



DAIRY AUSTRALIA

Delivering for the dairy industry



**Australian Dairy Industry
In Focus 2004**

Figure 1
Australian dairy regions



Abbreviations

ABARE	Australian Bureau of Agricultural and Resource Economics	NSW	Southern and Central New South Wales
ABS	Australian Bureau of Statistics	NV	Northern Victoria and Riverina
AMF	Anhydrous milk fat	(p)	Provisional data
AQIS	Australian Quarantine and Inspection Service	(r)	Revised data
Bega	Bega Valley	Tas	Tasmania
BMP	Butter milk powder	SA	Central and Murraylands South Australia
CAGR	Compound annual growth rate	SEQ	Northern New South Wales and South-East Queensland
CBE	Commercial butter equivalent, a unit of conversion of AMF to butter (1kg butter = 0.805kg AMF)	SMP	Skim milk powder
(e)	Estimated data	SNF	Solids non fat
EU (15)	European Union (15)	UHT Milk	Milk subjected to ultra high temperature treatment to extend shelf life
FNQ	Far North Queensland	WA	Western Australia
Gps	Gippsland	WMP	Whole milk powder
n.a.	Data not available	WPC	Whey protein concentrate
NCE	Natural cheddar equivalent – unit of conversion of processed cheddar, pastes and spreads to natural cheddar (1kg processed product weight = 0.806kg natural cheddar)	WV	Western Victoria and South-East South Australia

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Dairy Australia has collected the statistics in this publication from Australian dairy companies and other Australian dairy organisations (except where other sources are indicated).

Foreword



Mike Ginnivan
Managing Director
Dairy Australia

The Australian dairy industry continues to rank as the third-most-important rural industry at the farmgate – valued at \$2.8 billion in 2003/04 – and the fifth most important for exports – valued at \$2.4 billion. This is despite the lingering effects of a drought that adversely affected four out of five dairy farmers across the country.

Milk production fell a further 2.5% during 2003/04 and, with limited stocks available, export

volumes fell by 8%. On the home market, supermarket sales of other dairy products continue to increase in both volume and value – the retail market for major dairy products totalled \$3.5 billion in 2003/04 – 3.9% up on the previous year.

Late in 2003, in recognition of the difficulties farmers have faced in recent times, Dairy Australia committed to spending an additional \$17.5 million over four years to boost farm productivity and farm business management skills.

One of the first initiatives under the increased spending program was the Dairy Moving Forward project. More than 50 dairy groups – dairy farmer organisations, dairy companies, Dairy Australia and government agencies – are working together under the banner of Dairy Moving Forward. This is a great example of the dairy industry doing what it does best – working collaboratively.

One of Dairy Moving Forward's first priorities was to dispel some of the myths and misinformation that had taken hold during the hard times of drought. As part of this exercise, the industry commissioned a wide-ranging report called, *Dairy 2004: Situation and Outlook*. The report incorporated a national dairy farmers' survey and provided a comprehensive situation analysis of the Australian dairy industry, nationally and in each milk-producing region.

The report was released in June 2004, with one of the key findings being that the majority of Australian dairy farmers were 'watching and waiting', but remained

cautiously optimistic about the industry's future. While the report highlighted the extent of the pain experienced across the country, it also showed that the industry and its people had the capacity to recover and grow. This year's *Australian Dairy Industry In Focus* includes a feature article on the report on pages 3–6.

Dairy Australia has now completed its first year as the industry's service organisation. Funded by farmer levies, with matching research and development funds from the Australian Government, Dairy Australia works in areas that benefit the entire industry, such as:

- investing in research, development and extension to improve competitiveness in both the farm and manufacturing sectors of industry;
- working on trade policy issues, such as trade liberalisation and trade access, to improve the environment for export market growth;
- leveraging the health and nutrition benefits of dairy products to increase Australian consumption;
- addressing environmental and community issues; and
- facilitating industry consultation and communication.

Dairy Australia is dedicated to increasing the profitability and competitiveness of the Australian dairy industry.

I would like to extend Dairy Australia's thanks to the dairy farmer co-operatives and companies that contribute to our data collections. Without their participation, *Australian Dairy Industry In Focus 2004* could not maintain its reputation as the most comprehensive and credible collection of Australian dairy industry statistics available.

I trust you will find this latest issue continues to be a valuable source of knowledge and information on this important industry.

A handwritten signature in blue ink, appearing to read 'M Ginnivan'. The signature is fluid and cursive, with a large initial 'M' and 'G'.

Dairy 2004: Situation and outlook

Introduction

In late 2003, the Australian dairy industry was still dealing with the effects of one of the most severe and widespread droughts seen in the past 100 years. Morale in both the farming and processing sectors was low, and misinformation and myths were starting to take the place of facts within industry discussions.

In early 2004, Dairy Australia initiated Dairy Moving Forward, a project designed to improve understanding of the realities facing the industry, and farmers in particular. The project aims to help farmers make better-informed choices about their businesses. The initial phase of the project has worked to dispel myths and provide a quality information base for industry decision making.

Dairy 2004: Situation and Outlook was commissioned by Dairy Moving Forward as an objective assessment of the industry's current position and its future prospects. It was completed in June 2004 and incorporates the results of the first national

dairy farmer survey. Designed to assess the attitude and status of dairy farmers, a randomised phone survey was conducted in April 2004 involving 1,079 respondents. In addition, all farmers were able to contribute through a mail survey, to which 2,579 replied. This article summarises the key findings from the farmer survey. The full report, including short and medium-term market outlooks, is available on the Dairy Moving Forward website at www.dairymovingforward.org.au.

Impact of drought

Four out of five dairy farmers surveyed had been adversely affected by the recent drought. The magnitude of the drought's impact varied from region to region. The greatest impact was in northern Victoria, with 97% of farmers affected in that region, and the per farm milk production loss averaging 21%.

