant that the retail value of supermarket milk sales increased by 0.9% to more than \$2.055 billion.

The average price of private label products is significantly less than company branded products, due to a combination of product and pack size mix with a greater proportion of private label purchases being larger plastic bottles of regular full cream milk.

On the packaging front, plastic bottles account for nearly 80% of all milk sales in supermarkets, with the balance split between gable-top cartons (6%) and UHT cartons (14%).

There have been significant movements within the pack sizes bought by consumers in supermarkets over the last decade. While the 2-litre plastic bottle remains the most popular size, with 47% share, this is down from close to 50% ten years ago. Similarly, the combined share of 1-litre cartons and plastic bottles has slipped from 33% to 16%. The major change has been in the rapid growth of the 3-litre plastic bottle, increasing its share of all supermarket milk sales from 13% when it first appeared in June 1998 to around 31% currently.

See Appendix 6 for more details of supermarket milk sales and average prices.

Australia exports relatively small volumes of liquid milk - predominantly as UHT product - but showed strong growth of 25% in 2014/15; with all the incremental volume going into the mainland Chinese market. Nearly 90% of the total volume exported went into the broader Asian region, with most of the balance into the island countries of the Pacific region.

See Appendix 7 for more details of drinking milk exports.

Table 12 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
2005/06	1,092	488	124	201	155	2,061
2006/07 (r)	1,107	530	124	214	182	2,156
2007/08 (r)	1,119	552	122	213	183	2,188
2008/09 (r)	1,136	570	117	210	196	2,229
2009/10 (r)	1,134	592	117	215	211	2,269
2010/11 (r)	1,140	632	109	228	208	2,316
2011/12 (r)	1,161	679	104	236	208	2,388
2012/13 (r)	1,172	691	100	239	243	2,445
2013/14 (r)	1,193	688	93	240	250	2,464
2014/15 (p)	1,242	656	87	240	256	2,481

Source: Milk processors and state milk authorities

Table 13 Drinking milk sales by type (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
2005/06	660	499	444	192	216	50	2,061
2006/07	692	510	474	201	226	53	2,156
2007/08	682	524	485	205	237	55	2,188
2008/09	696	533	495	208	241	56	2,229
2009/10	709	545	499	213	247	57	2,269
2010/11	716	566	502	213	262	57	2,316
2011/12	722	583	531	221	273	58	2,388
2012/13 (r)	719	600	562	222	280	61	2,445
2013/14 (r)	710	612	583	221	279	59	2,464
2014/15 (p)	713	622	581	221	283	61	2,481

State figures exclude interstate traded milk prior to 2001, NSW includes ACT after June 2000. Source: Milk processors and State Milk Authorities

Cheese

Australia produced 344,000 tonnes of cheese in 2014/15—an increase of 10% on the previous year. Production volumes were significantly less than early in the 2000s as the availability of milk has trended downward since that time. Another significant factor in more recent years, as milk production has stabilised at lower levels, has been the impact of dairy companies opportunistically changing their export product mixes to take advantage of favourable movements in international dairy commodity prices.

There has been a long-term trend in production away from cheddar cheeses and toward non-cheddar cheese types. The non-cheddar share of total production volumes has steadily increased from 30% three decades ago, to between 45% and 50% in recent years.

Cheese is a major product for the Australian dairy industry, with sales of around 240,000 tonnes of domestic product within Australia, for an estimated value approaching A\$1.95 billion; and export sales of a further 158,500 tonnes, worth A\$820 million in 2014/15.

It is estimated that nearly 45% of the domestic sales of Australian cheese are through the major supermarket chains. Consequently, a significant proportion—of predominantly specialty cheeses are sold through the smaller independent retail trade made up of delicatessens and specialty food stores, with the remainder used in the food service sector and in food processing applications.

Total cheese sales volumes through the supermarket channel declined by around -2.0% in 2014/15. However, average retail prices increased 7.4% on the previous year, so that retail sales values showed growth of 5.2% to more than \$2.1 billion.

Imports accounted for an estimated 25% of the Australian cheese market. In 2014/15, approximately 55% of the 82,400 tonnes of cheese imported into Australia was sourced from New Zealand, 25% came from Europe and 20% from the United States. Five vears ago these country shares were New Zealand with 78%, Europe with 19% and the United States with just 3%.

Japan remained Australia's most important overseas cheese market in 2014/15 and accounted for nearly 55% of product exports, followed by Greater China, Malaysia, South Korea and Singapore. Australian cheeses were exported to 60 countries around the world last year.

The long-term trend away from cheddar cheeses and toward non-cheddar cheese types is also evident in Australia's cheese exports, with the non-cheddar share of total export sales steadily increasing from around 60% two decades ago, to more than 75% in recent years.

Table 14 Australian cheese production by type of cheese (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Cheddar	164,220	154,720	160,683	157,996	151,721	178,429
Semi Hard	82,504	68,176	67,023	57,190	44,712	43,928
Hard Grating	12,238	13,591	13,871	14,681	13,762	10,334
Fresh	82,004	95,431	99,024	102,342	95,760	104,777
Mould	8,673	6,739	5,930	6,103	5,503	6,488
Total Cheese	349,639	338,657	346,530	338,312	311,458	343,956

Source: Dairy manufacturers

Butter

In 2014/15, Australia 118,700 tonnes of butter and anhydrous milkfat (AMF) or butteroil in commercial butter equivalent terms (CBE)—a small 2% increase on the previous year.

AMF is butter with the water removed. It is primarily produced for export and domestic food processing applications, such as bakery and confectionery. While these sectors also use butter, the majority of domestic butter sales are through retail and foodservice outlets.

The introduction of spreadable butters and vegetable oil-based dairy blends, which are easier to spread and lower in saturated fat, has helped to stabilise domestic market sales in the last two decades, after a sustained decline through the 1970s and 1980s.

