

IN THE AUSTRALIAN COMPETITION TRIBUNAL

of 2013

MURRAY GOULBURN CO-OPERATIVE CO LIMITED

**RE: PROPOSED ACQUISITION OF WARRNAMBOOL CHEESE
AND BUTTER FACTORY COMPANY HOLDINGS LIMITED**

Certificate identifying annexure

This is the annexure marked **MB7** now produced and shown to Maldwyn Beniston at the time of signing his statement on 28 November 2013.

Annexure MB7

Dairy Australia – Australian Dairy Industry in Focus 2013

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Dairy
Australia



**Australian
Dairy Industry
In Focus 2013**

Table 1. Australian dairy industry at a glance

National dairy herd		Dairy: major export industry	
1.65 million cows		\$2.76 billion per annum generated	
Average herd size		7% of world dairy trade	
258 cows		Percentage of Australian milk production—exported	
Milk production		40%	
9,200 million litres		Major markets for Australian dairy products (tonnes)	
Average annual milk production per cow		Australia	2,999,200
5,525 litres		(including 2,524,500 of drinking milk)	
Dairy: Australia's third-largest rural industry		Greater China	129,000
\$13 billion farm, manufacturing and export industry		Japan	125,000
Milk utilisation		Singapore	84,000
Cheese	33%	Malaysia	52,000
SMP/BMP	28%	Indonesia	43,000
Drinking milk	27%	Annual per capita consumption	
WMP	9%	Drinking milk	107 litres
Other	3%	Cheese	13.5 kilograms
Annual production of main commodities (tonnes)		Dairy industry workforce	
Milk powders	333,000	Direct employment of approximately	43,000
Cheese	338,300		
Butter	118,200		

Abbreviations

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

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Foreword



Australia's dairy industry is one of the most important local rural industries, with a farmgate value of \$3.7 billion in 2012/13.

Our people and world-leading practices create jobs for generations and careers for life - making the dairy industry one of the most important rural industries in Australia.

Dairy ranks fourth in agricultural exports—valued at \$2.76 billion—with a 5% increase in export volumes. Value-added processing activities delivered an agricultural industry with a wholesale value of dairy products in excess of \$13 billion last year.

In the local market, estimated total per capita consumption of the major dairy products of milk, cheese, butter/blends and yogurt remains around 300 litres per person (in milk equivalent terms).

The 2012/13 season did prove to be a difficult one for many dairy farmers; with a 3% decline in milk production volumes to 9.20 billion litres, unfavourable seasonal conditions, lower farmgate prices and higher input costs combining to challenge the profitability of farm businesses.

Cashflow challenges were brought sharply into focus as many farm businesses struggled to manage unfavourable milk-to-feed price ratios and variable weather reduced home grown fodder yields.

While many farmers recognise the opportunities offered in growing international dairy markets, short-term variations in returns and profitability have strained finances and are challenging confidence, underlining the "two-speed" dairy industry development in recent times.

In the National Dairy Farmer Survey (NDFS) conducted in early August, 73% of farmers were positive about the dairy future of the industry. This represented a significant improvement in sentiment from the February survey results (+29%), driven by increases in farm gate milk prices, a lower AUD and generally more favourable weather. However, confidence remains significantly lower in northern fresh milk production regions (QLD, 35% farmers feel positive about the future) with survey respondents noting low farmgate prices and supermarket milk pricing power as their primary concerns.

In exporting regions, opening prices for the 2013/14 season were developed in a context of higher global dairy prices and a rapidly easing value of the Australian dollar, indicating that milk prices will likely increase by around 20–25% this season. However, Northern fresh milk producers continue to face challenging seasonal conditions, high input prices and much lower farm gate price increases. In some instances, the lift in farmgate milk prices have been offset by increased transport charges.

Dairy Australia is the industry's farmer-owned service organisation. Funded by farmer levies, with matching research and development funds from the Australian Government, Dairy Australia's role is to boost the long-term sustainability and viability of local farm businesses and the regional communities that depend on the dairy industry. The organisation works across the dairy supply chain in areas that benefit the entire industry—from farming through manufacturing, to domestic and export markets. The company's 2012/13 investment budget for research and development projects and in industry services totalled around \$55 million. More detail on the strategic priorities and the way Dairy Australia interacts with the other industry organisations is available in the *Industry organisations and structure* section on page 28.

I would like to extend Dairy Australia's thanks to 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 from www.dairyaustralia.com.au

The website also features the Dairy 2013: Situation & Outlook report, together with the September 2013 Update.

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

Ian Halliday
Managing Director

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 \$3.7 billion in 2012/13, it ranks third behind the beef and wheat industries. It is estimated that approximately 43,000 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. While the bulk of milk production occurs in south-east 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, yogurts 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 on-going dry conditions; with the resulting low water storage levels significantly limiting water allocations in irrigated dairying regions over a number of years. 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 five 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 trend

At June 30	1980	1990	CAGR 1980s	2000	CAGR 1990s	2013 (p)	CAGR 2000s	CAGR 33yrs
Milk production (m. lts)	5,432	6,262	1.4%	10,847	5.6%	9,200	-1.3%	1.6%
Dairy cows ('000)	1,880	1,654	-1.3%	2,171	2.8%	1,650	-2.1%	-0.4%
Farm numbers	21,994	15,396	-3.5%	12,896	-1.8%	6,398	-5.2%	-3.7%
Value of Farm Production* (\$m.)	\$3,431	\$3,207	-0.7%	\$4,068	2.4%	\$3,694	-0.7%	0.2%
Per capita consumption (milk equiv)	239	244	0.2%	274	1.2%	299	0.7%	0.7%
Export Value* (\$m.)	\$1,036	\$581	-5.6%	\$3,709	20.4%	\$2,756	-2.3%	3.0%
Export Share of Production	22%	31%		54%		40%		

Sources: ABS, ADC, DA, State Authorities

CAGR = Compound Annual Growth Rate

*Expressed in 2012/13 dollars

A world-competitive industry

Australian dairy farmers operate in a deregulated and open market and have done so for over a decade; the more 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 just over US\$40 per 100kg of milk last year, Australian dairy farmers generally received a price comparable to many of the major producing countries. 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 has been exported over the last decade 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. Consequently, 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, as prices appear to be more closely reflecting dairy commodity price trends in most of the major producing countries.

Figure 1. Farmgate value vs Export sales value—2011/12

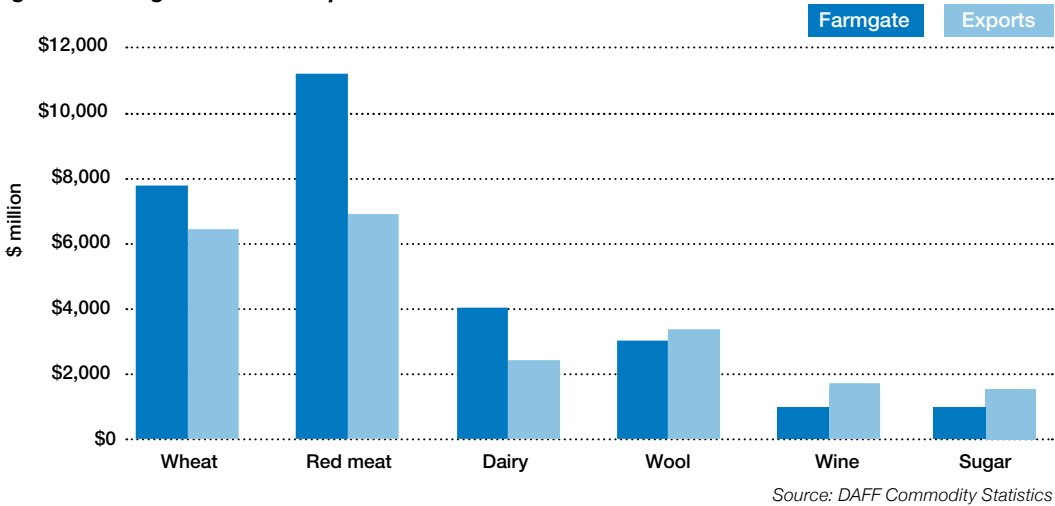
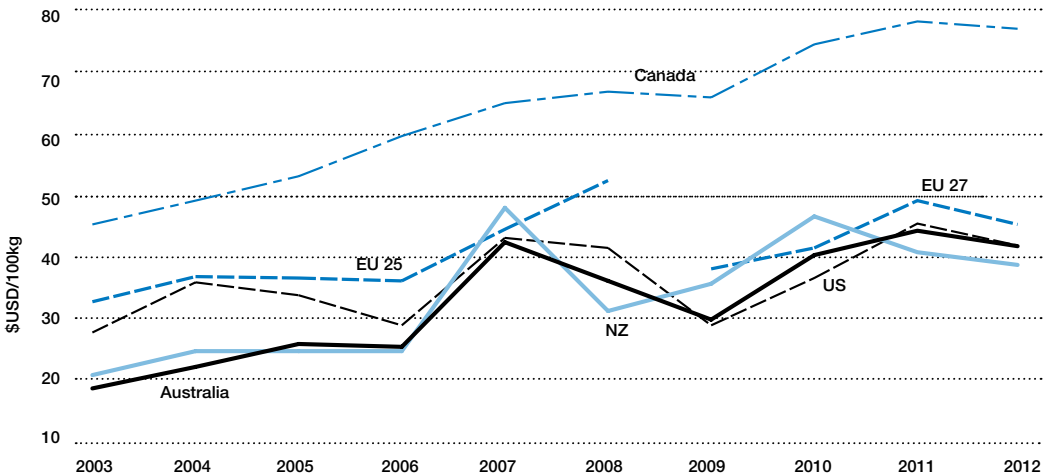


Figure 2. International Farmgate milk prices (USD/100kg)



Farm Facts

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.

Feedlot-based 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. Nevertheless, such changes in production systems have introduced an additional level of risk in the variability of farm returns.

According to the 2013 National Dairy Farmer Survey, 95% of dairy farms fed an average of 1.6 tonnes of grain, grain mixes or feed concentrates per cow during the 2012/13 season. This was marginally down from an average of 1.7 tonnes in the previous season—primarily due to significantly higher supplementary feed costs during the season, with grain costs increasing by some

25% to 33% last season. In fact, the ABARES Farm Survey indicated that supplementary feed costs for the average dairy farm increased by 15% last season; and increased from less than 26% of total farm cash costs up to nearly 30%.

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

Owner-operated farms dominate the Australian dairy industry. Share farming was employed on 18% of farms in 2012/13; while corporate farms make up just 3% of the total.

The number of farms has fallen by two-thirds over the last three decades from 20,060 in 1983 to 6,398 in mid-2013. 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 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 (p)	731	4,284	518	268	160	437	6,398

Source: State Milk Authorities

Average herd size has increased from 90 cows in 1982 to an estimated 258 currently. There is also a 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 some 65–70% 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. 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 www.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.

Combining this increase in yield per cow with average herd sizes that are over two and a half times larger, the average milk production per farm has increased from 295,000 litres to 1,440,000 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 (r)	205	1,075	95	95	54	145	1,670
2012/13 (e)	196	1,079	93	90	56	137	1,650

Source: ABS and Dairy Australia
*** Change in ABS data collection

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	5,203	5,836	4,966	6,257	6,466	5,349	5,708
2011/12 (r)	5,497	6,054	5,018	6,252	5,848	5,635	5,891
2012/13 (e)	5,274	5,611	4,827	5,733	6,181	5,309	5,525

Source: Dairy manufacturers, ABS and Dairy Australia

Farmgate milk prices

The majority of Australian 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. World dairy prices directly impact on the company returns for the 40% of local milk production that finds its way into export products such as butter, cheese and milk powders; as well as the additional 35% of production that goes into locally consumed butter, cheese and milk powders. This means that around 75% of milk production is exposed to world prices for butter, cheese and milk powders; while only the remaining 25% is consumed within Australia as liquid drinking milk.