The drought had a dual effect – both in reducing income through production loss, and increasing input costs as grain prices

Figure 2

The drought's effect on farm income and debt

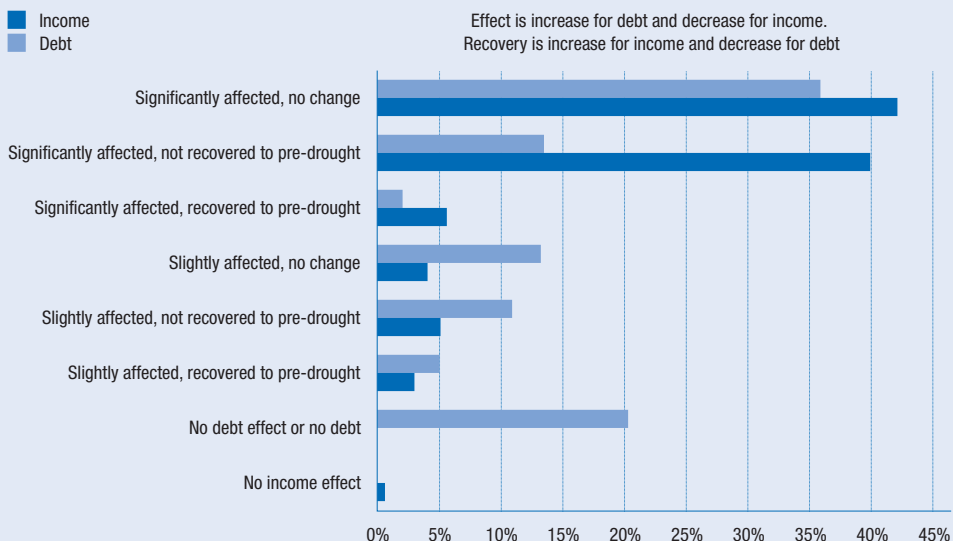
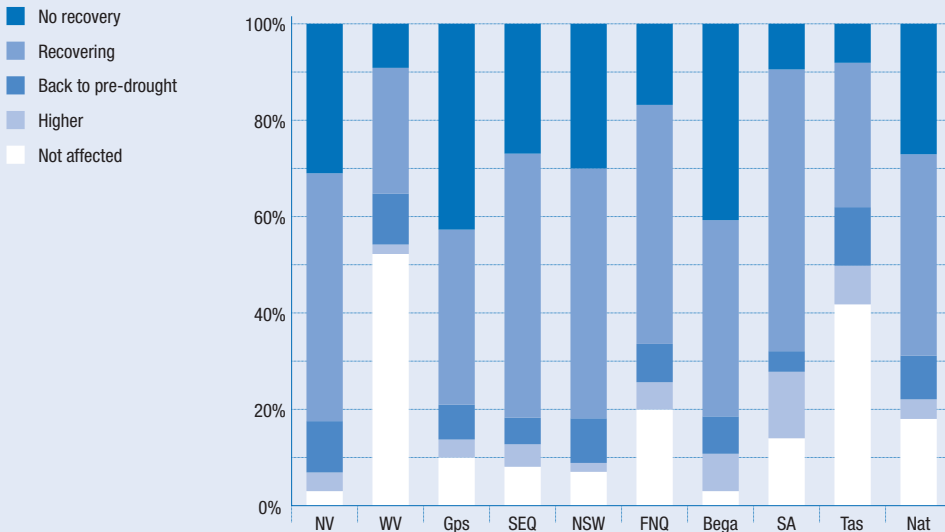


Figure 3

The effect on production levels as a result of drought (% of respondents)



more than doubled. The drought's impact on farm profitability, and often indebtedness, was severe in affected regions. An 18% drop in average farmgate price during the 2002/03 season further compounded the seasonal effect on farm business performance.

Two thirds of the farmers surveyed claimed their profit margin had dropped significantly as a result of the drought and a further 10% of farmers experienced a slight loss in margin. Drought resulted in a significant decrease in profit for at least 80% of respondents in the northern Victoria/Riverina, Bega, southern and central NSW, and South Australian regions.

Status of recovery

While the drought continues to linger in some regions and the after-effects remain for many dairy farmers, signs of recovery emerged during the survey. Two thirds of the respondents who experienced a drop in

production due to the drought stated that it was recovering or had fully recovered to pre-drought levels. Most respondents in western Victoria and South Australia recorded no effects on production from the drought, although business profitability was affected by higher input costs.

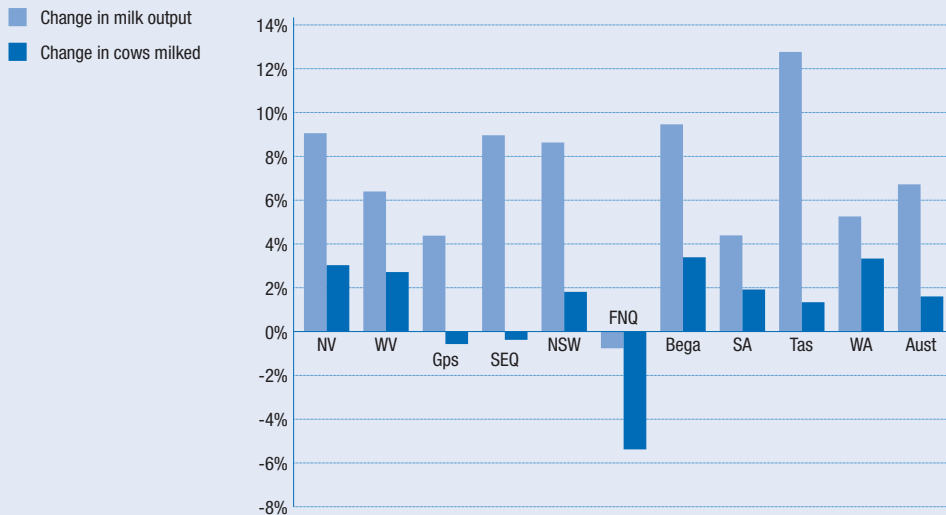
Almost three quarters of respondents affected by drought claimed they had made changes as a result – 52% altering both the way they ran their business and managed risk. The rate of change was highest in northern Victoria (61% making changes), and lowest in western Victoria (37%) and far-north Queensland (40%).

Expected changes in 2004/05 production and beyond

Almost 60% of farmers expect to increase their milk production under favourable seasonal conditions, with just 9% of respondents expecting production to fall in 2004/05.

Figure 4

Regional change in production from the 2003/04 to 2004/05 season (% changes in litres produced and cows milked)



Survey responses indicate a 7.1% increase in milk supply. However, when this increase is moderated by the reduced number of farms operating in the 2004/05 season, the forecast production increase for the total industry is expected to be between 0% and 2%. The number of cows milked is expected to rise by 1.3%, inferring that per cow productivity will improve in 2004/05 compared to the previous year.

The survey also asked respondents to indicate the likely outcomes for 2006/07 milk production, given both a static and a 2-3¢ per litre price increase scenario. Under favourable seasonal conditions and a static price, 42% of respondents expected their farm production to increase in 2006/07. Around a third expected output to be the same and 15% expected not to be in business. Around 21% of respondents would only increase production if a 2-3¢ per litre price increase was forthcoming. There were marked regional variations in the outlook for production in 2006/07.