Nevertheless, Australia's total retail market for tablespreads has generally contracted over the last decade. Consumer concerns about margarine consumption have meant a continuing decline in share, with dairy spreads taking further retail market share from margarine. This has been a continuing trend over the last decade, as dairyspreads' share of the category has steadily increased from 30% in 2000/01 to approach 50% in recent years.

It is estimated that around 48% of the domestic sales of Australian dairyspreads were through supermarkets. Supermarket sales volumes increased

5.4% in 2014/15, together with a 3.0% increase in average retail prices during the year, delivered an increase in retail sales value of 8.1% over the previous year to more than \$411 million.

See Appendix 6 for more details of supermarket butter and dairy blend sales.

Imports accounted for an estimated 25% of the Australian butter market last year. In 2014/15, over 90% of the 23,400 tonnes of butter and butteroil imported into Australia was sourced from New Zealand.

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

Export volumes were down 13% last year to 42,900 tonnes with lower prices delivering a 19% decrease in value to \$197 million.

Australia's most important overseas markets for butter/ AMF were Singapore, Greater China, the United Arab Emirates, Malaysia and Thailand; out of a total of some 50 countries.

See Appendix 7 for more details of butter and AMF exports.

Table 15 Butter and AMF production (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Butter/Butter Blends (CBE)	100,134	96,326	100,551	99,035	101,705	101,511
AMF (CBE)	28,245	26,160	19,164	19,193	14,417	17,161

Source: Dairy manufacturers

Table 16 Australian exports of butter and AMF (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Butter	41,691	33,403	33,602	39,297	39,790	31,027
AMF (CBE)	31,995	22,440	14,978	14,316	9,460	11,867

Source: Dairy Australia & ABS

Other fresh and frozen dairy products

Australian manufacturers produce a range of fresh dairy products, including yoghurts, dairy desserts, chilled custards and creams, dairy dips and frozen products such as ice-cream. To cater for the health concerns of modern consumers—a major driver in food choices— the majority of dairy products are available in low fat formulations.

Yoghurts have been a category of considerable growth for the dairy industry over the past two decades, due to their ability to meet consumer requirements for convenient, healthy snacks in an environment of time-poor lifestyles. The segment includes strong international brands, such as Ski, Yoplait and Nestlé. Nevertheless, there has also been steady growth coming out of a range of brands such as Vaalia, Jalna, Gippsland, Farmers Union and Chobani in recent times.

Growth in yoghurt sales has been underpinned by regular product innovation in the areas of packaging, flavour combinations and the use of probiotic cultures, as well as new products, such as drinking yoghurts.

Marketing support in terms of advertising new product ranges and flavour innovations is important in encouraging consumer trial and subsequent category growth.

Dairy desserts are a low volume / high value dairy category with steadily declining volumes in recent years. Marketed as an indulgence or treat item, these products are generally targeted to adult consumers and include mousses, crème caramels and fromage frais. Children's products include fromage frais and flavoured custards that often feature popular cartoon characters on-pack.

Chilled custards, a traditional favourite, have shown marginal declines in recent years despite manufacturers expanding their product offerings into small, snack-sized single-serve plastic cups sold in multi-packs.

The grocery market for cream has expanded in recent years—with increased interest in cooking seeing more people preparing meals at home and hence supporting sales. Regular and sour creams are both used extensively as accompaniments or ingredients; but face significant competition on the health front, often from other dairy products, such as natural yoghurt. Nevertheless, like butter, consumers remain interested in cream's superior taste and cooking functionality.

See Appendix 5 for more details on cream, custard and dairy dessert sales.

Dairy dips are another low volume/high value dairy category; this one showing steady volume growth in recent years. Flavour innovations have been particularly successful in maintaining the consumer appeal of another traditional favourite in the dairy case.

Australia's consumption of ice-cream is relatively high by world standards—around 18 litres per head and third only to New Zealand and the United States. The market is stable in volume terms, if highly seasonal in certain stick line, or single serve, segments.

The major market development in recent years has been in premium indulgent treats, in both stick lines and smaller-sized take-home tubs. Refreshing fruit-based products are also popular with consumers seeking a healthy option within the category.

Strong international brands, such as Streets (from Unilever), Peters (from R&R Ice Cream) and Cadbury (from Mondelez) dominate the category.

Milk powders

Australian manufacturers produce a range of milk powders. The technology used in both the production and use of powders has seen the range of specifications available from Australian manufacturers expand in line with customers' needs.

In the years up until the peak milk production season of 2001/02, the most obvious trend in local milk powder production was a steady increase in the share of whole milk powder (WMP) output—from a low of 25% in the early-to-mid 1980s to a peak of nearly 50% share of all milk powders produced in Australia in 2001/02. Thereafter the trend reversed with skim milk powder (SMP) production regaining share to reach just over 70% of total milk powder production in 2014/15.

The limited availability of milk during the first half of the last decade and a stabilisation of milk production volumes in recent years has seen local dairy companies opportunistically changing their product mixes to take advantage of the relative movements in international dairy commodity prices. Differing market access arrangements also impact on the competitiveness of product pricing. For example, local producers will be at a competitiveness disadvantage where Australia may not have negotiated a Free Trade Agreement, but a competitive supplier country has already done so. This impacts on local production mixes because the bulk of Australia's milk powder production volumes are sold into export markets.

Only about 15-20% of Australia's powder production is sold domestically, with local usage mainly as a food ingredient and retail outlets accounting for only a small percentage of domestic sales.

Exported milk powder is often recombined into liquid milk products, particularly in tropical climates where fresh milk supplies are not readily available due to limited local production and / or restricted development of cold chain distribution facilities. It is also used in bakery products (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 used for animal fodder.

The major export markets for Australian milk powders are concentrated in Asia, with over 80% of SMP export volumes and 75% of WMP destined for the region in 2014/15.

See Appendix 7 for more details on milk powder exports.

Indonesia was the largest single export market for Australian-produced SMP in 2014/15, followed by Greater China, Malaysia, Singapore, and the Philippines out of some 35 export destinations.