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

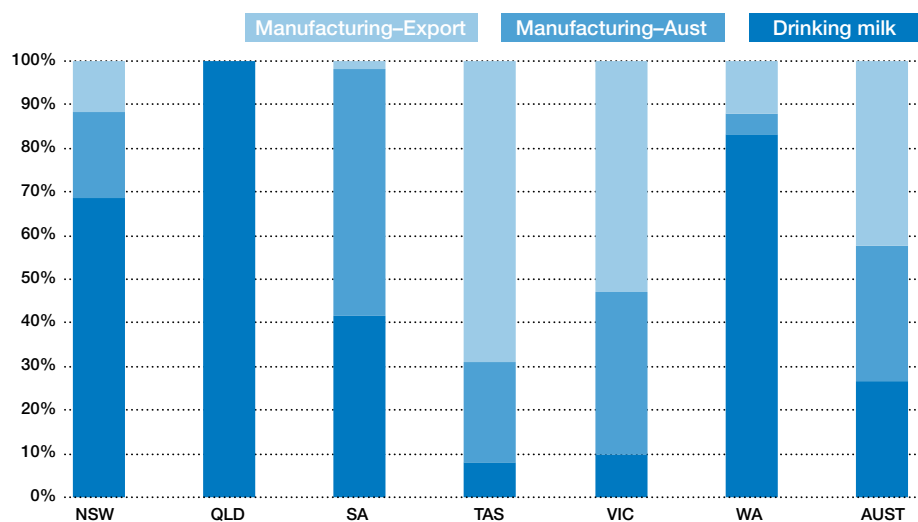
Apart from Australia's actual export product mix and prevailing world dairy commodity prices, another layer of complexity is the value of the Australian dollar against the US dollar and the Euro in foreign exchange markets, as it is critical in determining company returns.

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 has significantly lowered the Australian dollar returns despite relatively strong export markets over much of this period. Consequently, the exchange rate can significantly affect what the companies can pay for milk.

Farmgate 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 milk prices from season to season—as can the dividend policies of farmer-owned co-operatives.

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, transport 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.

Consequently, 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—2012/13. 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. Use of Australian milk by State—2012/13

Source: Dairy Australia

From this chart, one can see 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; which incorporates returns from the milk that is 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 prices are generally paid to ensure the year-round supply of milk.

Table 6. Typical factory paid prices by state

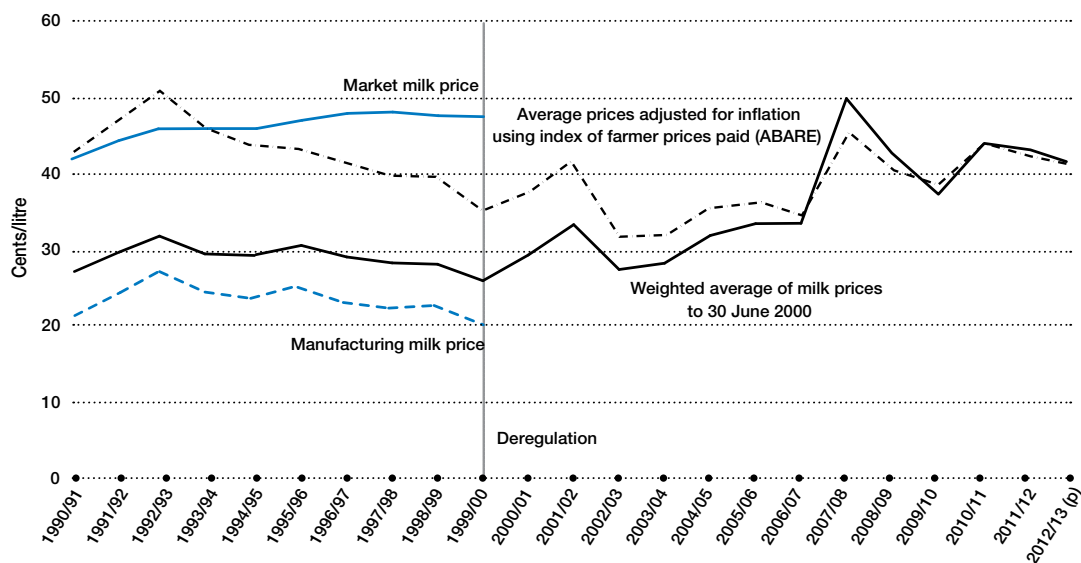
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (p)
NSW	cents/litre	48.6	52.4	48.7	48.3	47.4	46.4
	\$/kg milk solids	6.73	7.29	6.72	6.74	6.60	6.45
VIC	cents/litre	50.0	39.1	33.9	42.0	40.6	37.8
	\$/kg milk solids	6.68	5.14	4.49	5.58	5.46	5.05
QLD	cents/litre	51.8	57.2	55.8	53.1	53.6	53.6
	\$/kg milk solids	7.14	7.89	7.57	7.26	7.33	7.33
SA	cents/litre	48.6	44.6	34.6	38.0	41.0	38.3
	\$/kg milk solids	6.75	6.19	4.73	5.36	5.76	5.42
WA	cents/litre	41.4	49.0	42.4	43.4	41.9	45.0
	\$/kg milk solids	5.80	6.77	5.96	6.03	5.97	6.37
TAS	cents/litre	50.2	41.3	34.6	43.2	39.9	40.2
	\$/kg milk solids	6.63	5.40	4.46	5.59	5.19	5.16
AUST	cents/litre	49.6	42.4	37.3	43.2	42.0	40.2
	\$/kg milk solids	6.68	5.66	4.98	5.80	5.69	5.41

Source: Dairy manufacturers

The long-term downward trend in inflation-adjusted farmgate 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 and 2007/08—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 under-going a structural realignment in recent years to support stronger milk prices, the level of volatility has also increased significantly over this time.

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 (FCI) (defined as total cash receipts less total cash costs) and farm business profit (FBP) (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.

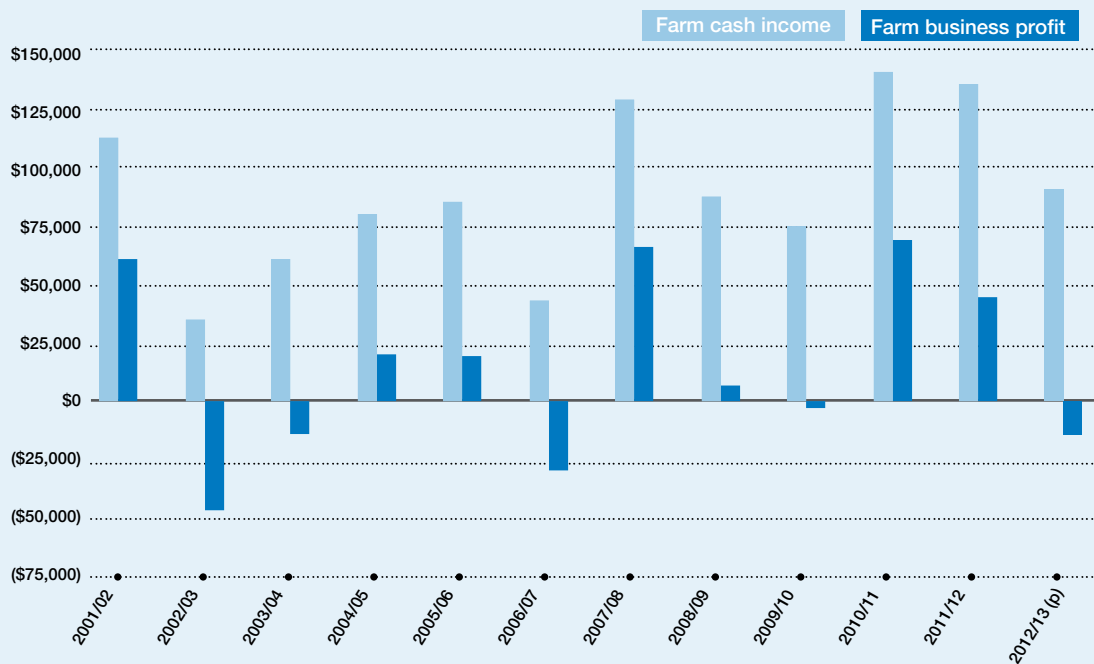
Figure 5 illustrates how both FBP and FCI were strong in the year of record high milk production volumes in 2001/02—encouraged by a combination of favourable climatic and market conditions; fell due to the dramatic impact of the drought in the 2002/03 season; slowly recovered and consolidated over the following three years, before 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 milk prices. Two years of relatively strong farm cash incomes in

2010/11 and 2011/12, were offset by significant falls in 2012/13.

ABARES estimates that average farm cash income fell 39% to \$87,000 in 2012/13—to around 2% below the preceding ten-year average. Across all regions, falling milk production volumes, lower farmgate milk prices and increased cash costs delivered lower financial performance. It was estimated that 21% of farms had negative farm cash income (up substantially from 14% last year). Meanwhile Western Victoria saw the greatest fall in farm cash incomes—down 88% to just \$14,000.

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 \$10,000 in 2012/13; compared to a relatively strong profit of \$64,700 in 2011/12. The three regions of Western Victoria, South Australia and north-east NSW/south-east Queensland all saw significant falls from positive to negative average farm business profits in 2012/13.

Figure 5. Australian dairy farm financial performance



Source: ABARES

Despite the decline in farm cash incomes, ABARES farm survey data indicates a 3% reduction in average debt from \$701,500 in 2011/12 to an estimated \$678,000 in 2012/13. Furthermore, the composition of farm debt continues to change with a marked trend towards the use of debt for working capital purposes, to manage climate and market volatility. Working capital has continued to increase as a proportion of overall debt, reaching 29% in 2011/12. This made it second only in importance to land purchase debt.

The average level of farm business equity, as estimated by ABARES, remained around the long-term average of 80%. Once again, the range is very wide across dairying regions—from 90% in north-east NSW/south-east Queensland (where average farm debt is \$307,000) to 65% in Tasmania (where average farm debt is \$1,824,000)—and within individual regions.

Farm equity levels tend to be strongly correlated with income levels. The latest estimates for the 2011/12 season indicate that where farms had an equity ratio above 70%, some 67% had a positive income; whereas for those farms with an equity ratio below 70%, the proportion with a positive income dropped to 20%.

Milk production

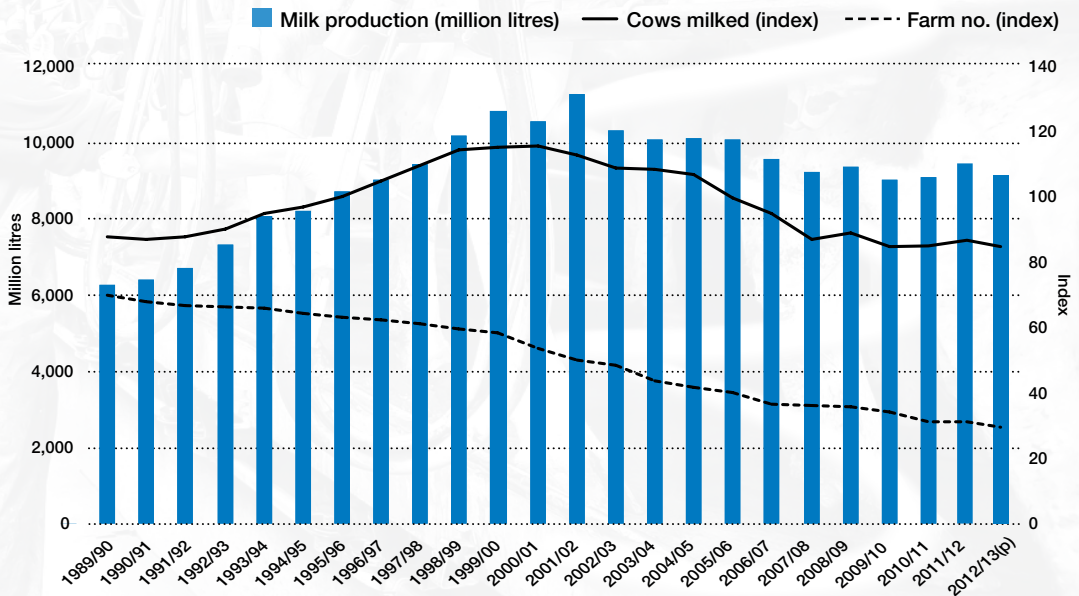
While farm numbers have steadily decreased over the past three decades, milk output generally increased, due to increasing cow numbers and improved cow yields—up until the major widespread drought of 2002/03. The following decade has been a period of consolidation for the industry, with falling cow numbers and dry times conditions constraining production. While recent seasons have seen generally improved seasonal conditions across most dairying and grain growing regions, volatility in milk prices and farm incomes have constrained farmer confidence—with lower cow numbers limiting growth in milk production.