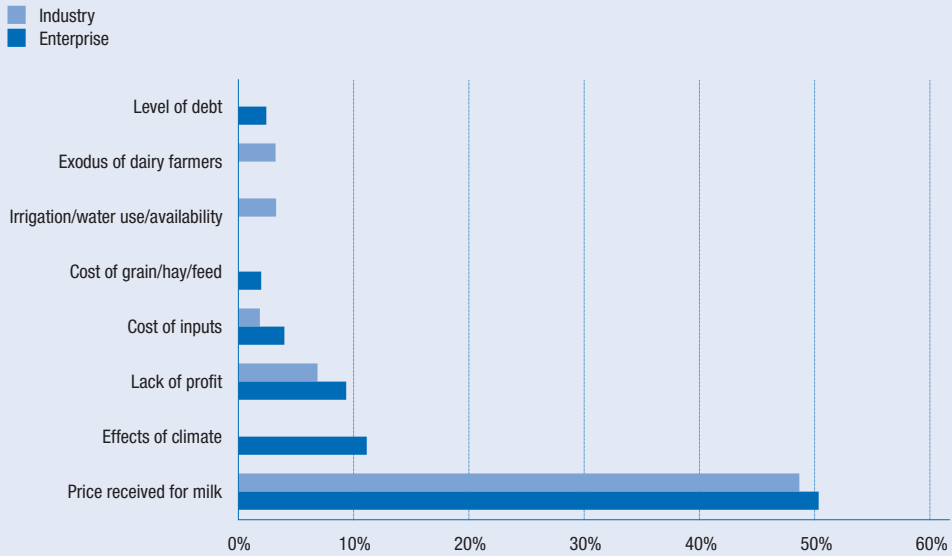
Around half of the respondents in Tasmania, Bega and Victoria's Gippsland regions indicated their production would increase under the static price scenario. By contrast, only 15% of far-north Queensland and 24% of Western Australia respondents would increase production under the same circumstances.

Future enterprise and industry challenges

Survey respondents were asked about the biggest challenges facing their dairy enterprise and the industry. The price being received for milk was perceived to be the greatest challenge for both individuals and the industry – first mentioned by around 50% of respondents. All other challenges were first mentioned by fewer than 20% of survey respondents. However, in northern Victoria and the Riverina, irrigation issues were mentioned by more than half the respondents.

Figure 5

Major challenges for enterprise and industry – first mentions



Conclusion

The effects of the drought are continuing to impact on the Australian dairy industry. While regional variations are important, the results of the national dairy farmers survey indicate that dairy farming businesses are recovering and many are preparing to increase production, even without a significant improvement in farmgate price. That said, a significant proportion of farmers are concerned with the current level of pricing in the industry.

The Australian dairy industry

An important rural industry

The dairy industry is a major rural industry in Australia. Based on a farmgate value of production of \$2.8 billion in 2003/04, it ranked third behind the beef and wheat industries. Dairy is 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. ABARE estimates a regional economic multiplier in the order of 2.5 from the dairy industry.

Strong growth characterised the dairy industry through the 1990s but that growth has slowed in recent years as a result of unfavourable seasons, particularly the severe drought in 2002/03.

Nevertheless, Australia's climate and natural resources are generally favourable to dairying and allow the local industry to be predominantly pasture-based, with approximately 70% to 80% of the cattle feed requirements coming from grazing. This results in efficient, low-cost, high-quality

milk production. Australian milk production costs are well below those in most other major dairy-producing countries around the world. Most dairy production is located in coastal areas, where pasture growth generally depends on natural rainfall. However, the inland irrigation schemes in northern Victoria and southern NSW have become quite significant and now account for around a quarter of total milk production. Feedlot-based dairying remains unusual in Australia, although the use of supplementary feed – hay, silage and grains – is becoming more widespread. Australian dairy farmers continue to increase on-farm productivity through improved pasture, feed and herd management techniques.

Dairying is a well-established industry in many areas of Australia. While the bulk of milk production occurs in Victoria (64% in 2003/04), all States have productive dairy industries that supply fresh milk to nearby cities and towns. In addition, a wide range of high-quality manufactured products – from fresh lines such as yogurt and a wide variety of cheese types, to bulk and specialised milk powders – are produced in most Australian States.

Table 1

Australian dairy industry – key measures

At June 30	1980	1990	CAGR 1980s	2000	CAGR 1990s	2004p	CAGR since 1990
Milk production (m. lts)	5,432	6,262	1.4%	10,847	5.6%	10,075	3.5%
Dairy cows ('000)	1,880	1,654	-1.3%	2,171	2.8%	2,028	1.5%
Farm numbers	21,994	15,396	-3.5%	12,896	-1.8%	9,611	-3.3%
Value of farm production*(\$m.)	\$2,700	\$2,517	-0.7%	\$3,187	2.4%	\$2,922	1.1%
Value of ex-factory production*(\$m.)	\$6,915	\$6,216	-1.1%	\$9,578	4.4%	\$8,897	2.6%
Estimated value-added* (\$m.)	\$1,684	\$1,857	1.0%	\$2,148	1.5%	\$2,007	0.6%
Per capita consumption (milk equiv)	239	244	0.2%	266	0.9%	279	1.0%
Export value*(\$m.)	\$815	\$456	-5.7%	\$2,906	20.4%	\$2,374	12.5%
Export share of production	22%	31%		56%		52%	

*Expressed in 2003/04 dollars

Sources: ABS, Dairy Australia, state authorities

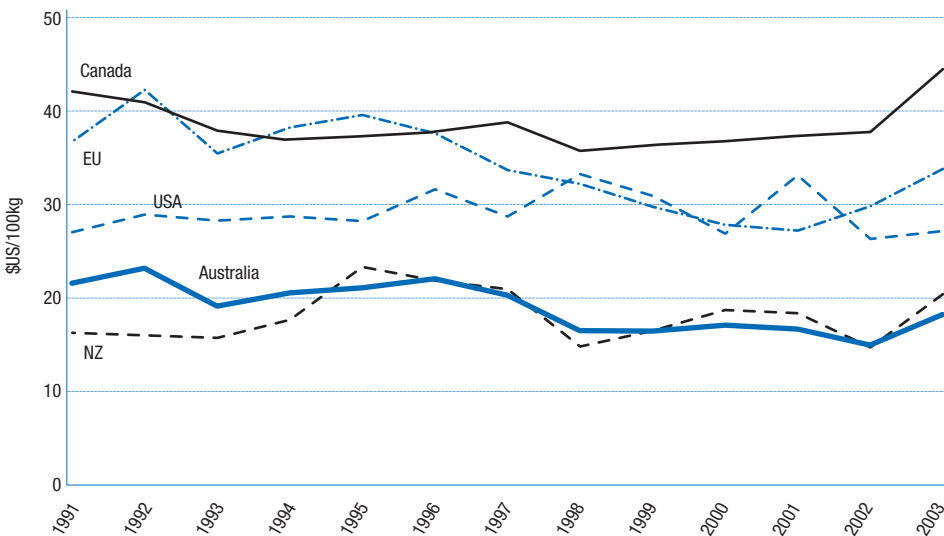
A world competitive industry

Australian dairy farmers operate in a completely deregulated industry environment; the only government involvement is in the setting of food standards and food safety assurance systems. Consequently, international prices are the major factor determining the price received by farmers for their milk. At an average of approximately US\$20 per 100kg of milk, Australian dairy farmers receive a low price by world standards, and so must operate highly cost-efficient production systems.