Singapore was the largest single export market for Australian-produced WMP, followed by, Sri Lanka, Bangladesh, Oman and El Salvador, out of a total of 55 export destinations.

Table 17 Australian production of milk powders (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 (p)
Skim milk powder	190,233	222,484	230,286	224,061	210,964	233,835
Whole milk powder*	126,024	151,269	140,424	108,838	126,322	99,025

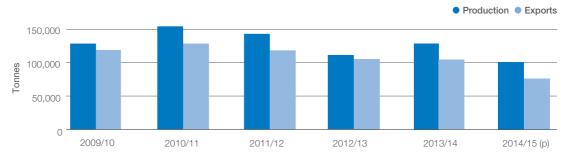
^{*} Includes infant powders Source: Dairy manufacturers

Figure 15 Australian production and exports of skim milk powder (tonnes)



Source: Dairy manufacturers and ABS

Figure 16 Australian production and exports of whole milk powder (tonnes)



Source: Dairy manufacturers and ABS

Table 18 Australian exports of skim milk powder by region (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia	100,669	124,176	111,396	109,232	107,956	151,971
Middle East	17,829	21,496	23,529	28,313	31,429	26,927
Africa	1,462	2,307	2,083	3,830	1,392	386
Pacific	3,957	4,385	2,612	3,478	1,584	5,376
Americas	1,462	1,461	889	1,331	244	1,473
Europe	244	1,510	810	732	563	540
Others	0	0	0	0	0	0
Total	125,623	155,335	141,319	146,916	143,169	186,672

Source: Dairy Australia and ABS

Table 19 Australian exports of whole milk powder by region (tonnes)*

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia	80,271	84,468	68,022	76,572	91,226	58,098
Middle East	17,180	21,329	31,619	9,488	3,872	6,510
Africa	6,867	9,344	4,629	5,744	3,344	2,761
Pacific	2,226	1,447	1,629	1,995	1,371	1,636
Americas	10,001	8,458	9,782	8,545	2,089	5,935
Europe	204	807	429	1,468	345	230
Total	116,749	125,853	116,110	103,812	102,247	75,170

*Includes infant powders

Source: Dairy Australia and ABS

Whey products and casein

Whey is a by-product of the cheese making process. Traditionally this product was disposed of in liquid form. However, recognition of the value of whey's components has seen the production and utilisation of whey powders and protein concentrates increase significantly in recent years.

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, (milk) protein drinks, desserts, infant foods and dietetic products. Products such as cosmetics, skin creams, bath salts and detergents also contain protein concentrates.

Around 30% of Australia's whey production is used domestically in the manufacture of infant formula, biscuits and ice-cream. The remainder is exported, with Singapore, Greater China, Japan, Indonesia, and Malaysia being the largest export markets for Australian whey powders in 2014/15.

Casein and caseinates are ingredients in noodles, chocolate, sweets, mayonnaise, ice-cream and cheese manufacture. They are used as binding ingredients, emulsifiers and milk substitutes in processed foods. 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); as a reinforcing agent and stabiliser for rubber in automobile tyres; a nutritional supplement and binder in calf milk replacers; and a range of other technical applications.

Australia no longer produces casein and imports its requirements; mainly from New Zealand (over 70% of the total volume), with the balance from Europe in 2014/15.

ProductionExports 120,000 100,000 80,000 60,000 40,000 20.000 2004/05 2005/06 2006/07 2007/08 2008/09 2009/10 2010/11 2011/12 2012/13 2013/14 (r) 2014/15 (p)

Figure 17 Production and exports of whey products (tonnes)

Source: Dairy manufacturers and ABS

Dairy Australia

- > is the industry-owned national services body
- is funded through the Dairy Service Levy with matching funding from the Australian Government on research and development activities
- invests in essential activities across the dairy supply chain to deliver the best outcomes for dairy farmers, the dairy industry and the broader community
- focuses investment on pre- and post-farmgate research, development, extension and industry services. This includes education, trade policy, information, issues management, technological innovation, promoting the health and nutrition benefits of dairy products and marketing of the industry.

Dairy Australia is one of a number of regional and national organisations that support the Australian dairy industry. It is essential that these organisations work together to help achieve the dairy industry vision. In addition to contributing to the funding, planning and management of the eight RDPs, Dairy Australia is committed to working closely with state and national representational bodies to collectively deliver on this goal.

The structure of Australian dairy industry organisations

Australian Dairy Industry Council Inc. (ADIC) National leve **Representational bodies** Service bodies State Dairy Farmer Organisations Regional Development **Programs** NSW Farmers' Association (Dairy Committee) Dairy NSW State/regional leve Queensland Subtropical Dairy Dairyfarmers' Organisation DairySA South Australian **DairyTas** Dairyfarmers' Association Murray Dairy Tasmanian Farmers and Graziers Association (Dairy Council) **GippsDairy** Victorian Farmers Federation WestVic Dairy (United Dairyfarmers of Victoria) Western Dairy Western Australian Farmers Federation (Dairy Council)

Industry levies

Dairy Services

Dairy Australia is funded by farmer-paid levies that are imposed on the fat and protein content of all milk produced in Australia.

The Australian Government matches expenditure on the industry's research and development activities that meet established criteria.