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 four years, some 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 6 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 1. 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 7). The production of long shelf-life manufactured products in these parts of the country has enabled maximum milk utilisation within the seasonal cycle.

Figure 6. Australian milk production vs indices of farms and cows milked



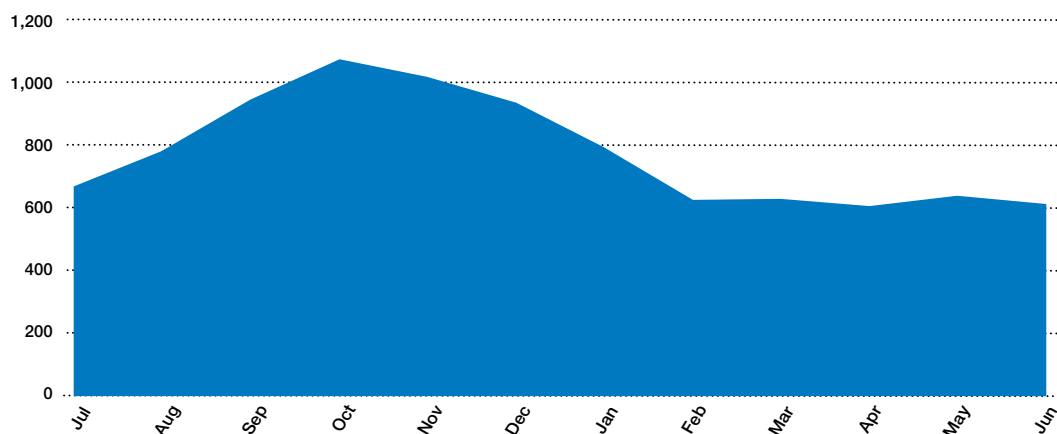
Source: Dairy manufacturers, ABS, State Authorities and Dairy Australia

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.

Australian milk production fell by 280 million litres, or 3%, to 9,200 million litres in 2012/13—reflecting a difficult year for many dairy farmers; with unfavourable seasonal conditions, lower farmgate prices and higher input costs combining to challenge the profitability of farm businesses. Production conditions were demanding across many of the dairying regions in Australia. Large parts of south-eastern Australia experienced a wet winter, a dry spring and summer, followed by a late or inadequate autumn break earlier this year. Bushfires and floods also impacted on some regions at different times.

Figure 7. Seasonality of milk production in Australia, 2012/13 (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	1,074	5,790	529	605	350	674	9,023
2010/11	1,046	5,912	485	572	362	722	9,100
2011/12	1,086	6,213	485	570	338	788	9,480
2012/13 (p)	1,071	6,039	458	536	337	760	9,200

From July 2005, data collection is based on farm location
Source: Dairy manufacturers

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.

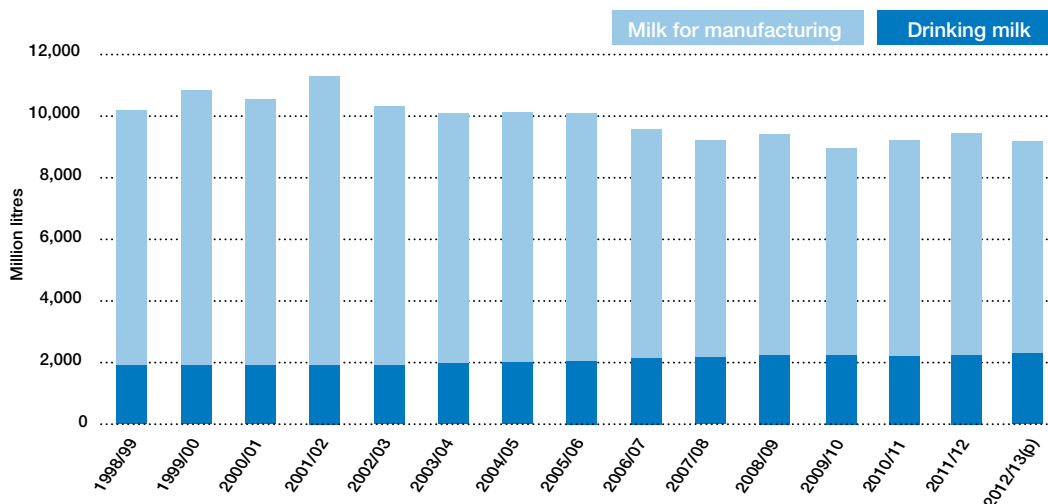
With total milk output contracting last year and strong growth in the volumes of milk going into the drinking milk sector has seen its share of total milk production increase from a low point of 17% in 2001/02—the year of peak milk production—to nearly 27% in the 2012/13 season. Conversely, the volume and proportion of milk used for manufactured dairy products, and hence available for export, has been steadily declining over the decade, as shown in Figure 8.

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

	NSW	VIC	QLD	SA	WA	TAS	AUST
Milkfat							
2007/08	3.97	4.14	4.01	3.95	3.95	4.20	4.10
2008/09	3.93	4.22	3.97	3.93	3.99	4.25	4.15
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 (p)	3.92	4.12	4.02	3.81	3.87	4.32	4.08
Protein							
2007/08	3.25	3.34	3.25	3.25	3.19	3.39	3.32
2008/09	3.26	3.38	3.28	3.28	3.24	3.39	3.35
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 (p)	3.27	3.36	3.29	3.26	3.20	3.47	3.35

Source: Dairy manufacturers

Figure 8. Drinking and manufacturing milk production (million litres)



Source: Dairy manufacturers

The use of milk varies significantly around the states and was mentioned previously in the discussion around what drives farmgate milk prices (see page 7) and graphically illustrated in *Figure 3 Use of Australian milk by State—2012/13* (page 8).

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 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 has also relieved the pressure on Australian dairy companies to continue to invest in increasing processing capacity—at least in the short to medium term. Instead, the challenge has been to remove surplus capacity and to utilise the existing capacity as profitably as possible.

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

Farmer-owned co-operatives no longer dominate the industry and now account for around 35% of Australia's milk production. The largest co-operative is Murray Goulburn accounting for nearly 33% of national milk output.

Other Australian dairy companies cover a diverse range of markets and products, from the publicly listed Warrnambool Cheese & Butter and Bega Cheese Limited; to the privately owned Regal Cream (Bulla Dairy Foods), Burra Foods and Longwarry Food Park to name just a few; together with many highly specialised cheese manufacturers.

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

There were a number of changes in the ownership of dairy companies in the Australian industry during the 2012/13 season.

- > Lactalis, parent company of Parmalat Australia, purchased specialist cheese maker Jindi in late-2012 from Menora Foods, its distribution company.
- > Both Bega Cheese (with 17.1%) and Murray Goulburn (with 16.3%) increased their shareholdings in Warrnambool Cheese & Butter during early-2013. Although Bega has announced a formal takeover bid, 19.9% represents the threshold shareholding level allowed under the Australian Corporations Act before triggering a takeover offer.
- > Brownes Dairy (WA) purchased Canning Vale-based Casa Dairy Products—a specialist cheeses and yoghurt manufacturer—giving Brownes an expanded line-up of value-added branded products.

Significant investment plans were announced during the year by the major dairy companies.

- > In early-2013 Murray Goulburn (MG) announced a 10-year supply contract with Coles for fresh white drinking milk under Coles' private label in New South Wales and Victoria to commence from 1 July 2014. MG also reached an agreement to supply fresh milk under its own Devondale brand. To fulfil its new drinking milk supply agreement with Coles, MG is investing \$120 million in building two new state-of-the-art milk processing plants—one at Laverton in Melbourne and the other at Erskine Park in Sydney.
- > Fonterra is investing \$6.5 million to upgrade cheese making equipment at its Stanhope (Vic) facility to increase hard and cheddar cheese production. The company is to spend a further \$6 million on upgrading its Tasmanian facilities at Spreyton and Wynyard to expand its processing and export capabilities.
- > Lion Dairy and Drinks (LDD) has committed \$140 million to upgrade its cheese production facility at Havenview, Burnie (Tas) in a move which will lead to the company consolidating its cheese production from the Kings Meadow (Tas) and Simpson (Vic) plants by the end of 2013.
- > LDD is investing \$50 million to double capacity at its Morewell (Vic) fresh dairy product plant, upgrading cooling, packing and logistics facilities.

There have also been a number of smaller investment programs and dairy company developments announced during the year. For further details, see the *Industry Value Chain* section of the *Dairy 2013 Situation & Outlook* report available from www.dairyaustralia.com.au

The major manufactured product streams are:

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

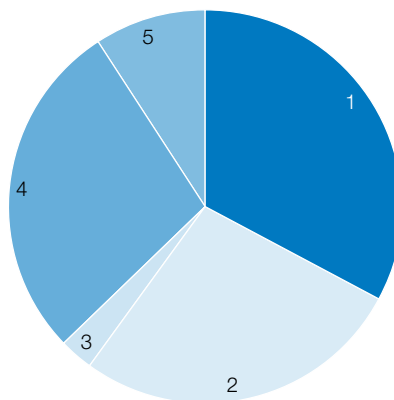
Cheese is consistently the major product stream; utilising around one third of Australia's milk production in 2012/13 and has remained around this level for a number of years.

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

Nearly 60% of manufactured product (in milk equivalent terms) is exported and the remaining 40% is sold on the Australian market. This contrasts with drinking milk, where some 96% is consumed in the domestic market.

See Appendix 4 for more details on the manufacturing processes.

Figure 9. Utilisation of Australian milk in 2012/13



- 1 Cheese (33%)
- 2 Drinking milk (27%)
- 3 Other (3%)
- 4 SMP/butter (28%)
- 5 WMP (9%)

Source: Dairy Australia



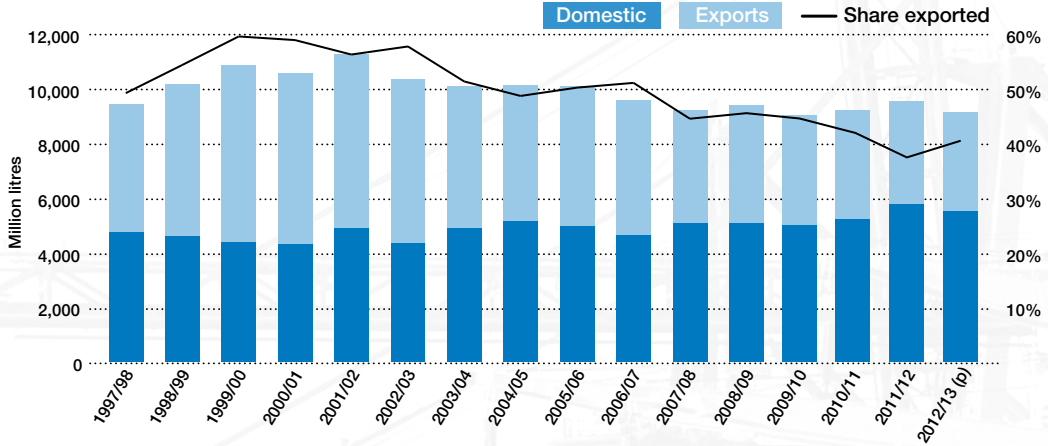
Dairy markets

Over more 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 40–60% over the period shown in Figure 10. Over recent years Australia has exported around 40–45% of its milk production—the lowest proportion since the mid-1990s, due to the

reduced availability of product from a declining milk production base.