This is regularly borne out by International Farm Comparison Network studies. Australian farms participating in the study consistently have costs of production averaging less than US\$20 per 100kg of milk, placing them in the lowest cost category of all the farms participating in the survey. This contrasts with participating farms from Europe that have production costs greater than US\$30 per 100kg of milk. Reflecting this high level of competitiveness, more than half Australia's milk production is exported to more than 100 countries around the world and its share of the world dairy trade is increasing steadily.

Figure 6

International farmgate milk prices (\$US/100kg)



Farm facts

Owner-operated farms dominate the Australian dairy industry, with less than 15% of local farms having share farmers. The number of dairy farms has more than halved over the past two decades, from 22,000 in 1980 to fewer than 10,000 in 2004.

This reflects a long-term trend in agriculture across many industries and countries, as reduced price support and changing business practices have encouraged a shift to larger, more efficient operating systems. In recent years, this trend has been given impetus by two significant events in Australia.

Firstly, the final step in the deregulation of the dairy industry in July 2000, and the associated industry adjustment package, which allowed for the consolidation of farms within the industry.

Secondly, the severe and widespread drought during the 2002/03 season, which imposed great financial pressures on an estimated 80% of dairy farming operations across Australia.

These conditions led to a further round of farm rationalisations.

The trends in farm numbers have meant that the average herd size has increased from 85 cows in 1980, to an estimated 210 in 2003/04. The industry is starting to see the emergence of very large farm operations, where one property might support anything from six to 10 individual herds of 1,000 head of dairy cattle. Such enterprises are in the 'corporate model', where all labour is provided by salaried employees.

The dominant breed in Australia is the Holstein Friesian, accounting for approximately 70% of all dairy cattle.

Table 2

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
1994/95	1,911	8,379	1,746	819	479	832	14,166
1995/96	1,853	8,275	1,693	791	457	819	13,888
1996/97	1,851	8,203	1,680	768	450	801	13,753
1997/98	1,817	8,084	1,642	749	440	746	13,478
1998/99	1,771	7,926	1,589	714	423	733	13,156
1999/2000	1,725	7,806	1,545	667	419	734	12,896
2000/01	1,391	7,559	1,305	587	359	638	11,839
2001/02	1,323	7,079	1,152	538	344	612	11,048
2002/03	1,290	6,801	1,125	516	325	597	10,654
2003/04 (p)	1,096	6,242	967	458	305*	543	9,611

* Estimate

Source: State Milk Authorities

Table 3**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
1994/95	230	1,113	189	97	73	119	1,882
1995/96	235	1,161	189	97	71	130	1,884
1996/97	244	1,229	195	101	71	137	1,977
1997/98	266	1,268	203	107	73	143	2,060
1998/99	282	1,340	197	117	65	154	2,155
1999/2000	289	1,377	195	105	65	139	2,171
At June 30							
2000/01**	268	1,377	186	124	72	148	2,176
2001/02	264	1,363	174	110	75	134	2,123
2002/03 (r)	250	1,303	159	117	77	142	2,048
2003/04 (e)	247	1,308	153	110	73	138	2,028

* For 1999 and 2000, Qld state figure includes Northern Territory cow numbers

** From 2001 census date is June 30, NT and ACT numbers are included in national total

Source: ABS and Dairy Australia

Table 4**Average annual milk production per cow (litres)**

	NSW	VIC	QLD	SA	WA	TAS	AUST
1979/80	2,870	3,012	1,984	3,163	3,105	2,958	2,848
1989/90	3,602	3,920	3,122	3,934	4,205	3,791	3,781
1994/95	4,519	4,653	3,964	5,057	4,609	3,781	4,550
1995/96	4,780	4,821	3,975	5,295	4,744	4,134	4,705
1996/97	4,972	4,715	4,152	5,396	4,915	3,968	4,682
1997/98	4,872	4,699	4,137	5,564	5,369	3,875	4,677
1998/99	4,691	4,919	4,144	5,763	5,835	4,063	4,831
1999/2000	4,827	4,989	4,349	6,790	6,338	4,381	4,996
2000/01	4,687	4,977	3,943	6,369	5,903	4,177	4,859
2001/02	5,030	5,391	4,067	5,933	5,402	4,646	5,215
2002/03 (r)	4,996	4,885	4,230	6,556	5,348	4,304	4,913
2003/04 (e)	4,983	4,871	4,219	6,538	5,334	4,293	4,900

Source: Dairy manufacturers, ABS and Dairy Australia

Other important breeds include the Jersey, the Holstein/Jersey cross and Australia's own breed, the Illawarra. Most breeding is by artificial insemination, and Australian farmers have access to some of the best genetic material in the world.

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

Improvements in herd genetics, pasture management practices and supplementary feeding regimes have seen average annual yield per cow increase from 2,850 litres to 4,900 litres over the past two decades.

Combining this increase in yields per cow with the increase in average herd sizes, the average milk production per farm has increased from 247,000 litres to 1,048,000 litres over the same period.

Historically, the price farmers received for drinking milk in each State was significantly higher than that received for manufacturing milk until full deregulation

in July 2000. While higher prices for drinking milk are still received under commercial supply contract arrangements, many farmers now receive a 'blended' price, incorporating returns from both drinking and manufacturing milk.

Unlike many countries, there is no formal legislative control over the price processing companies pay farmers for milk. Farmgate prices can vary between manufacturers, with individual company returns being affected by factors such as product and market mix, marketing strategies and processing efficiencies. Most milk prices are based on both the milkfat and protein content of fresh milk. Payments from processors to individual farmers can also vary marginally, as firms operate a range of incentive/penalty payments relating to milk quality, productivity and out-of-season supplies.

The inflation-adjusted farmgate price trend (in Figure 7) is in line with other farm-based commodity product prices over the past decade.