Animal Health Australia

Australian dairy farmers also contribute to the funding of Animal Health Australia (AHA), as do farmers in all other livestock industries. AHA is a non-profit public company limited by guarantee. Members include the Australian, state and territory governments, and 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 20 Average rate of milk levies for 2014/15

	Milkfat (¢/kg)	Protein (¢/kg)	Milk* (¢/litre)	Milksolids (¢/kg)
Animal health	0.0580	0.1385	0.007	0.09
Dairy services	2.8683	6.9914	0.354	4.73

^{*}Based on average 2014/15 Australian milk composition of 4.11% milkfat and 3.38% protein

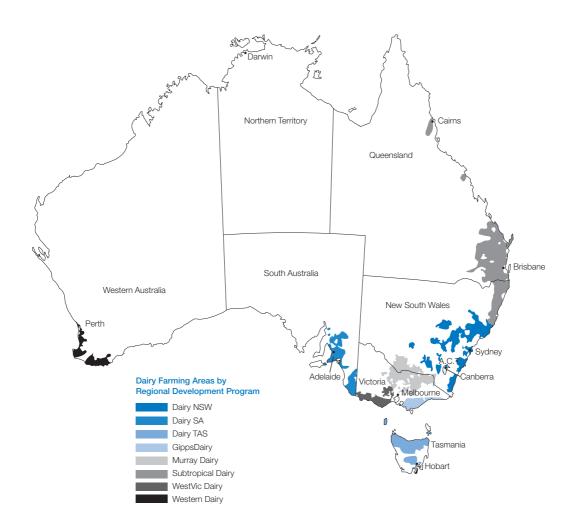




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Appendix 1 Dairying regions



Appendix 2 Grain prices

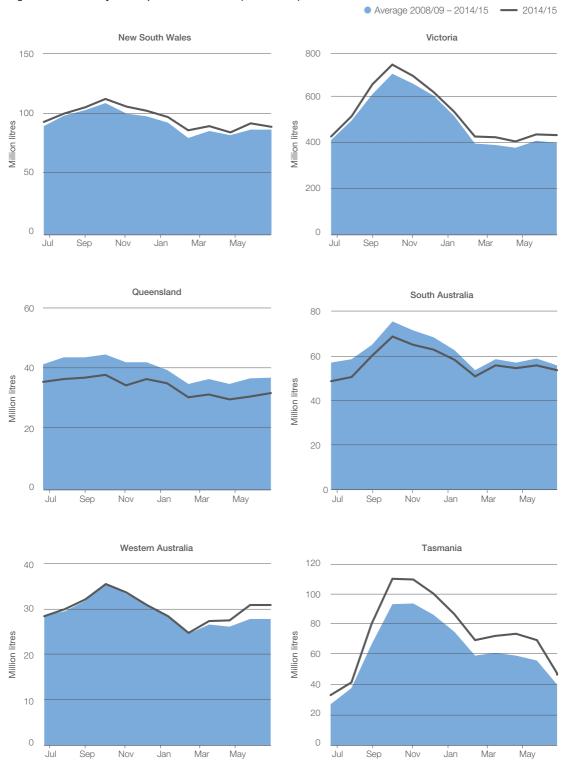
Table A1 Indicative Australian grain prices (\$ per tonne)

	NSW	VIC	QLD	SA	WA	TAS
Barley						
1988/89	154	149	138			
1999/00	141	140	136	135	138	
2009/10	220	170	234	145	151	236
2010/11	238	225	251	222	251	290
2011/12	208	210	220	201	230	266
2012/13	284	258	297	238	270	342
2013/14	282	253	345	222	250	325
2014/15	284	267	330	247	269	339
Sorghum						
1988/89	154	169	143			
1999/00	130	152	125			
2009/10	226	250	211			
2010/11	256	292	234			
2011/12	219	267	210			
2012/13	284	293	279			
2013/14	327	332	336			
2014/15	321	289	319			
Triticale						
1988/89	161	164	154			
1999/00	139	141		136	133	
2009/10	227	204		157	169	
2010/11	234	228		216	242	
2011/12	215	202		194	215	
2012/13	296	273		252	274	
2013/14	295	266		237	259	
2014/15	289	269		252	268	
Wheat	475	475	475			
1988/89	175	175	175	.=-		
1999/00	154	158	141	152	146	
2009/10	235	221	235	203	219	285
2010/11	266	253	271	247	301	320
2011/12	226	211	232	203	239	273
2012/13	306	286	305	270	301	360
2013/14	310	286	357	258	284	353
2014/15	294	280	343	254	285	349

Source: Dairy Australia

Appendix 3 Milk production

Figure A1 Seasonality of milk production 2014/15 (million litres)



Source: Dairy Manufacturing

Appendix 4 Manufacturing processes

The milkfat and solids contained in manufacturing milk can be used to produce a wide variety of dairy products. There are four major production processes. The first two are for butter / skim milk powder production and butter / casein production which are joint product processes. The other two are whole milk powder production and cheese production. Furthermore, for each of these separate product lines, 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 skim milk powder (SMP). The cream is churned until the fat globules form into solid butter, and leaving a liquid byproduct, buttermilk. This liquid can be dried to make buttermilk powder (BMP).

There are various ways of making casein. A common method is to set the skim milk by mixing with acid to produce curd. The curd is shaken to remove large clumps. The remaining liquid whey by-product is removed and the curd is repeatedly rinsed in water and then drained. Excess moisture is extracted by pressing the curd. It is then milled and dried. The curd is broken down to particle size by grinding it and passing it through a sieve.

Whole milk powder (WMP) is made by evaporating milk that has had some of the cream removed. The evaporated milk is concentrated and dried either by roller or spray process to form a powder. Spray drying 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.

Cheese production techniques vary substantially. To make cheddar cheese, some of the 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 about 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 manufacture contains protein, lactose and a little fat. It can be dried to make products for pharmaceutical purposes, as a useful supplement in stock feed, and in the manufacture of ice-cream.