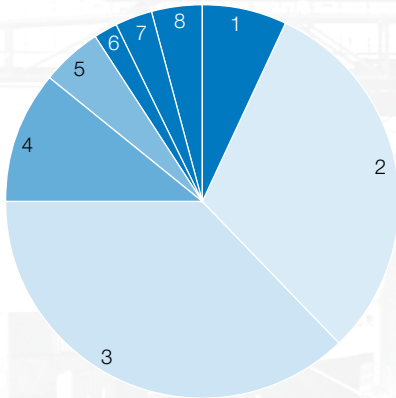
While Australia accounts for an estimated 2% of the world's milk production, it is a significant exporter of dairy products. Australia currently ranks fourth in terms of world dairy trade—with a 7% share—behind New Zealand, the European Union as a bloc and the United States.

Figure 10. Australian consumption and exports (milk equivalents)



Source: Dairy manufacturers and ABS

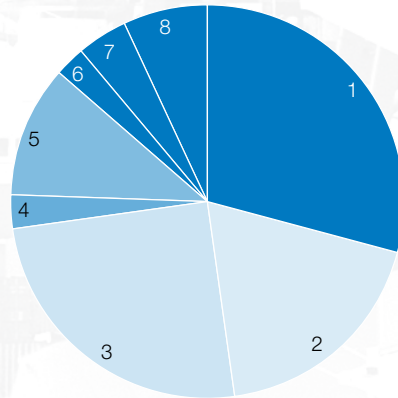
Figure 11. Exporters' share of world dairy trade in 2012 (milk equivalents)



- 1 Australia (7%)
- 2 EU (31%)
- 3 NZ (37%)
- 4 USA (11%)
- 5 Argentina (5%)
- 6 Ukraine (2%)
- 7 Uruguay (3%)
- 8 Other (4%)

Source: Dairy Australia and ABS

Figure 12. Australia exports by region, 2012/13 (A\$ million)



- 1 South East Asia (\$810)
- 2 Japan (\$511)
- 3 Other Asia (\$692)
- 4 Europe (\$76)
- 5 Middle East (\$300)
- 6 Africa (\$63)
- 7 Americas (\$115)
- 8 Other (\$190)

Source: Dairy Australia and ABS

Japan continues to be the single most important export market for Australia, accounting for 19% of exports by value. Australian exports are concentrated in Asia, which represented 73% of the total dairy export value of A\$2.76 billion in 2012/13.

This concentration of exports in Asia/East 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 2012/13 were Japan, Greater China, Singapore, Malaysia and New Zealand. The top five by volume were slightly different; being Greater China, Japan, Singapore, Malaysia and Indonesia.

The fastest growing export market for Australia in the last five years has been Greater China; which is made up of mainland China, Hong Kong and Macau.

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

Table 9. Australian dairy markets by product, 2012/13 (A\$ million)

	Sth East Asia	Other Asia	Europe	Middle East	Africa	Americas	Other	Total
Butter/AMF	42	31	34	38	10	22	2	179
Cheese	123	534	18	55	20	16	20	787
Milk	44	58	0	8	1	0	17	129
SMP	254	96	2	91	12	4	11	469
WMP*	103	216	4	34	17	28	9	413
Other	243	268	17	74	3	43	131	779
Total	810	1,203	76	300	63	115	190	2,756

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

Table 10. Top 10 Australian export destinations, 2012/13

Country	Volume—Tonnes**	% of Total	Country	Value—A\$ million	% of Total
Greater China*	129,320	16%	Japan	511	19%
Japan	125,104	16%	Greater China*	437	16%
Singapore	84,250	11%	Singapore	218	8%
Malaysia	51,922	6%	Malaysia	174	6%
Indonesia	42,881	5%	New Zealand	157	6%
Thailand	41,671	5%	Indonesia	149	5%
New Zealand	40,859	5%	Thailand	148	5%
Philippines	30,880	4%	United Arab Emirates	97	4%
United Arab Emirates	25,319	3%	Philippines	90	3%
Taiwan	24,133	3%	South Korea	88	3%

Source: Dairy Australia and ABS
* includes China, Hong Kong and Macau
**not milk equivalents

Australian consumption of dairy products

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

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 107 litres, growing strongly over the last two years, and at very high levels compared to many countries—thanks in no small part to the 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 3.7 kgs. Consumers continue to remain interested in the 'naturalness' of butter, together with its superior taste and cooking functionality.

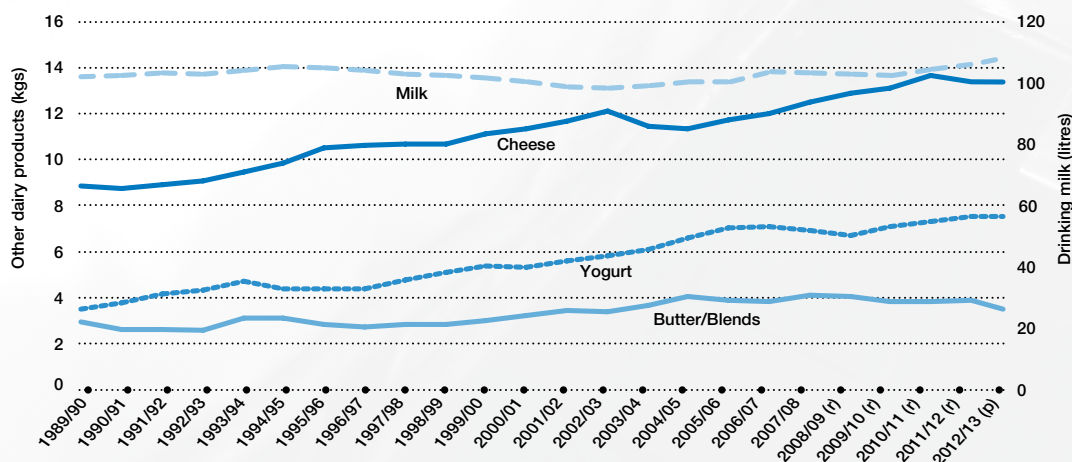
Yogurt is the ultimate 'healthy snack' for time-pressed consumers, combining both convenience and health attributes; with per capita consumption just over 7.5 kg per year.

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

	Milk (lts)	Cheese (kgs)	Butter / Blends (kgs)	Yogurt (kgs)
2008/09 (r)	103.8	13.0	4.1	6.8
2009/10 (r)	103.8	13.3	3.9	7.2
2010/11 (r)	104.5	13.7	3.9	7.3
2011/12 (r)	106.1	13.5	3.9	7.4
2012/13 (p)	107.0	13.5	3.7	7.6

Source: Dairy manufacturers and Dairy Australia

Figure 13. 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-1990's to 48% share of total drinking milk in 2012/13. The share trends across the other segments have all been upwards; with total modified milks' share up from 23% to 32%; fresh flavoured milks increasing share from 7% to 10%; and the UHT milk volume share increasing from 3% to 10% over the twenty 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). 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 consumers have chosen to support local brands.

The supermarket channel's share of Australian drinking milk sales has been relatively steady over the last three years—at 52.8% in 2012/13. In late-January 2011 the supermarket channel saw an outbreak of 'milk price wars' as one of the major chains reduced its private label milk price to just \$1 per litre for both full cream milks and modified milks. This was immediately followed by all major supermarket competitors and led to a shift of sales of around 1.5% market share points from convenience and other outlets to supermarkets.

Supermarket sales volumes grew by 2.7% in 2012/13; with the comparative sales performance between dairy company branded milks (+6.8%) and private label milks (-0.8%) delivering market share growth to branded milks of 1.8% share points to 48.3%—to recover most of the loss of share in the previous year. The dairy companies started marketing their branded milks as 'permeate free' from mid-2012; approximately six-month ahead of the private label milks following the same strategy. The year saw a slight deterioration in branded fresh white milk prices as some companies also used price promotions as part of their marketing strategy to regain market share.

Permeate is a collection of milk components (lactose, vitamins, minerals and water), naturally found in milk according to the variety.

Private label brands account for 51.7% of total supermarket milk volumes—only marginally above the 51.4% level of two years ago—and is 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 the past two and a half years has occurred, private label brands currently account for 66% of fresh white regular full cream milk and 50% of modified fresh white milk supermarket sales.

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 (8%) and UHT cartons (13%).

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 45% 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 18%. 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 32% currently. Interestingly, this is down 2% on two years ago when private label shares were at their highest in the year of the launch of \$1 per litre milk.

In 2012/13, the average price of branded milk increased marginally from \$2.13 to \$2.14 per litre; with increases in fresh flavoured and UHT milks offsetting the falls in fresh white milks referred to earlier. When combined with a further 2% decrease in the average private label price down to \$1.02 per litre, these developments delivered a marginal increase in the average supermarket price of 1 cent per litre up to \$1.56 per litre. When combined with the volume growth seen during the year, this meant that the retail value of supermarket milk sales increased by 4% to just over \$2 billion.

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

Australia exports relatively small volumes of milk—predominantly as UHT product—with around 85% of the total going into the Asian region and 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	1,093	488	124	201	155	2,061
2006/07	1,107	530	125	213	181	2,156
2007/08	1,119	551	123	213	183	2,188
2008/09	1,136	569	118	210	196	2,229
2009/10	1,133	590	119	215	211	2,269
2010/11	1,140	630	110	228	208	2,316
2011/12 (r)	1,161	674	108	236	208	2,388
2012/13 (p)	1,169	687	105	241	249	2,451

Source: Milk processors and State Milk Authorities

Table 13. Drinking milk sales by state (million litres)

	NSW	VIC	QLD	SA	WA	TAS	AUST
1979/80	531	437	249	127	119	41	1,504
1989/90	582	449	316	150	164	47	1,730
1999/00	597	440	383	185	190	48	1,933
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 (r)	722	583	531	221	273	58	2,388
2012/13 (p)	734	603	549	224	280	61	2,451

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 338,300 tonnes of cheese in 2012/13—a decline of 2.4% on the previous year. Production volumes are significantly less than earlier in the decade as the availability of milk trended downward since that time. Another 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 45% a decade ago, to around 55% in recent years.

Cheese is a major product for the Australian dairy industry; with sales of around 236,300 tonnes of domestic product within Australia, for an estimated value approaching A\$1.8 billion; and export sales of a further 175,000 tonnes, worth A\$787 million in 2012/13.

It is estimated that nearly half of the domestic sales of Australian cheese are through the major supermarket chains. 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 foodservice sector and in food processing applications.

Total cheese sales volumes through the supermarket channel increased in 2012/13 by around 1.5%. However, average retail prices dipped 0.6% on the previous year, so that retail sales values showed growth of 1.0% to just below \$2 billion.

Imports accounted for an estimated 24% of the Australian cheese market. In 2012/13, approximately 60% of the 73,700 tonnes of cheese imported into Australia was sourced from New Zealand. The remaining cheese imports came from Europe (over 25%) and the United States (nearly 15%).

Japan remained Australia's most important overseas cheese market in 2012/13 and accounted for nearly 60% of product exports; followed by Greater China, Singapore, Malaysia and South Korea. Australian cheeses were exported to nearly 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 nearly 70% in recent years.

See Appendix 7 for more details of cheese exports.

Table 14. Australian cheese production by type of cheese

	2007/08	2008/09 (r)	2009/10 (r)	2010/11 (r)	2011/12 (r)	2012/13 (p)
Cheddar	171,260	178,360	164,220	154,720	160,683	157,996
Semi hard	73,854	61,754	82,504	68,176	67,023	57,190
Hard grating	16,908	17,924	12,238	13,591	13,871	14,681
Fresh	90,934	75,650	82,004	95,431	99,024	102,342
Mould	7,966	8,915	8,673	6,739	5,930	6,103
Total cheese	360,922	342,603	349,639	338,657	346,530	338,312

Source: Dairy manufacturers

Butter

In 2012/13, Australia produced 118,200 tonnes of butter and anhydrous milkfat (AMF) or butteroil in commercial butter equivalent terms (CBE)—a small 1% decrease 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 45% in recent years.