Table 5

Typical factory paid prices (cents/litre)

	NSW	VIC	QLD	SA	WA	TAS	AUST
Manufacturing milk							
1997/98	25.1	22.7	24.0	21.8	25.6	20.4	22.9
1998/99	25.3	23.0	23.7	23.1	24.7	21.8	23.2
1999/2000	21.8	20.7	21.9	22.2	24.6	18.9	20.9
Market milk							
1997/98	49.6	43.1	55.3	43.8	45.1	45.0	47.9
1998/99	47.0	43.4	55.7	44.2	44.4	45.7	47.4
1999/2000	47.7	42.7	54.9	44.6	45.5	44.3	47.2
New series – post deregulation							
2000/01	29.1	29.3	30.6	27.7	26.6	25.0	29.0
2001/02 (r)	32.5	33.3	34.5	31.5	28.8	32.7	33.0
2002/03	32.8	24.8	34.8	30.3	28.2	25.9	27.1
2003/04 (p)	30.9	26.7	33.8	28.2	27.4	27.2	27.9

Source: Dairy manufacturers

Figure 7

Factory paid prices (cents/litre)

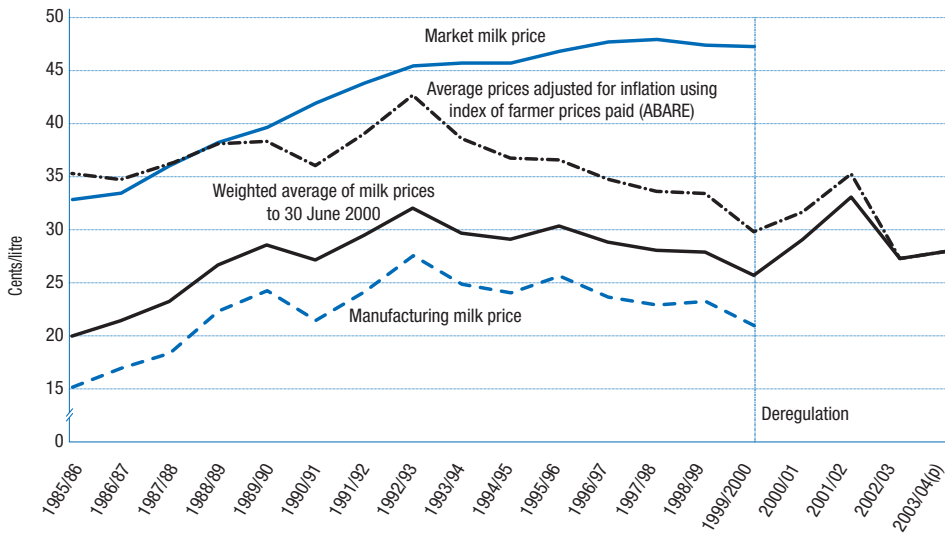
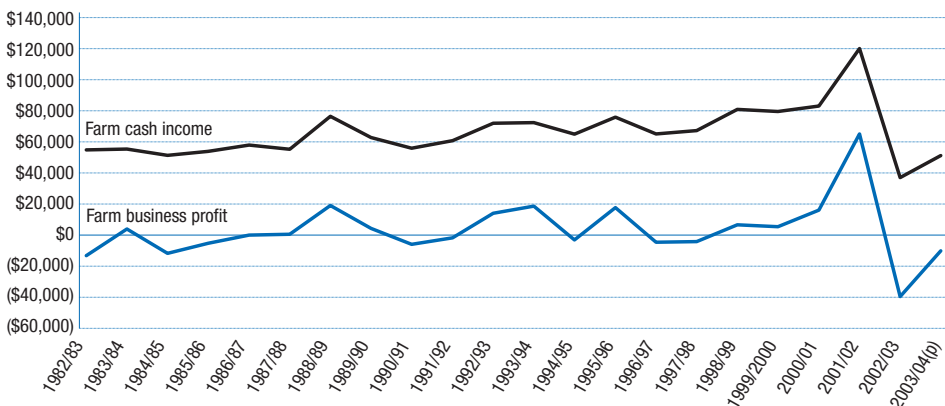


Figure 8

Dairy farm financial performance



Source: ABARE

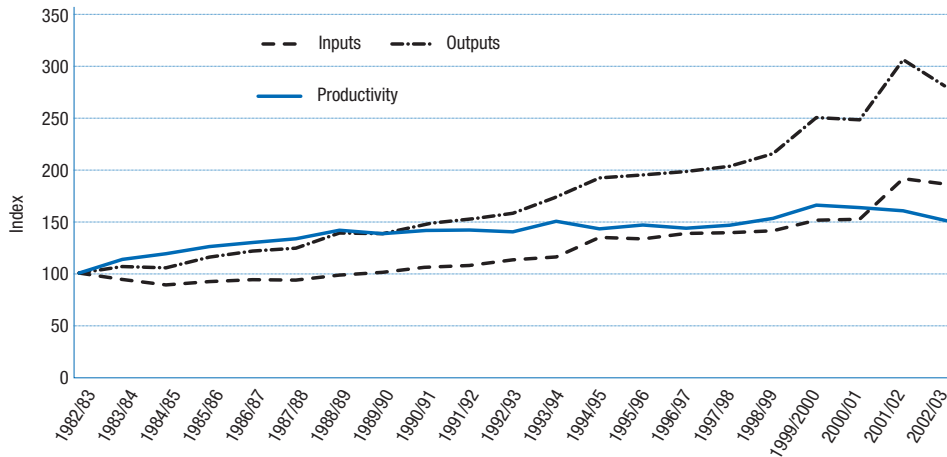
The annual ABARE Farm Survey estimates the financial performance of Australian dairy farms. Farm cash income and farm business profit over the past two decades show just how variable the past three years have been for dairy farmers. After the record high milk production volumes in 2001/02 – encouraged by favourable climatic and market conditions – the dramatic impact of

the drought is shown in the 2002/03 season, followed by the rather limited, partial recovery in 2003/04.

Despite the significant economic pressures on dairy farming operations in recent years, it is interesting to note that the level of farm business equity – as estimated by ABARE – continues to be around the long-term average of 80%.

Figure 9

Productivity on Australian dairy farms



Source: ABARE

ABARE’s Farm Survey estimates that dairy farmers have achieved growth in outputs over the decade to 2002/03 of 5.9% a year. However, to achieve these increases, inputs have increased 4.7% a year. The increased feeding of supplementary grains and fodder has been a major factor contributing to the high rate of output growth. Consequently, the annual rate of increase in dairy farm productivity has averaged just 1.2% a year over the period.

While the rate of productivity increase has been positive, the industry’s terms of trade

have actually declined over the same period. ‘Terms of trade’ refers to the ratio of prices received by farmers for their products (milk and other farm outputs) to prices paid for inputs (feed, fuel, labour, etc.). It is clear that to maintain farm incomes, productivity growth has to exceed any decline in the terms of trade over any length of time. However, output prices rose by an average of 0.2% a year, while input prices rose more rapidly at 2.4% a year, largely reflecting increased grain prices.