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

Table A2 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

Figure A2 Product yield from 10,000 litres of milk 2014/15

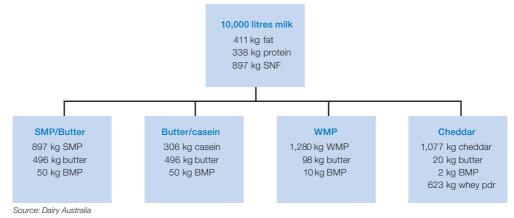


Table A3 Australian cheese production by state (tonnes)

	NSW	VIC	QLD	SA	WA	TAS	AUST
1989/90	14,198	103,216	12,842	22,774	4,129	18,172	175,331
1999/00	26,441	239,029	26,011	40,782	7,680	33,399	373,342
2005/06	21,140	268,925	7,308	31,394	6,411	37,638	372,816
2006/07	22,690	266,102	4,542	29,503	2,618	38,183	363,638
2007/08	24,591	268,206	2,888	18,350	2,547	44,340	360,922
2008/09	26,584	245,028	2,273	16,774	3,985	47,959	342,603
2009/10	26,138	260,060	1,111	14,736	4,240	43,354	349,639
2010/11	28,297	247,806	1,467	15,304	3,638	42,144	338,657
2011/12	25,174	260,342	909	12,192	1,656	46,257	346,530
2012/13	24,073	266,493	831	5,865	2,102	38,948	338,312
2013/14 (r)	23,381	239,594	670	7,279	1,988	38,545	311,457
2014/15 (p)	23,154	269,126	590	8,071	2,082	40,933	343,956

Source: Dairy manufacturers

Table A4 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 (p)	101,511	17,161	233,835	99,025	53,097

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

Table A5 Australian cheese production by variety (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Cheddar						
Cheddar (1)	138,099	126,888	135,540	126,551	132,669	152,801
Reduced fat cheddar	21,414	22,799	18,885	25,708	12,681	17,972
Cheedam	447	389	438	111	235	490
Other cheddar type cheese (2)	4,260	4,644	5,820	5,626	6,136	7,166
Total Cheddar	164,220	154,720	160,683	157,996	151,721	178,429
Semi Hard						
Mozzarella	54,349	50,028	44,929	38,616	31,696	33,055
Pizza	6,905	5,402	5,502	5,316	3,537	3,052
Other stretch curd and shredding	3,285	1,585	1,852	1143	763	705
Edam	207	621	347	423	408	387
Gouda	13,111	8,963	12,757	10,615	7,279	5,843
Other eye type cheese (3)	2,051	1,154	1,334	972	927	762
Other Semi Hard Cheese (4)	2,596	423	302	105	102	124
Total Semi Hard	82,504	68,176	67,023	57,190	44,712	43,928
Hard Grating						
Parmesan	7,360	9,225	8,906	9,156	3,522	1,765
Pecorino	1,443	1,315	1,066	938	704	427
Romano	2,014	1,219	1,460	1,526	5,804	2,951
Other (5)	1,421	1,832	2,439	3,061	3,732	5,191
Total Hard Grating	12,238	13,591	13,871	14,681	13,762	10,334
Fresh						
Cottage	2,507	4,600	2,204	2,502	1717	1195
Cream cheese	53,702	66,631	76,390	79,343	72,874	86,251
Fetta	6,503	6,681	5,707	5,684	7,850	4,773
Neufchatel	7,844	4,489	4,820	5,170	4,101	4,192
Ricotta	7,993	9,130	6,487	6,965	5,730	5,794
Other fresh types (6)	3,455	3,900	3,416	2,678	3,488	2,572
Total Fresh	82,004	95,431	99,024	102,342	95,760	104,777
Mould Ripened						
Blue Vein	1,751	791	679	626	512	534
Brie and Camembert	6,148	5,457	4,914	5,114	4,588	5,534
Other mould ripened	774	491	337	363	403	420
Total Mould Ripeened	8,673	6,739	5,930	6,103	5,503	6,488
Total Cheese	349,639	338,657	346,531	338,312	311,458	343,956
(1) Includes: Vintage						

⁽¹⁾ Includes: Vintage

Source: Dairy manufacturers

⁽²⁾ Includes: Colby, Cheshire, Gloucester, Lancashire, Leicester, Nimbin and semi processed cheddar

⁽³⁾ Includes: Swiss, Emmenthal, Fontina, Raclette, Havarti, Samsoe, Tilsit, Buetten, Vacherin.

⁽⁴⁾ Includes: Bakers, Casalinga, Goya.

⁽⁵⁾ Includes: Fresh Pecorino, Melbourno, Pepato, Parmagiano.

⁽⁶⁾ Includes: Quark, Stracchino, Mascarpone.

Revisions due to reclassicifcation of cheeses and revisions of specialty cheese production

Appendix 5 Domestic sales

Table A6 Dairy company domestic sales (tonnes)*

Major dairy products - excl drinking milk	Sales Channel	2010/11 (r)	2011/12 (r)	2012/13 (r)	2013/14 (r)	2014/15 (p)
Butter	Grocery	41,358	42,827	44,965	47,614	53,088
	Non-Grocery	13,308	12,678	15,067	21,462	23,713
Butter Total		54,666	55,506	60,031	69,076	76,801
Cheese	Grocery	126,134	117,226	141,922	130,362	136,681
	Non-Grocery	127,974	131,321	126,829	124,824	131,524
Cheese Total		254,108	248,547	268,751	255,186	268,205
Cream	Grocery	53,975	54,959	56,205	58,580	60,677
	Non-Grocery	50,018	48,527	55,952	74,168	68,011
Cream Total		103,994	103,486	112,157	132,748	128,688
Custard	Grocery	22,931	21,596	21,260	20,822	20,710
	Non-Grocery	2,332	2,612	2,674	2,732	2,614
Custard Total		25,263	24,208	23,934	23,554	23,324
Dairy Desserts	Grocery	18,931	18,092	16,643	14,162	11,295
	Non-Grocery	357	512	373	217	207
Dairy Desserts Total		19,288	18,605	17,016	14,379	11,502
Milk Powder	Grocery	5,393	6,328	7,845	8,303	13,083
	Non-Grocery	3,614	6,119	18,129	51,495	42,126
Milk Powder Total		9,007	12,447	25,974	59,799	55,209
Yoghurt	Grocery	135,681	133,502	123,631	118,102	117,245
	Non-Grocery	14,188	16,233	15,675	18,149	14,767
Yoghurt Total		149,870	149,735	139,306	136,251	132,012

^{*} 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 food service and industrial channels
Source: Dairy Manufacturers

Appendix 6 Supermarket sales

Milk

Table A7 Supermarket milk sales by state (million litres)