It is estimated that around 64% of the domestic sales of Australian dairyspreads were through supermarkets. Supermarket sales volumes increased around 2% in 2012/13; together with a marginal increase in average retail prices during the year, delivering an increase in retail sales value of 2.5% over the previous year to more than \$350 million.

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

Imports accounted for an estimated 20% of the Australian butter market last year. In 2012/13, over 90% of the 17,700 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 up 12% last year to 51,400 tonnes—with softer prices delivering an 11% decrease in value to A\$179 million.

Australia's most important overseas markets for butter/AMF were the Russian Federation, Singapore, Iran, the United States and Azerbaijan —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)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (p)
Butter/Butter Blends (CBE)	99,202	109,753	100,134	96,326	100,551	99,035
AMF (CBE)	28,416	38,742	28,245	26,160	19,164	19,193

Source: Dairy manufacturers

Table 16. Australian exports of butter and AMF (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (p)
Butter	34,636	43,968	41,691	33,403	33,844	39,357
AMF (CBE)	22,516	26,529	31,995	22,440	15,040	14,318

Source: Dairy Australia & ABS

Other fresh and frozen dairy products

Australian manufacturers produce a range of fresh dairy products, including yogurts, 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.

Yogurts 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 is dominated by 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 Jalna, Vaalia and Chobani in recent times.

Growth in yogurt 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 yogurts.

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 slowly 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 growth in recent years as manufacturers have expanded their product offerings into small, snack-sized single-serve plastic cups sold in multi-packs.

The overall market for cream has increased slightly in recent years—with economic uncertainty 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 yogurt. 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.

Nevertheless, sales of larger tubs (2-litre or greater) and multi-packs of stick lines continue to make up the majority of sales in supermarkets, while mid-range stick lines and ice-cream cones are the major volume products in the route trade.

Once again, strong international brands, such as Streets (from Unilever), Peters (owned by Pacific Equity Partners) and Cadbury (from Kraft) 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 wholemilk 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 has reversed, with skim milk powder (SMP) production regaining share to approach 70% of total milk powder production in the latest season.

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 competitive disadvantage where Australia may not have negotiated a Free Trade Agreement, but a competing 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.

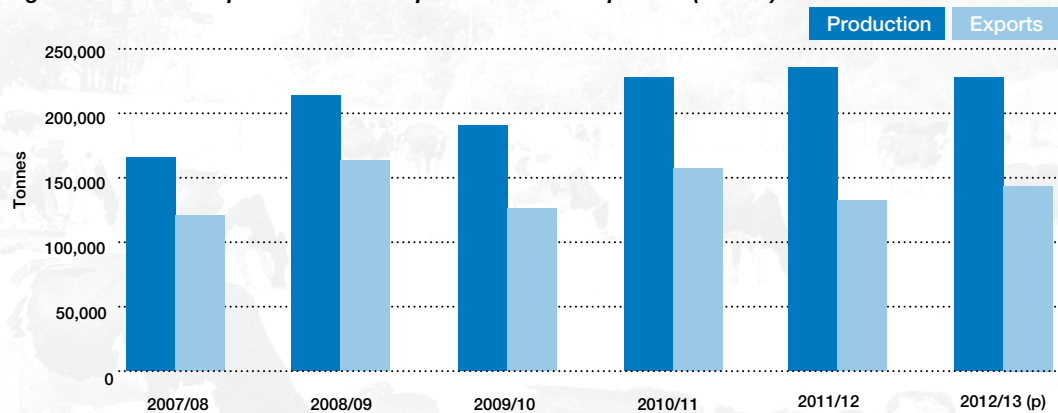
Only about 25–30% of Australia's powder production is sold domestically; with local usage mainly as a food ingredient and retail outlets accounting for only a small percentage of domestic sales.

Table 17. Australian production of milk powders (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (p)
Skim milk powder	164,315	212,030	190,233	222,484	230,286	224,061
Wholemilk powder*	141,974	147,544	126,024	151,269	140,424	108,838

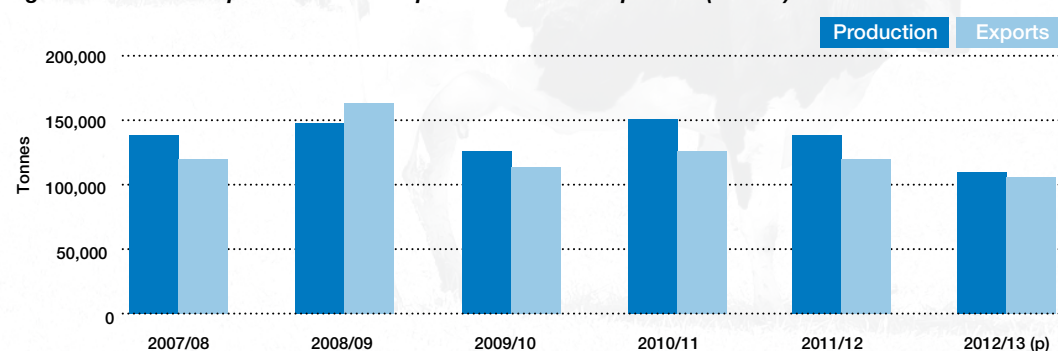
* includes infant powders
Source: Dairy manufacturers

Figure 14. Australian production and exports of skim milk powder (tonnes)



Source: Dairy manufacturers and ABS

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



Source: Dairy manufacturers and ABS

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, yogurt, 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 nearly 75% of SMP export volumes and over 70% of WMP destined for the region in 2012/13.

Indonesia was the largest single export market for Australian-produced SMP in 2012/13, followed by Singapore, the Philippines, Malaysia and Thailand out of some 50 export destinations.

Greater China was the largest single export market for Australian-produced WMP, followed by Singapore, Sri Lanka, Japan and Indonesia—out of a total of over 70 export destinations.

See Appendix 7 for more details on milk powder exports.

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

	2007/08	2008/09	2009/10	2010/11 (r)	2011/12 (r)	2012/13 (p)
Asia	92,590	127,699	100,669	124,176	111,396	108,986
Middle East	22,010	20,906	17,829	21,496	23,529	28,940
Africa	2,353	6,180	1,462	2,307	2,083	3,758
Pacific	509	514	3,957	4,385	2,612	3,496
Americas	1,983	6,257	1,462	1,461	889	1,331
Europe	313	525	244	1,510	810	732
Total	119,758	162,081	125,623	155,335	141,319	147,243

Source: Dairy Australia & ABS

Table 19. Australian exports of wholemilk powder by region (tonnes)*

	2007/08	2008/09	2009/10	2010/11	2011/12 (r)	2012/13 (p)
Asia	90,208	102,025	80,271	84,468	68,022	74,904
Middle East	12,151	30,889	17,180	21,329	31,619	10,969
Africa	9,504	13,221	6,867	9,344	4,629	5,494
Pacific	2,759	2,330	2,226	1,447	1,629	1,992
Americas	10,327	9,548	10,001	8,458	9,782	8,544
Europe	198	20	204	807	429	1,468
Total	125,147	158,033	116,749	125,853	116,110	103,371

*Includes infant powders
Source: Dairy Australia & 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, yogurt, beverages and processed meat. Industrial uses include animal feed (for pigs, horses and poultry), calf milk replacer and even as a carrier for herbicides.

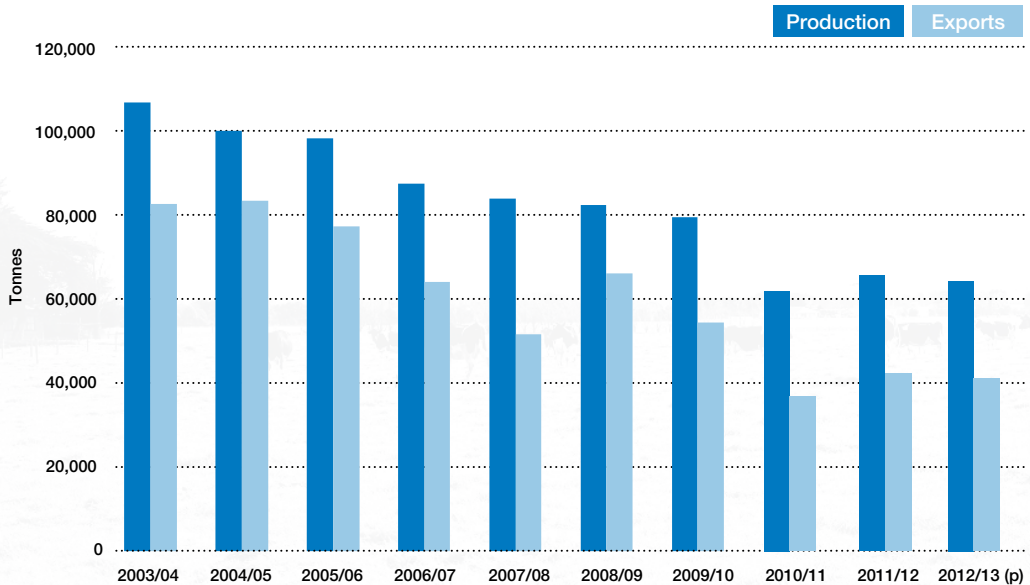
Whey protein concentrates are used in snack foods, juices, confectionery, ice-cream, biscuits, processed meats, (milk) protein drinks, desserts, infant foods and dietetic products. Products such as cosmetics, skin creams, bath salts and detergents also contain protein concentrates.

Around 35% of Australia's whey production is used domestically in the manufacture of infant formula, biscuits and ice-cream. The remainder is exported; with Japan, Indonesia, Malaysia, Greater China and Thailand being the largest export markets for Australian whey powders in 2012/13.

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.

The majority of Australia's production of casein and caseinates is for export markets; with Japan and the United States as the largest export markets in recent years.

Figure 16. Production and exports of whey products (tonnes)



Source: Dairy manufacturers and ABS

Industry organisations and structure

The Australian dairy industry is diverse, incorporating primary production, manufacturing and marketing. Accordingly, a number of bodies represent the various sectors and provide a framework for the industry to work together.

Dairy Australia

Dairy Australia is the industry-owned national service organisation. Formed on 1 July 2003, Dairy Australia replaced the Australian Dairy Corporation and the Dairy Research and Development Corporation.

Dairy Australia is a company limited by guarantee, operating under the Corporations Act 2001. It is fully accountable to its members—those levy payers who elect to become members—and the peak industry bodies.

The structure provides farmers members with a direct say in the activities of the organisation. To help the Australian dairy industry achieve its vision of growing an internationally competitive, innovative and sustainable industry, the organisation coordinates and delivers practical help to provide value for farmers' levy investment. Together with the farmer-paid levy, the company receives matching Federal Government research and development funds.

Dairy Australia invests the Dairy Service Levy, matching government funds and other money in activities across the dairy supply chain—from paddock to plate—to get the best outcomes for farmers, the dairy industry and the broader community. The company targets areas where there is a market failure or significant under-investment, such as human resource skills for retaining and developing staff, research, development and extension, trade policy, industry information, issues management and marketing of the health benefits of dairy products and the industry itself.

Consequently, Dairy Australia's main role is to facilitate profitable partnerships, industry collaboration and collective action that pools and aligns industry funds, resources, expertise and in-kind support to meet critical industry needs.

Due to the integrated nature of the dairy industry, success of the farm and non-farm sectors is highly interdependent. While the bottom line for farmers is a profitable farming business, they also need an industry that can support them by buying their milk, processing it efficiently, and selling it to consumers in Australia and overseas. The dairy industry also needs strong domestic and international markets, continual innovation, and community support of its production processes and products.

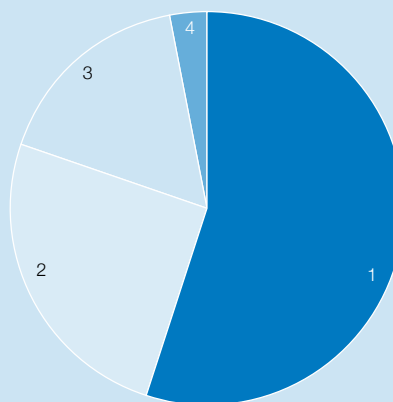
Dairy Australia has recognised the inter-dependence between the farm and non-farm sectors by developing core business objectives that operate across the dairy supply chain to deliver on-going value and improved margins for levy payers.