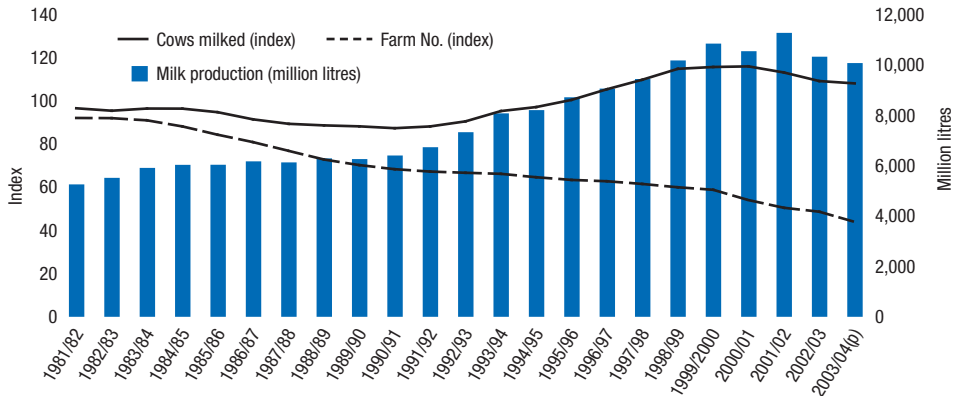
Milk production

While farm numbers have decreased over the past two decades, milk output steadily increased, due to increasing cow numbers and improved cow yields, until the most recent years. Unfavourable seasonal conditions in 2000/01 led to the first drop in milk production since marginal declines in the late 1980s. This was followed by the severe and widespread drought of 2002/03 and its subsequent impact last year.

Nevertheless, the underlying trend to fewer farms, larger herds and increasing levels of production continues. Farmers have made many changes to their general farm management practices and adopted a range of new technologies, including soil testing, fodder conservation, supplementary feeding, improved animal genetics, artificial insemination programs, the use of new milking technology, and the widespread use of computers to record and monitor herd performance.

Figure 10

Australian milk production vs indices of farms and cows milked



Source: ABARE

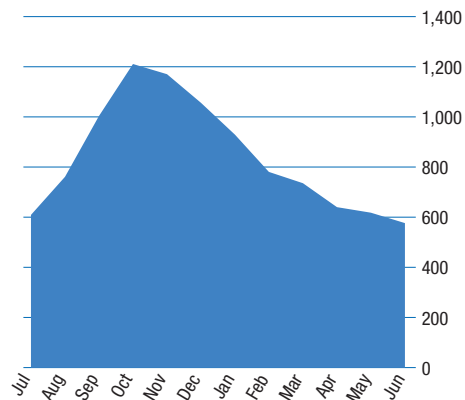
Australian milk production remains strongly seasonal, reflecting the pasture-based nature of the industry. Milk production peaks in October/November, tapering off in the cooler months of May/June. The development of long shelf-life manufactured products, particularly in the south-east regions, has enabled maximum milk utilisation within the seasonal cycle.

The seasonality of milk output in the States of Queensland, New South Wales and Western Australia is less pronounced, due to a greater focus on drinking milk and fresh products in the product mix. Farmers in these States manage calving and feed systems to ensure more even year-round production.

See Appendix 1 (page 35) for more details on the seasonality of milk production.

Figure 11

Seasonality of milk production in Australia, 2003/04 (million litres)



Australian milk production reached 10,075 million litres in 2003/04, a decrease of 2.5% on the previous year. This further decline on the 'drought year' reflects the slow nature of the recovery; it is particularly apparent in livestock industries, where herds take time to recover. Nevertheless, the 2003/04 season did finish with six consecutive months of positive growth in milk production.

Milk production is concentrated in the south-east corner of Australia, with the States of Victoria, Tasmania and South Australia accounting for 77% of the total output.

Cows' milk consists of solids (milkfat, protein, lactose and minerals) in water, where water makes up about 87% of the volume.

The composition of the milk produced varies significantly between the States, due to a variety of factors, such as cow breed and age, nutrition and feed quality.

The industry is traditionally divided into two distinct sectors. The volumes going into the drinking milk sector have shown marginal growth over a number of years and last year accounted for more than 19% of the total milk production. The trends of expanding total milk output, declining drinking milk share of production and increasing proportion of milk used for manufacturing dairy products have been temporarily reversed over the past two years. However, the return of more average seasonal conditions in the future will see this trend resume.

The proportion of drinking milk to manufacturing milk in the total product mix varies significantly by State.

Table 6

Milk production (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
1994/95	1,087	5,114	740	485	343	437	8,206
1995/96	1,114	5,482	751	512	341	514	8,714
1996/97	1,192	5,634	797	535	349	529	9,036
1997/98	1,242	5,866	822	580	387	543	9,440
1998/99	1,286	6,414	827	646	403	603	10,179
1999/2000	1,395	6,870	848	713	412	609	10,847
2000/01	1,326	6,784	760	699	388	590	10,546
2001/02	1,343	7,405	744	715	393	671	11,271
2002/03 (r)	1,302	6,584	720	733	404	585	10,328
2003/04 (p)	1,271	6,434	674	703	403	590	10,075

Source: Dairy manufacturers

Table 7

Average protein/fat composition by State (kg/litre)

	NSW	VIC	QLD	SA	WA	TAS	AUST
Milkfat							
1998/99	3.95	4.16	3.94	4.00	4.02	4.32	4.11
1999/2000	3.94	4.17	3.93	3.98	3.95	4.29	4.12
2000/01 (r)	3.92	4.13	3.92	3.97	3.92	4.26	4.08
2001/02 (r)	3.89	4.14	3.93	3.96	3.98	4.28	4.09
2002/03	3.87	4.12	3.93	3.94	3.98	4.26	4.06
2003/04 (p)	3.94	4.16	3.95	3.96	3.98	4.32	4.10
Protein							
1998/99	3.21	3.28	3.19	3.22	3.07	3.29	3.25
1999/2000	3.22	3.30	3.18	3.22	3.07	3.29	3.26
2000/01 (r)	3.20	3.29	3.14	3.24	3.05	3.28	3.26
2001/02 (r)	3.21	3.33	3.14	3.22	3.11	3.29	3.29
2002/03	3.13	3.27	3.05	3.17	3.11	3.29	3.22
2003/04 (p)	3.26	3.34	3.21	3.27	3.15	3.36	3.31

Source: Dairy manufacturers

Figure 12

Drinking and manufacturing milk production (million litres)