	NSW	VIC	QLD	SA	WA	TAS	AUST
2011/12	374	323	312	117	134	34	1,294
2012/13 (r)	376	323	319	120	138	35	1,311
2013/14 (p)	375	327	328	123	139	36	1,328

Source: IRI-Aztec Australia

Table A8 Supermarket milk sales by type (million litres)

	Regular	Reduced fat	No fat	Flavoured	UHT	AUST
2011/12	551	421	55	94	172	1,294
2012/13 (r)	562	413	52	104	180	1,311
2013/14 (p)	589	393	45	108	193	1,328

Source: IRI-Aztec Australia

Table A9 Supermarket Milk Sales - Branded vs Private Label [million litres]

	2012	2/13	2013/	14 (r)	2014/15 (p)	
	Million litres	Price/Litre	Million litres	Price/Litre	Million litres	Price/Litre
Branded milk						
Regular whole	186	\$1.81	181	\$1.84	187	\$1.84
Reduced fat	188	\$2.00	173	\$2.01	158	\$2.03
No fat	49	\$1.98	46	\$2.00	39	\$2.03
Flavoured	89	\$3.91	99	\$3.79	103	\$3.82
UHT	113	\$1.60	111	\$1.60	128	\$1.50
Total Branded milk	625	\$2.14	609	\$2.17	615	\$2.16
Private Label						
Regular Whole	365	\$1.02	381	\$1.01	402	\$1.01
Reduced Fat	234	\$1.01	240	\$1.01	236	\$1.01
Low Fat	6	\$1.25	6	\$1.25	6	\$1.24
Flavoured	5	\$2.01	5	\$1.88	5	\$1.88
UHT	59	\$1.01	69	\$1.02	64	\$0.99
Total private label milk	669	\$1.02	702	\$1.02	713	\$1.02
Total milk	1,294	\$1.56	1,311	\$1.55	1,328	\$1.55

Source: IRI-Aztec Australia

Dairy spreads

Table A10 Supermarket dairy spreads sales by type (tonnes)

	2012	2012/13 (r)		2013/14 (r)		/15 (p)
	Tonnes	Price per kg	Tonnes	Price per kg	Tonnes	Price per kg
Dairy						
Butter	21,481	\$8.50	22,593	\$8.45	24,225	\$8.45
Blends	18,775	\$9.21	20,572	\$9.22	21.257	\$9.73
Ghee	30	\$15.07	14	\$14.07	7	\$16.34
Total dairy spreads	40,287	\$8.84	43,179	\$8.82	45,489	\$9.05

Source: IRI-Aztec Australia

Table A11 Supermarket dairy spreads sales by pack size (tonnes)

	2012/	2012/13 (r)		/14 (r)	2014/15 (p)		
	Tonnes	Price per kg	Tonnes	Price per kg	Tonnes	Price per kg	
250 gram	11,328	\$8.95	12,033	\$9.01	12,701	\$9.26	
375 gram	5,153	\$12.22	5,202	\$12.70	4,892	\$13.26	
500 gram	23,361	\$7.95	25,741	\$7.88	27,570	\$8.15	
Other sizes	445	\$13.77	203	\$17.41	326	\$14.06	
Total dairy spreads	40,287	\$8.84	43,179	\$8.82	45,489	\$9.05	

Source: IRI-Aztec Australia

Table A12 Supermarket dairy spreads sales by form (tonnes)

	2012/13 (r)		2013/14 (r)		2014/15 (p)	
	Tonnes	Price per kg	Tonnes	Price per kg	Tonnes	Price per kg
Pats	18,248	\$7.47	19,267	\$7.35	20,894	\$7.39
Tubs	22,038	\$9.98	23,912	\$10.00	24,595	\$10.46
Total dairy spreads	40,287	\$8.84	43,179	\$8.82	45,489	\$9.05

Source: IRI-Aztec Australia

Appendix 7 Australian exports

Table A13 Australian exports of cheese (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia						
China, Hong Kong	10,851	9,708	11,482	14,474	19,552	17,993
Indonesia	4,197	3,708	3,256	3,296	2,875	2,757
Japan	89,810	84,450	95,558	103,870	73,598	85,829
Korea, South	7,204	8,845	7,302	6,979	4,841	5,966
Malaysia	4,462	7,103	6,762	5,819	7,907	7,536
Philippines	4,067	3,792	2,344	3,041	2,655	3,576
Singapore	4,135	5,789	5,773	4,900	5,364	5,370
Taiwan	5,158	5,302	3,759	4,048	3,072	3,638
Thailand	1,859	2,276	2,700	2,333	2,848	3,036
Other Asia	763	1,656	1,337	1,149	1,218	1,324
Total Asia	132,506	132,629	140,273	149,909	123,930	137,025
Middle East						
Saudi Arabia	6,705	6,870	3,917	2,952	4,203	3,005
U.A.E.	1,712	2,177	1,284	1,315	1,588	1,717
Other Middle East	6,433	4,029	5,235	5,794	6,082	5,025
Total Middle East	14,850	13,076	10,436	10,061	11,873	9,747
Africa						
Algeria	340	1,580	0	0	0	0
Egypt	1,730	1,915	675	122	138	157
Other Africa	3,555	2,529	2,729	3,485	2,971	2,598
Total Africa	5,625	6,024	3,404	3,607	3,109	2,755
Pacific						
New Zealand	3,337	2,892	2,035	2,283	2,177	2,267
Others	457	388	522	815	703	844
Total Pacific	3,794	3,280	2,557	3,098	2,880	3,111
Americas						
Caribbean	1,089	1,252	1,071	399	508	609
United States	4,132	2,325	572	2,753	1,891	4,577
Others	683	507	329	370	349	445
Total Americas	5,904	4,084	1,972	3,522	2,748	5,631
Europe						
Eastern Europe	381	828	550	804	2,110	81
EU 27	5,053	3,076	1,671	3,060	3,789	162
Other Europe	0	0	0	0		C
Total Europe	5,434	3,904	2,221	3,864	5,899	243
Total	168,113	162,997	160,863	174,061	150,439	158,512