For the current 2013/14–15/16 three-year planning cycle, Dairy Australia's strategic priorities are to:

- > (Develop tools for) profitable and competitive dairy farms;
- > Promote and protect dairy's value and integrity; and
- > Grow skills and capability within the dairy industry.

The organisation prepares an annual rolling three-year Strategic Plan and the current plan can be downloaded from www.dairyaustralia.com.au

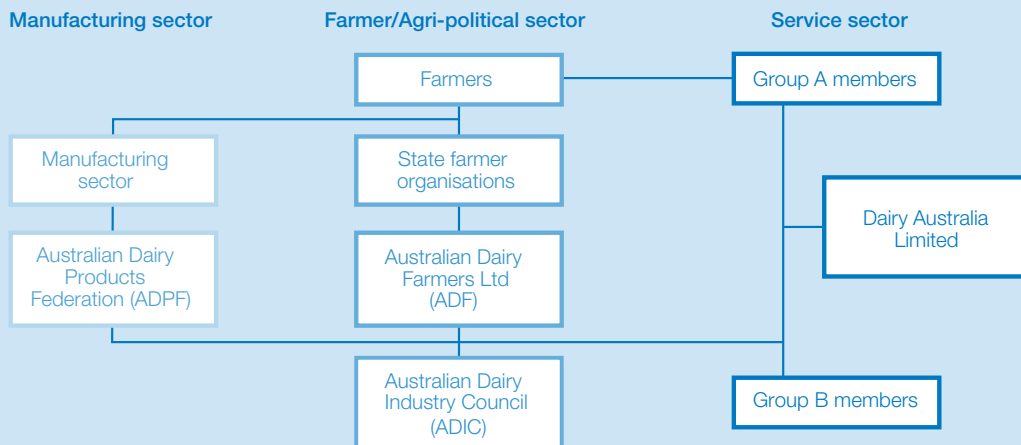
Figure 17. Dairy Australia's planned expenditure by strategic priorities for 2013/14 to 2015/16



- 1 SP1: Profitable and competitive dairy farms (59%)
- 2 SP2: Protect and promote our industry (20%)
- 3 SP3: Grow capability and skills (18%)
- 4 SP4: DA supporting activity (3%)

Source: Dairy Australia

Figure 18. Australian dairy industry organisations



Australian Dairy Industry Council

The Australian Dairy Industry Council (ADIC) is the dairy industry's peak policy body. It co-ordinates industry policy and represents all sectors of the industry on national and international issues.

The ADIC represents farmers, dairy product manufacturers and milk processors through its constituent organisations:

- > Australian Dairy Farmers Limited; and
- > Australian Dairy Products Federation.

The ADIC has the task of bringing these bodies together to form a united view on issues affecting the dairy industry.

Australian Dairy Farmers Limited

Australian Dairy Farmers Limited (ADF) provides national representation for dairy farmers and forms the dairy commodity council of the National Farmers' Federation.

The organisation has recently undergone a significant restructure, delivering the opportunity for individual farmers to become members of the ADF. More information on this aspect, together with details of a smaller governing board of directors focused on strategy and oversight of ADF operations through a set of Policy Advisory Groups is available from

www.australiandairyfarmers.com.au

Its members currently include the state dairy farmer organisations of:

- > Queensland Dairyfarmers' Organisation (QDO);
- > New South Wales Farmers Association (NSWFA) Dairy Committee;
- > Victorian Farmers Federation (VFF) through the United Dairyfarmers of Victoria (UDV);
- > Western Australian Farmers' Federation's Dairy Council (WAFF); and
- > Tasmanian Farmers and Graziers Association's Dairy Council (TFGA).

Other state industry organisations include the South Australian Dairyfarmers' Association (SADA) and Dairy Connect NSW.

Australian Dairy Products Federation

The Australian Dairy Products Federation (ADPF) is the national organisation representing the interests of dairy product manufacturers and traders. The ADPF's primary purpose is to promote the interests of its members, and the dairy industry in general, to the Australian and State Governments and other sectors of the community.

State dairy regulatory authorities

State dairy regulatory authorities are statutory authorities established under State legislation.

They are responsible for all regulatory matters relating to the safety of milk and dairy foods produced and manufactured in their state.

The relevant State dairy and food regulatory authorities are:

- > New South Wales Food Authority;
- > Safe Food Production Queensland;
- > Dairy Authority of South Australia;
- > Tasmanian Dairy Industry Authority;
- > Dairy Food Safety Victoria;
- > Health Department of Western Australia; and
- > Territory Health Services.

The Australia New Zealand Dairy Authorities Committee (ANZDAC), with representatives from each state food safety organisation, AQIS, FSANZ and the New Zealand Food Safety Authority, aims to achieve greater uniformity and consistency in the application of dairy legislation, standards and management practices across Australia and with New Zealand.

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 2013/14

	Milkfat (cents/kg)	Protein (cents/kg)	Milk* (cents/litre)	Milksolids (cents/kg)
Animal Health	0.0580	0.1385	0.007	0.09
Dairy Services	2.8683	6.9914	0.351	4.73

**Based on average 2012/13 Australian milk composition of 4.08% milkfat and 3.35% protein*

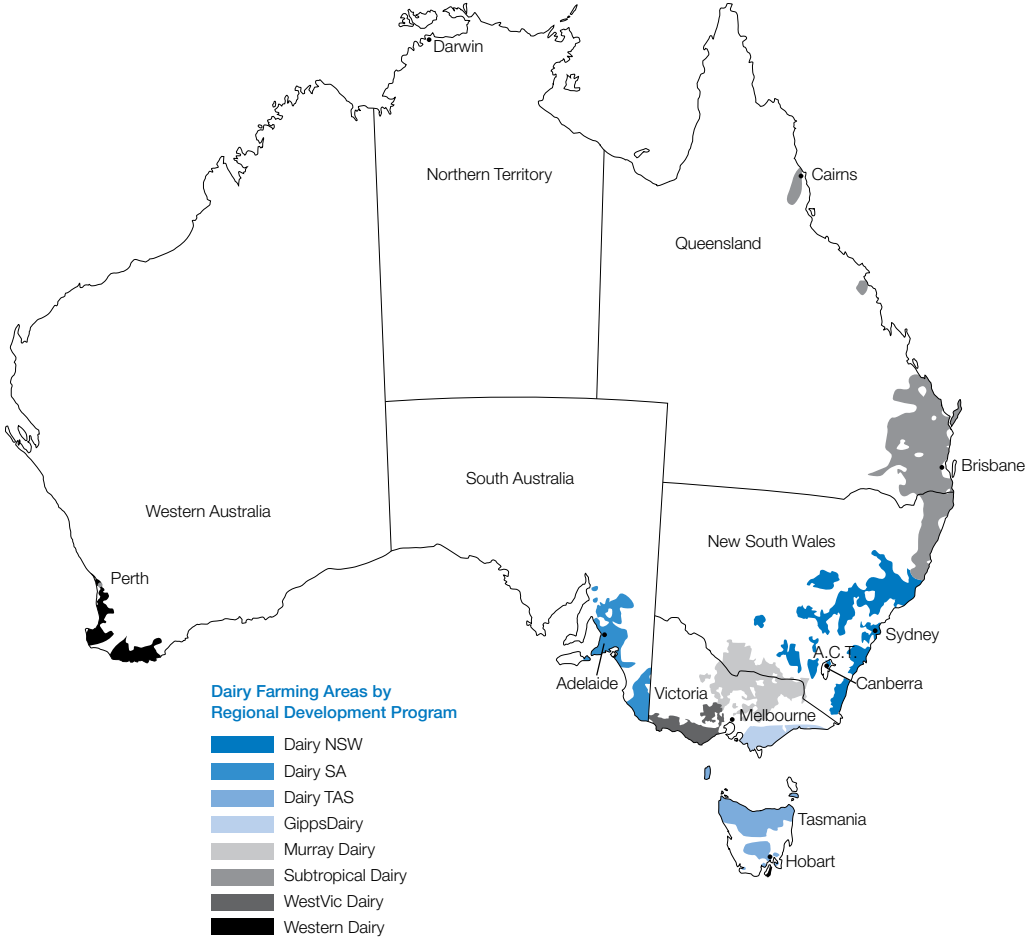


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Appendix 1. Dairying regions



Appendix 2.

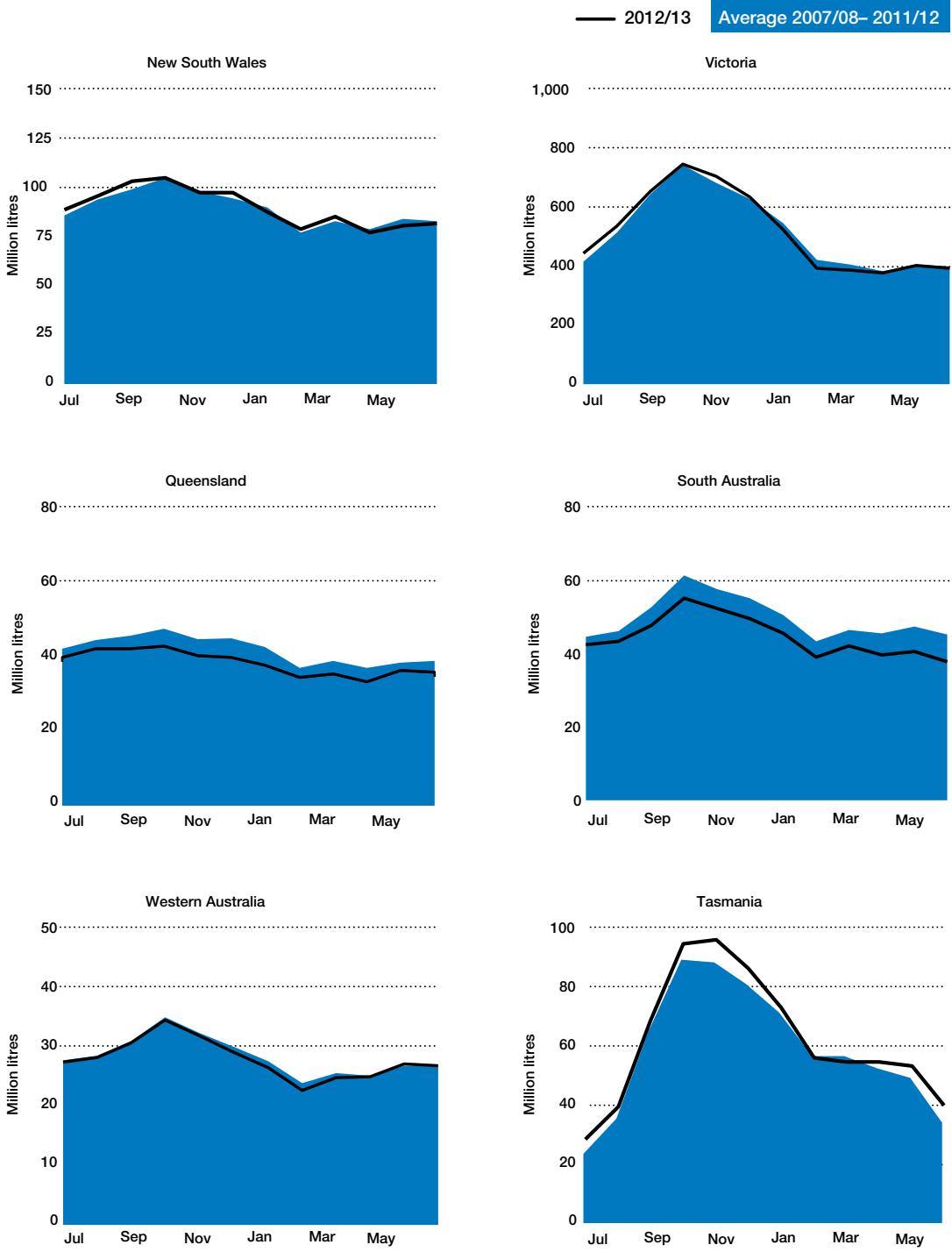
Table A1. Typical Australian Grain Prices (\$ per tonne)