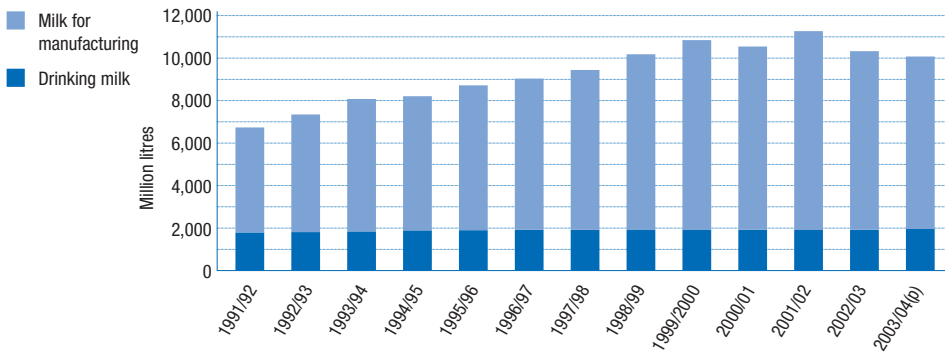
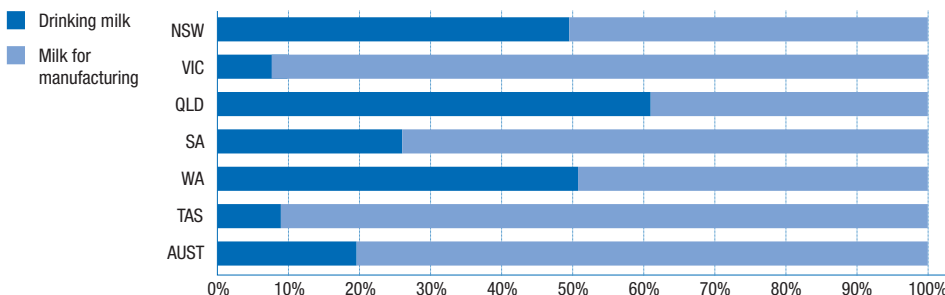


Figure 13

Milk production – shares by State 2003/04



Dairy manufacturing

As in the farm sector, the milk processing sector is undergoing continuing rationalisation. This has resulted in increasing milk processing per factory, as larger operations have allowed improved efficiency and economies of scale. The lack of growth in milk production over the past two years has relieved the pressure on Australian dairy companies to continue to invest in increasing processing capacity – at least in the short term.

Milk is processed by both farmer-owned co-operatives and public and private companies in Australia. Co-operatives dominate the industry, accounting for approximately 70% of all milk output. The three largest co-operatives (Murray Goulburn Co-operative, Bonlac Foods and the Dairy Farmers Group) account for more than 60% of all milk production, and more than 70% of all milk used for manufacturing. While the largest co-operative has a volume that accounts for more than 30% of Australia's milk production, there are also a number of medium-sized co-operatives with a milk intake between 100 and 600 million litres.

As well as farmer co-operatives, there are a number of multi-national dairy companies operating within the Australian dairy industry, including Fonterra (Bonlac Foods), Parmalat, Nestlé, Kraft, Snow Brand and Bongrain (Lactos).

Other Australian dairy companies cover a diverse range of markets and products – from the publicly listed National Foods Limited, which is heavily involved in the drinking milk and fresh dairy product markets, to many highly specialised farmhouse cheese manufacturers.

The four major production streams (apart from drinking milk) are:

- skim milk powder (SMP)/butter milk (BMP);
- butter/casein;
- cheese; and
- whole milk powder (WMP).

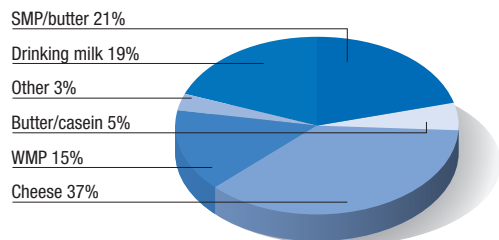
In line with international trends, there has been a general movement in Australia's product mix towards increased cheese and whole milk powder production, and away from butter and SMP lines.

While 96% of drinking milk is consumed in Australia, around 65% of manufactured products are exported and 35% are sold on the Australian market.

See Appendix 2 (page 36) for more details on the manufacturing processes.

Figure 14

Utilisation of Australian milk 2003/04



Dairy markets

Over the past two decades, the volume of Australian milk production has expanded at a faster rate than domestic consumption, with an increasing proportion destined for export markets. Australia now exports more than 50% of its annual milk production.

While Australia accounts for an estimated 2% of world milk production, it is an important exporter of dairy products. Indeed, Australia ranks third in terms of world dairy trade – with a 13% share of all

dairy product exports – behind New Zealand and the European Union (EU 15). Australia's export share dropped in 2003/04 for the first time in many years due to the drought-induced shortage of product available for export.

Japan is the single most important export market for Australia, accounting for more than 18% of Australia's exports by value. Australian exports are concentrated in Asia/East Asia – making up 67% of the total value of A\$2.4 billion.

Figure 15

Australian consumption and exports (milk equivalents)

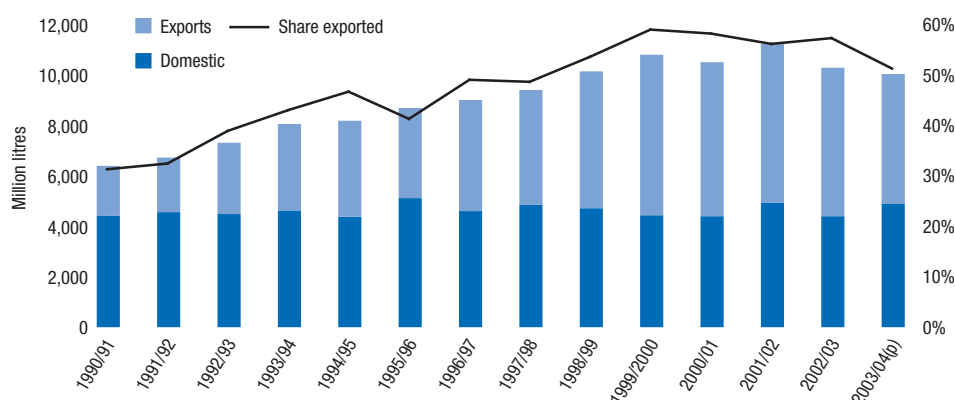


Table 8

Australian dairy markets by product by region, 2003/04 (A\$ million)

	South-East Asia	Other Asia	Europe	Middle East	Africa	Americas	Other	Total Exports	Australian market (e)
Butter/AMF	53	42	24	27	11	24	1	182	194
Cheese	52	396	78	117	31	52	11	738	1,136
Milk	42	35	3	5	2	1	16	104	2,178
SMP/BMP*	249	118	4	27	12	31	21	463	n/a
WMP**	266	149	5	58	33	9	29	549	n/a
Other	61	125	13	2	2	111	25	339	371
Total	723	864	126	237	91	228	104	2,374	3,879

* Also includes dairy component of mixed powders (mixtures)

** Also includes infant powder

Source: ABS

This reflects both Australia's natural geographic advantage to these markets and the extent to which Australia is excluded from other major markets by direct restrictions (as in the case of the EU and the United States) or by the impact of the export subsidy programs of major competitor countries. Nevertheless, the 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 the past

decade. The Middle East and Americas are also important markets for many products.