Table A14 Australian exports of whole milk powder* (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia						
Bangladesh	6,354	6,557	4,708	4,941	9,180	8,581
China, Hong Kong	16,545	17,847	5,935	17,598	31,633	6,902
Indonesia	9,084	10,338	9,357	5,469	6,930	2,414
Japan	324	404	2,572	5,767	326	12
Malaysia	3,290	2,426	4,857	4,827	3,885	3,322
Philippines	887	471	570	471	385	690
Singapore	19,475	16,671	17,926	14,298	16,238	13,528
Sri Lanka	9,798	11,219	11,120	11,459	13,547	12,097
Taiwan	4,126	4,749	2,977	3,920	3,125	2,478
Thailand	3,342	4,240	2,132	2,804	2,740	2,061
Others	7,045	9,546	5,868	5,018	3,237	6,013
Total Asia	80,270	84,468	68,022	76,572	91,226	58,098
Africa	6,867	9,344	4,629	5,744	3,344	2,761
Americas	10,001	8,458	9,782	8,545	2,089	5,935
Europe	204	807	429	1,468	345	230
Middle East	17,180	21,329	31,619	9,488	3,872	6,510
Pacific	2,227	1,447	1,629	1,995	1,371	1,636
Total	116,749	125,853	116,110	103,812	102,247	75,170

*Also includes infant powder Source: Dairy Australia and ABS

Table A15 Australian exports of butter* (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia						
China, Hong Kong	4,114	3,024	4,099	3,622	3,944	4,924
Japan	392	876	1,960	1,136	348	587
Korea, South	2,364	2,073	1,578	1,551	1,181	1,743
Malaysia	2,042	1,717	2,303	1,385	2,082	2,650
Singapore	4,651	4,575	4,048	4,292	5,594	5,179
Taiwan	1,199	1,204	1,758	1,594	1,159	1,871
Others	2,690	1,612	1,823	2,248	1,475	1,197
Total Asia	17,452	15,081	17,569	15,828	15,783	18,151
Middle East	8,365	7,101	6,499	10,727	4,137	7,310
Africa	10,470	2,294	2,662	2,739	587	2,064
Pacific	871	339	848	356	658	1,249
Americas	619	144	20	811	72	995
Europe	3,915	8,444	6,007	8,835	18,554	1,257
Total	41,691	33,403	33,602	39,296	39,791	31,026

^{*} Includes butter blends converted at the rate of 1 kg butter blend = 0.7 kg butter Source: Dairy Australia and ABS

Table A16 Australian exports of skim powder* (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia						
China, Hong Kong	8,587	13,165	16,632	10,708	22,814	17,746
Indonesia	16,439	24,689	20,919	21,578	25,586	39,684
Japan	1,071	454	579	1,553	3,222	8,359
Malaysia	8,311	8,268	10,830	13,392	11,378	17,641
Philippines	18,932	9,817	10,348	10,861	8,251	14,137
Singapore	17,228	15,709	18,772	18,446	12,567	15,368
Taiwan	7,422	7,824	6,474	4,890	3,542	1,442
Thailand	9,888	11,462	9,552	12,115	10,177	11,317
Others	12,791	32,788	17,290	15,688	10,420	26,276
Total Asia	100,669	124,176	111,396	109,232	107,957	151,970
Africa	1,462	2,307	2,083	3,830	1,392	386
Americas	1,462	1,461	889	1,331	244	1,473
Europe	244	1,510	810	732	563	540
Middle East	17,829	21,496	23,529	28,313	31,429	26,927
Pacific	3,957	4,385	2,612	3,478	1,584	5,376
Total	125,623	155,335	141,319	146,916	143,169	186,672

Table A17 Australian exports of butter oil (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia						
Bangladesh	168	70	202	50	202	101
Indonesia	934	756	72	50	302	410
Malaysia	2,656	1,645	1,210	545	687	907
Philippines	1,970	4,914	1,150	50	102	101
Singapore	1,075	925	332	166	240	128
Others	7,908	4,389	4,723	2,724	3,476	3,013
Total Asia	14,711	12,699	7,689	3,585	5,009	4,660
Middle East	1,933	1,147	720	1,008	386	829
Africa	601	1,005	198	429	86	101
Americas	6,906	3,171	3,152	5,015	517	3,512
Europe	1,460	19	254	1,432	1,530	433
Pacific	145	23	44	55	87	19
Total	25,756	18,064	12,057	11,524	7,615	9,554

Actual product weight (not CBE) Source: Dairy Australia and ABS

Table A18 Australian exports of liquid milk (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia						
Singapore	20,970	24,620	30,919	31,762	30,474	33,254
Philippines	3,653	4,134	4,423	2,901	8,307	7,936
Malaysia	3,902	3,406	3,960	5,689	7,266	4,454
Indonesia	516	366	342	386	426	367
Hong Kong	15,333	14,459	15,047	16,520	14,440	13,734
China	1,284	2,402	7,154	21,035	25,061	54,547
Other Asia	6,761	10,856	13,214	13,139	16,646	17,534
Total Asia	52,419	60,243	75,059	91,432	102,620	131,826
Africa	386	347	732	1,023	659	766
Pacific	10,491	9,325	10,712	11,285	12,596	14,669
Others	907	1,002	1,220	2,737	2,256	645
Total	64,203	70,917	87,723	106,477	118,131	147,906

Table A19 Australian exports of whey products* (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia	44,221	30,891	33,765	32,415	26,278	29,732
Europe	436	593	1,793	2,219	1,462	578.75
Other	9,064	6,331	6,181	6,282	5,567	4,789
Total	53,721	37,815	41,739	40,916	33,307	35,099