Barley	NSW	VIC	QLD	SA	WA	TAS
1989/90	\$158	\$157	\$152			
1999/00	\$141	\$140	\$136	\$135	\$138	
2005/06	\$183	\$173	\$182	\$143	\$157	\$234
2006/07	\$292	\$280	\$302	\$215	\$212	\$361
2007/08	\$346	\$364	\$346	\$303	\$301	\$469
2008/09	\$268	\$265	\$253	\$212	\$214	\$367
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
Sorghum	NSW	VIC	QLD			
1989/90	\$154	\$169	\$143			
1999/00	\$130	\$152	\$125			
2005/06	\$172	\$198	\$173			
2006/07	\$268	\$308	\$272			
2007/08	\$341	\$382	\$309			
2008/09	\$244	\$283	\$208			
2009/10	\$226	\$250	\$211			
2010/11	\$256	\$292	\$234			
2011/12	\$219	\$267	\$210			
2012/13	\$284	\$293	\$279			
Triticale	NSW	VIC	QLD	SA	WA	
1989/90	\$161	\$164	\$154			
1999/00	\$139	\$141		\$136	\$133	
2005/06	\$189	\$193		\$153	\$163	
2006/07	\$293	\$283		\$220	\$202	
2007/08	\$377	\$391		\$318	\$310	
2008/09	\$298	\$309		\$235	\$241	
2009/10	\$227	\$204		\$157	\$169	
2010/11	\$234	\$228		\$216	\$242	
2011/12	\$215	\$202		\$194	\$215	
2012/13	\$296	\$273		\$252	\$274	
Wheat	NSW	VIC	QLD	SA	WA	TAS
1989/90	\$175	\$175	\$175			
1999/00	\$154	\$158	\$141	\$152	\$146	
2005/06	\$193	\$188	\$202	\$165	\$177	\$240
2006/07	\$285	\$285	\$302	\$229	\$214	\$363
2007/08	\$425	\$411	\$411	\$360	\$351	\$522
2008/09	\$312	\$326	\$292	\$292	\$303	\$429
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

Source: Dairy Australia

Appendix 3. Milk production

Figure A1. Seasonality of milk production (million litres)



Source: Dairy manufacturers

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, numerous other dairy products can be made from the residual milk components.

The first step in making butter is to separate whole milk into cream and skim milk. The liquid skim milk is evaporated and spray dried to produce skim milk powder (SMP). The cream is churned until the fat globules form into solid butter, and leaving a liquid by-product, 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 the standardisation of milk for wholemilk 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
Wholemilk 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 2012/13

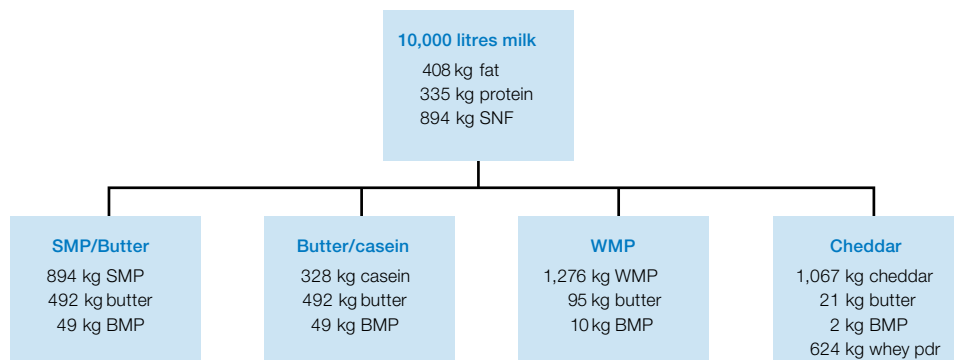


Table A3. Australian cheese production by state (tonnes)

	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 (r)	26,584	245,028	2,273	16,774	3,985	47,959	342,603
2009/10 (r)	26,138	260,060	1,111	14,736	4,240	43,354	349,639
2010/11 (r)	28,297	247,806	1,467	15,304	3,638	42,144	338,657
2011/12 (r)	25,174	260,342	909	12,192	1,656	46,257	346,530
2012/13 (p)	24,073	266,493	831	5,865	2,102	38,948	338,312

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 (p)	99,035	19,193	224,061	108,838	63,440

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

Table A5. Australian cheese production by variety (tonnes)

	2007/08	2008/09 (r)	2009/10 (r)	2010/11 (r)	2011/12 (r)	2012/13 (p)
Cheddar & Cheddar Types						
Cheddar (1)	135,929	149,267	138,099	126,888	135,540	126,551
Reduced fat cheddar	26,754	23,689	21,414	22,799	18,885	25,708
Cheedam	28	260	447	389	438	111
Other cheddar type cheese (2)	8,549	5,144	4,260	4,644	5,820	5,626
Total Cheddar	171,260	178,360	164,220	154,720	160,683	157,996
Semi Hard Cheese						
Mozzarella	55,208	42,262	54,349	50,028	44,929	38,616
Pizza	4,957	5,017	6,905	5,402	5,502	5,316
Other stretch curd and shredding	1,970	1,359	3,285	1,585	1,852	1,143
Edam	709	305	207	621	347	423
Gouda	8,040	8,909	13,111	8,963	12,757	10,615
Other eye type cheese (3)	2,344	2,145	2,051	1,154	1,334	972
Other Semi Hard Cheese (4)	626	1,757	2,596	423	302	105
Total Semi Hard Cheese	73,854	61,754	82,504	68,176	67,023	57,190
Hard Grating Types						
Parmesan	9,981	10,633	7,360	9,225	8,906	9,156
Pecorino	2,039	946	1,443	1,315	1,066	938
Romano	1,637	1,957	2,014	1,219	1,460	1,526
Other (5)	3,251	4,388	1,421	1,832	2,439	3,061
Total	16,908	17,924	12,238	13,591	13,871	14,681
Fresh Types						
Cottage	2,582	2,529	2,507	4,600	2,204	2502
Cream cheese	62,267	47,399	53,702	66,631	76,390	79,343
Fetta	5,875	6,138	6,503	6,681	5,707	5,684
Neufchatel	9,521	8,730	7,844	4,489	4,820	5,170
Ricotta	6,892	7,396	7,993	9,130	6,487	6,965
Other fresh types (6)	3,797	3,458	3,455	3,900	3,416	2,678
Total	90,934	75,650	82,004	95,431	99,024	102,342
Mould Ripened						
Blue Vein	1,434	1,707	1,751	791	679	626
Brie and Camembert	5,971	6,489	6,148	5,457	4,914	5,114
Other mould ripened	561	719	774	491	337	363
Total	7,966	8,915	8,673	6,739	5,930	6,103
Total Cheese	360,922	342,603	349,639	338,657	346,531	338,312

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

(3) Includes: Swiss, Emmenthal, Fontina, Havarti, Samsoe, Tilsit, Buetten, Vacherin. (4) Includes: Bakers, Casalinga, Goya.

(5) Includes: Fresh Pecorino, Melbourne, Pepato, Parmagiano. (6) Includes: Quark, Stracchino, Mascarpone.

Revisions due to reclassification of cheeses and revisions of speciality cheese production

Source: Dairy manufacturers

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 (p)
Butter	Grocery	41,358	42,827	44,406
	Non-Grocery	13,308	12,678	12,137
Butter total		54,666	55,506	56,543
Cheese	Grocery	126,134	117,141	n/a
	Non-Grocery	127,974	131,321	n/a
Cheese total		254,108	248,463	n/a
Cream	Grocery	53,975	54,959	56,327
	Non-Grocery	50,018	48,527	51,526
Cream total		103,994	103,486	107,853
Custard	Grocery	22,931	21,595	21,303
	Non-Grocery	2,332	2,612	2,668
Custard total		25,263	24,207	23,972
Dairy desserts	Grocery	18,931	18,092	16,654
	Non-Grocery	357	512	363
Dairy desserts total		19,288	18,605	17,018
Milk powder	Grocery	5,392	6,205	7,652
	Non-Grocery	3,614	6,119	7,586
Milk powder total		9,006	12,324	15,237
Yogurt	Grocery	135,681	133,502	123,825
	Non-Grocery	14,188	16,233	15,409
Yogurt total		149,870	149,735	139,234

* This data is dairy company wholesale sales to distributors/warehouses/retailers.

Grocery refers to major supermarket chains.

Non-Grocery refers to other retailers including convenience stores, the foodservice and industrial channels.

Source: Dairy manufacturers

Appendix 6. Supermarket sales

Milk

Table A7. Supermarket milk sales by state (million litres)

	NSW	VIC	QLD	SA	WA	TAS	AUST
2010/11	355	310	292	113	115	31	1,216
2011/12	364	321	301	116	125	33	1,259
2012/13 (p)	374	324	312	117	133	34	1,294

Source: Aztec Australia

Table A8. Supermarket milk sales by type (million litres)

	Regular	Reduced Fat	No Fat	Flavoured	UHT	AUST
2010/11	521	388	59	88	160	1,216
2011/12	536	416	56	91	161	1,259
2012/13 (p)	551	421	55	95	171	1,294

Source: Aztec Australia

Table A9. Supermarket milk sales—branded vs private label (million litres)

	2010/11		2011/12		2012/13 (p)	
	Million litres	Price/Litre	Million litres	Price/Litre	Million litres	Price/Litre
Branded Milk						
Regular Whole	152	\$1.82	152	\$1.83	186	\$1.81
Reduced Fat	183	\$2.04	175	\$2.02	188	\$2.00
No Fat	54	\$2.05	50	\$1.99	49	\$1.98
Flavoured	83	\$3.64	86	\$3.81	90	\$3.91
UHT	119	\$1.55	122	\$1.55	112	\$1.61
Total Branded Milk	591	\$2.11	585	\$2.13	625	\$2.14
Private Label						
Regular Whole	369	\$1.07	383	\$1.03	365	\$1.02
Reduced Fat	205	\$1.14	241	\$1.01	234	\$1.01
Low Fat	5	\$1.42	6	\$1.25	6	\$1.25
Flavoured	5	\$1.98	5	\$1.98	5	\$2.01
UHT	41	\$1.13	39	\$1.14	59	\$1.01
Total Private Label Milk	625	\$1.11	674	\$1.04	669	\$1.02
Total Milk	1,216	\$1.59	1,259	\$1.55	1,294	\$1.56

Source: Aztec Australia

Dairy spreads

Table A10. Supermarket dairy spreads sales by type (tonnes)

	2010/11		2011/12		2012/13 (p)	
	Tonnes	Price per kg	Tonnes	Price per kg	Tonnes	Price per kg
Dairy						
Butter	19,789	\$8.21	20,621	\$8.50	21,481	\$8.51
Blends	19,010	\$8.74	18,912	\$9.10	18,872	\$9.21
Ghee	28	\$13.65	49	\$13.74	52	\$15.21
Total Dairy Spreads	38,827	\$8.48	39,582	\$8.80	40,406	\$8.84

Source: Aztec Australia

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

	2010/11		2011/12		2012/13 (p)	
	Tonnes	Price per kg	Tonnes	Price per kg	Tonnes	Price per kg
250 gram	10,220	\$8.93	10,538	\$9.13	11,328	\$8.95
375 gram	5,361	\$11.66	5,085	\$12.30	5,175	\$12.23
500 gram	22,698	\$7.46	23,500	\$7.82	23,459	\$7.95
Other sizes	547	\$11.09	460	\$12.34	445	\$13.77
Total Dairy Spreads	39,080	\$8.17	38,827	\$8.48	39,582	\$8.80

Source: Aztec Australia

Table A12. Supermarket dairy spreads sales by form (tonnes)

	2010/11		2011/12		2012/13 (p)	
	Tonnes	Price per kg	Tonnes	Price per kg	Tonnes	Price per kg
Pats	16,667	\$7.20	17,606	\$7.51	18,248	\$7.47
Tubs	22,148	\$9.43	21,976	\$9.83	22,158	\$9.97
Others	12	\$26.28	0	\$0.00	0	\$0.00
Total Dairy Spreads	38,827	\$8.48	39,582	\$8.80	40,406	\$8.84

Source: Aztec Australia

Appendix 7. Australian exports

Table A13. Australian exports of cheese (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12 (r)	2012/13 (p)
Asia						
China, Hong Kong	11,079	7,410	10,851	9,708	11,482	14,494
Indonesia	4,028	2,547	4,197	3,708	3,256	3,296
Japan	96,846	74,140	89,810	84,450	95,558	103,870
Korea, South	6,859	7,045	7,204	8,845	7,302	6,979
Malaysia	3,877	3,858	4,462	7,103	6,762	5,845
Philippines	4,390	3,174	4,067	3,792	2,344	3,141
Singapore	3,814	4,098	4,135	5,789	5,773	4,901
Taiwan	5,842	3,778	5,158	5,302	3,759	4,048
Thailand	1,958	1,993	1,859	2,276	2,700	2,333
Other Asia	1,040	630	763	1,656	1,337	953
Total Asia	139,733	108,673	132,506	132,629	140,273	149,860
Middle East						
Saudi Arabia	16,355	5,359	6,705	6,870	3,917	2,952
U.A.E.	3,619	1,735	1,712	2,177	1,284	1,315
Other Middle East	8,877	4,051	6,433	4,029	5,235	6,116
Total Middle East	28,851	11,145	14,850	13,076	10,436	10,383
Africa						
Algeria	1,460	935	340	1,580	0	0
Egypt	1,948	2,135	1,730	1,915	675	122
Other Africa	2,510	1,430	3,555	2,529	2,729	3,485
Total Africa	5,918	4,500	5,625	6,024	3,404	3,607
Pacific						
New Zealand	4,352	2,652	3,337	2,892	2,035	2,283
Others	660	506	457	388	522	816
Total Pacific	5,012	3,158	3,794	3,280	2,557	3,099
Americas						
Caribbean	201	953	1,089	1,252	1,071	399
United States	8,719	9,327	4,132	2,325	572	3,084
Others	1,066	831	683	507	329	370
Total Americas	9,986	11,111	5,904	4,084	1,972	3,853
Europe						
Eastern Europe	831	386	381	828	550	804
EU 27	12,073	5,691	5,053	3,076	1,671	3,080
Other Europe	0	0	0	0	0	0
Total Europe	12,904	6,077	5,434	3,904	2,221	3,884
Total	202,404	144,664	168,113	162,997	160,863	174,686

Source: Dairy Australia and ABS

Table A14. Australian exports of wholemilk powder* (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12 (r)	2012/13 (p)
Asia						
Bangladesh	2,072	10,740	6,354	6,557	4,708	4,941
China, Hong Kong	13,212	21,635	16,545	17,847	5,935	17,592
Indonesia	15,196	16,979	9,084	10,338	9,357	5,718
Japan	204	482	324	404	2,572	5,845
Malaysia	17,816	9,050	3,290	2,426	4,857	4,827
Philippines	4,420	3,607	887	471	570	471
Singapore	17,841	18,195	19,475	16,671	17,926	14,298
Sri Lanka	4,341	6,051	9,798	11,219	11,120	11,479
Taiwan	3,962	5,538	4,126	4,749	2,977	3,920
Thailand	5,236	5,012	3,342	4,240	2,132	2,804
Others	5,908	4,736	7,045	9,546	5,868	3,009
Total Asia	90,208	102,025	80,270	84,468	68,022	74,904
Africa	9,504	13,221	6,867	9,344	4,629	5,494
Americas	10,327	9,548	10,001	8,458	9,782	8,544
Europe	198	20	204	807	429	1,468
Middle East	12,151	30,889	17,180	21,329	31,619	10,969
Pacific	2,759	2,330	2,227	1,447	1,629	1,992
Total	125,147	158,033	116,749	125,853	116,110	103,371

*Also includes infant powder
Source: Dairy Australia and ABS

Table A15. Australian exports of butter* (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12 (r)	2012/13 (p)
Asia						
China, Hong Kong	3,692	3,236	4,114	3,024	4,099	3,616
Japan	4,389	2,374	392	876	1,960	1,136
Korea, South	3,955	2,623	2,364	2,073	1,578	1,551
Malaysia	1,640	1,828	2,042	1,717	2,303	1,385
Singapore	4,918	3,901	4,651	4,575	4,048	4,292
Taiwan	1,211	1,119	1,199	1,204	1,758	1,614
Others	1,176	1,705	2,690	1,612	1,823	2,288
Total Asia	20,980	16,786	17,452	15,081	17,569	15,882
Middle East	3,755	7,145	8,365	7,101	6,499	10,728
Africa	1,837	11,129	10,470	2,294	2,662	2,739
Pacific	462	855	871	339	848	356
Americas	423	1,207	619	144	20	811
Europe	7,179	6,847	3,915	8,444	6,007	8,841
Total	34,636	43,969	41,691	33,403	33,602	39,357

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

Table A16. Australian exports of SMP (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (p)
Asia						
China, Hong Kong	9,737	12,470	8,587	13,165	16,632	10,708
Indonesia	15,500	12,924	16,439	24,689	20,919	21,650
Japan	610	6,985	1,071	454	579	1,553
Malaysia	14,223	14,912	8,311	8,268	10,830	13,392
Philippines	13,345	25,426	18,932	9,817	10,348	10,861
Singapore	15,859	17,134	17,228	15,709	18,772	18,521
Taiwan	5,827	6,264	7,422	7,824	6,474	4,890
Thailand	11,642	9,511	9,888	11,462	9,552	12,115
Others	5,848	22,073	12,791	32,788	17,290	15,296
Total Asia	92,590	127,699	100,669	124,176	111,396	108,986
Africa	2,353	6,180	1,462	2,307	2,083	3,758
Americas	1,983	6,257	1,462	1,461	889	1,331
Europe	313	525	244	1,510	810	732
Middle East	22,010	20,906	17,829	21,496	23,529	28,940
Pacific	509	514	3,957	4,385	2,612	3,496
Others	0	0	0	0	0	0
TOTAL	119,758	162,081	125,623	155,335	141,319	147,243

Source: Dairy Australia and ABS

Table A17. Australian exports of butter oil (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12 (r)	2012/13 (p)
Asia						
Bangladesh	85	252	168	70	202	50
Indonesia	571	1,444	934	756	72	50
Malaysia	2,621	1,521	2,656	1,645	1,210	545
Philippines	294	1,446	1,970	4,914	1,150	50
Singapore	1,623	969	1,075	925	332	166
Others	4,735	4,172	7,908	4,389	4,723	2,724
Total Asia	9,929	9,804	14,711	12,699	7,689	3,585
Middle East	2,650	1,767	1,933	1,147	720	1,008
Africa	69	1,344	601	1,005	198	429
Americas	4,329	7,823	6,906	3,171	3,152	5,015
Europe	972	450	1,460	19	254	1,434
Pacific	176	168	145	23	44	55
Total	18,125	21,356	25,756	18,064	12,057	11,526

Source: Dairy Australia and ABS

Table A18. Australian exports of liquid milk (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12 (r)	2012/13 (p)
Asia						
Singapore	17,277	19,036	20,970	24,620	30,919	31,762
Philippines	5,809	2,722	3,653	4,134	4,423	2,901
Malaysia	3,246	3,346	3,902	3,406	3,960	5,689
Indonesia	1,544	635	516	366	342	386
Hong Kong	15,600	17,325	15,333	14,459	15,047	16,520
China	384	1,924	1,284	2,402	7,154	21,098
Other Asia	4,842	4,120	6,761	10,856	13,214	12,711
Total Asia	48,702	49,108	52,419	60,243	75,059	91,067
Africa	792	538	386	347	732	1,023
Pacific	10,308	9,710	10,491	9,325	10,712	11,282
Others	129	593	907	1,002	1,220	3,467
Total	59,931	59,949	64,203	70,917	87,723	106,839

Source: Dairy Australia and ABS

Table A19. Whey product exports (tonnes)*

	2007/08	2008/09	2009/10	2010/11	2011/12 (r)	2012/13 (p)
Asia	41,364	53,917	44,221	30,891	33,765	32,577
Europe	467	436	436	593	1,793	2,219
Other	9,099	10,808	9,064	6,331	6,181	6,282
Total	50,930	65,161	53,721	37,815	41,739	41,078

* Includes whey protein concentrate
Source: Dairy Australia and ABS

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

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (p)
Asia						
China	6,705	15,448	50,465	48,688	55,114	59,123
Indonesia	-	1,129	16,079	1,345	658	3,406
Pakistan	820	2,860	1,774	4,225	2,785	8,327
Other Asia	1,261	3,355	1,923	3,358	1,662	3,958
Total Asia	8,786	22,792	70,241	57,616	60,219	74,814
Europe	12,810	13,836	7,991	10,488	4,855	8,385
Middle East	12,013	7,269	1,910	7,088	202	4,111
Africa			1,000			
Others		1	8	6		
Total	59,305	43,898	81,150	75,198	65,276	87,310

Source: Dairy Australia and ABS

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

	NSW	VIC	QLD	SA	WA	TAS	AUST
2003/04	337	54,762	6,605	529	1,718		63,951
2004/05	373	60,126		3,900	6,408		70,807
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 (p)	305	69,247	620	2,282	12,188	2,668	87,310

Source: Dairy Australia and ABS

Appendix 8. Australian imports

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

	New Zealand	Other	Total 2011/12	New Zealand	Other	Total 2012/13
Skim milk powder	4,564	399	4,963	3,262	355	3,617
Buttermilk powder	803	1,277	2,080	232	1,538	1,770
Wholemilk powder*	9,430	7,215	16,645	7,894	7,470	15,364
Whey powder & concentrates	3,165	11,891	15,056	2,128	11,340	13,468
Condensed milk	59	1,591	1,650	81	2,147	2,228
Milk	5,652	329	5,981	1,258	72	1,330
Cream	1,931	39	1,970	2,164	1	2,165
Yogurt	600	663	1,263	649	479	1,128
Butter**	19,594	1,023	20,617	13,475	1,108	14,583
Butter oil	1,628	435	2,063	2,607	440	3,047
Cheese	46,741	29,503	76,244	43,573	30,133	73,706
Casein	684	171	855	600	257	857
Caseinates	203	7	210	170	5	175
Lactose	2,000	14,584	16,584	4,026	7,627	11,653
Ice cream ('000 lts)	3,370	16,997	20,367	2,527	18,216	20,743

* Includes infant powder

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

Source: ABS

Table A23. Australian cheese imports by country (tonnes)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (p)
Austria	330	359	405	486	812	796
Bulgaria	1,700	1,345	1,340	1,392	1,246	1,470
Denmark	2,068	2,072	2,186	2,076	1,924	2,071
France	933	799	688	886	1,076	1,391
Germany	194	251	369	693	1,034	1,791
Greece	1,298	1,504	1,201	1,380	1,513	1,941
Italy	2,803	2,756	2,972	3,170	3,557	3,693
Netherlands	1,157	1,227	1,353	1,568	2,164	2,364
Poland	412	452	464	466	506	414
United Kingdom	153	185	234	296	233	375
Other	589	611	627	731	814	1264
Total EU	11,637	11,561	11,839	13,144	14,879	17,570
New Zealand	49,230	42,758	55,596	49,674	46,741	43,573
United States	6,718	2,358	2,157	7,523	12,079	10,246
Norway	1,857	1,770	1,472	2,014	1,990	1,789
Switzerland	128	115	150	126	170	185
Other	175	279	311	391	385	343
Total Cheese Imports	69,745	58,841	71,525	72,872	76,244	73,706

Source: ABS (Excludes goats cheese)





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