^{*} Includes whey protein concentrate Source: Dairy Australia and ABS

Table A20 Australian exports of live dairy heifers (cows) by market

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Asia						
China	50,465	48,688	55,114	59,235	78,775	62,643
Indonesia	16,079	1,345	658	3,406	800	1,514
Malaysia	924	847	355	1,085	1110	2,124
Pakistan	1,774	4,225	2,785	8,327	6,425	1,989
Vietnam	461	1,405	496		440	3,383
Other Asia	538	1,106	811	2,873	1,166	1,407
Total Asia	70,241	57,616	60,219	74,926	88,716	73,060
Europe	7,991	10,488	4,855	8,385	3,595	
Middle East	1,910	7,088	202	4,111	29	283
Africa	1,000					
Others	8	6				
Total	81,150	75,198	65,276	87,422	92,340	73,343

Source: Dairy Australia and ABS

Table A21 Australian exports of live dairy heifers (cows) by state

	NSW	VIC	QLD	SA	WA	TAS	AUST
2005/06	1,008	30,396		2,106	4,411		37,921
2006/07	385	26,077		1,276	3,812		31,550
2007/08	36	50,395	76	4,255	4,543		59,305
2008/09	434	38,896	523	3,426	619		43,898
2009/10	932	73,640	27	765	5,786		81,150
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 (r)		89,640	1,171	4	1,525		92,340
2014/15 (p)	910	64,776	122		7,535		73,343

Appendix 8 Australian imports

Table A22 Australian imports of dairy products from New Zealand and other countries (tonnes)

	New Zealand	Other	Total 2013/14	New Zealand	Other	Total 2014/15 (p)
Skim milk powder	4,136	1,840	5,976	4,660	3,310	7,970
Buttermilk powder	182	1,843	2,025	379	1,742	2,121
Whole milk powder*	13,232	8,866	22,098	22,956	8,414	31,370
Whey powder & concentrates	1,650	14,143	15,793	1,495	7,248	8,743
Condensed milk	30	2,155	2,185	29	3,440	3,469
Milk	1,204	94	1,298	2,819	136	2,955
Cream	2,115	21	2,136	2,327	48	2,375
Yoghurt	1,037	1109	2,146	908	837	1,745
Butter**	15,581	2,010	17,591	18,359	1,268	19,627
Butter oil	2,178	679	2,857	3,052	725	3,777
Cheese	39,623	36,194	75,817	45,235	37,161	82,396
Casein	709	197	906	910	644	1,554
Caseinates	273	33	306	972	74	1,046
Lactose	2,126	17,747	19,873	4,194	16,060	20,254
Ice cream ('000 lts)	2,176	21,058	23,234	2,001	17,368	19,369

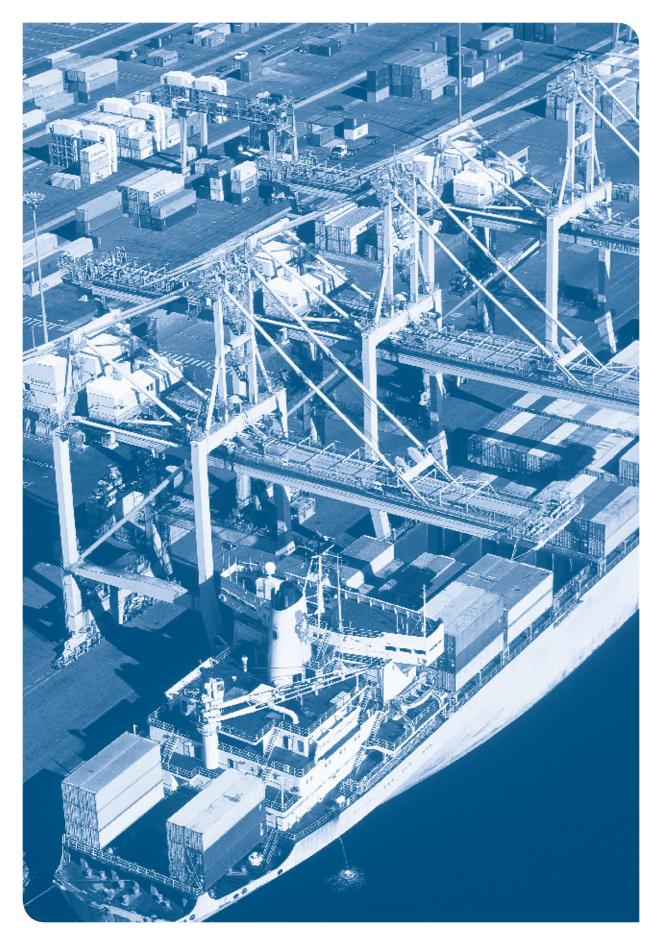
* Includes infant powder
**Includes butter blends converted at the rate of 1 kg butter blend = 0.7 kg butter

Source: ABS

Table A23 Australian cheese imports by country (tonnes)

	2009/10	2010/11	2011/12	2012/13	2013/14 (r)	2014/15 (p)
Austria	405	486	812	796	746	584
Bulgaria	1,340	1,392	1,246	1,470	1,312	1,476
Denmark	2,186	2,076	1,924	2,071	2,133	1,529
France	688	886	1,076	1,391	1,690	1,775
Germany	369	693	1,034	1,791	1,326	1,566
Greece	1,201	1,380	1,513	1,941	1,761	2,110
Italy	2,972	3,170	3,557	3,693	3,981	4,222
Netherlands	1,353	1,568	2,164	2,364	2,307	2,024
Poland	464	466	506	414	530	595
United Kingdom	234	296	233	375	463	625
Other	627	731	814	1,264	1,543	1,764
Total EU	11,839	13,144	14,879	17,570	17,792	18,270
New Zealand	55,596	49,674	46,741	43,573	39,623	45,235
United States	2,157	7,523	12,079	10,246	16,200	16,709
Norway	1,472	2,014	1,990	1,789	1,787	1,745
Switzerland	150	126	170	185	196	180
Other	311	391	385	330	219	257
Total Cheese Imports	71,525	72,872	76,244	73,693	75,817	82,396

Source: ABS



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ISSN 2202-7467 (Online); ISSN 1448-9392 (Print)





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