Australia's top five export markets by volume in 2003/04 were Japan, the Philippines, Malaysia, Singapore and Indonesia; while the top five export markets by value were slightly different in Japan, Malaysia, the Philippines, the United States and Taiwan. There has been little change in the ranking of these markets over recent years.

See Appendix 4 (page 42) for detailed tables of Australia's export markets.

Figure 16

Exporters' share of world trade – 2003 (milk equivalents)

- Australia 13%
- Other 10%
- USA 4%
- EU 35%
- New Zealand 38%

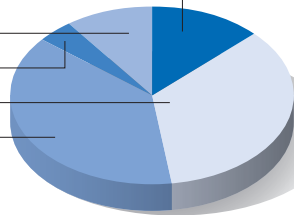


Figure 17

Australian exports by region – 2003/04 (A\$ million)

- Other \$91m
- Americas \$228m
- Africa \$104m
- Middle East \$237m
- Europe \$126m
- Other Asia \$431m
- Japan \$433m
- South East Asia \$723m

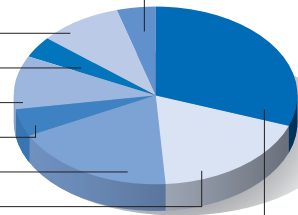
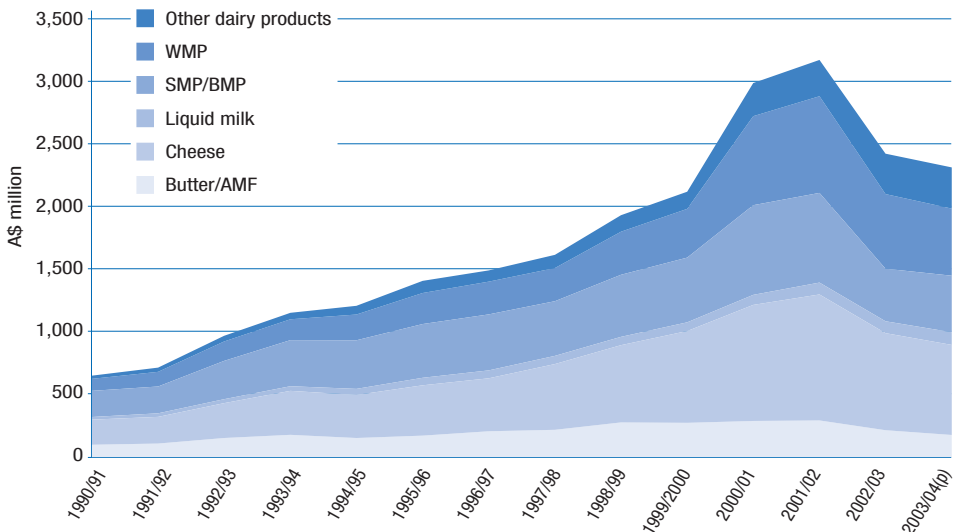


Figure 18

Australian exports by product (A\$ million)



Australian consumption of dairy products

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

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

Per capita consumption of drinking milk is estimated at nearly 100 litres.

Cheese consumption has been a major success for the Australian dairy industry, with consistently strong growth to around 12kg a head.

Butter consumption slowed during the 1970s and 1980s, as people began to limit their intake of saturated fats, however, the trend has flattened out over the past decade.

Yogurt is the ultimate 'snack' for time-pressed consumers, combining both convenience and health attributes, and showing strong and consistent growth over the period.

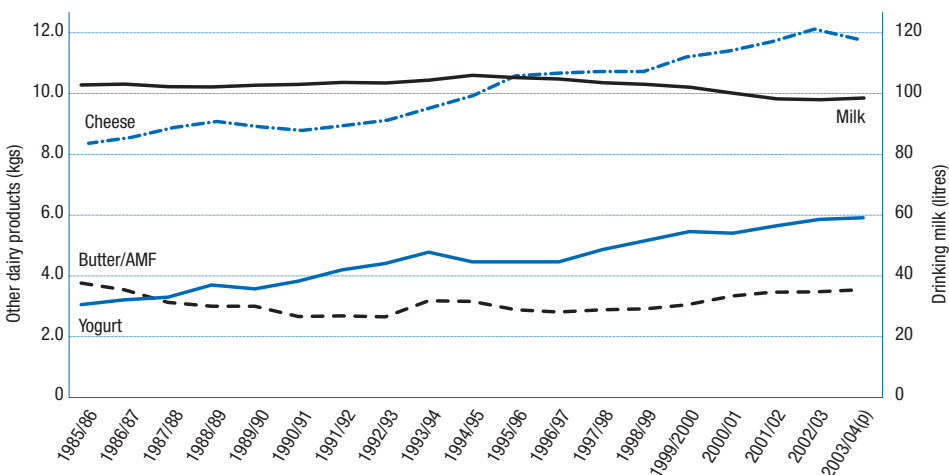
Table 9

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

	Milk (lts)	Cheese (kgs)	Butter/AMF (kgs)	Yogurt (kgs)
1998/99	102.5	10.7	2.9	5.1
1999/2000 (r)	101.5	11.1	3.0	5.4
2000/01 (r)	99.6	11.3	3.3	5.3
2001/02 (r)	97.7	11.6	3.4	5.6
2002/03 (r)	97.4	12.0	3.4	5.8
2003/04 (p)	98.0	11.7	3.5	5.9

Figure 19

Per capita consumption (litres/kg)



Drinking milk

Whole milk, which is packaged for drinking, is standardised to a milkfat content of around 3.8%. Modified, reduced and low-fat milks are standardised to other relevant specifications and have 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.

In recent years, Australian milk consumption has been steadily changing from regular whole milk to modified milk types, such as reduced and low-fat milks, and specialty milks fortified with vitamins and minerals. Flavoured milks have also been increasing their share of the market, at the expense of fresh white regular milk.

Table 10

Drinking milk sales by State (million litres)

	NSW	ACT	VIC	QLD	SA	WA	TAS	AUST
1979/80	531		437	249	127	119	41	1,504
1989/90	552	30	449	316	150	164	47	1,730
1994/95	579	34	452	368	167	188	52	1,894
1995/96	574	33	454	372	163	187	50	1,905
1996/97	576	33	452	376	173	193	50	1,920
1997/98	575	33	442	377	182	188	49	1,919
1998/99	578	32	442	382	185	192	49	1,931
1999/2000	566	30	440	383	185	190	48	1,933
2000/01 (r)	630		456	393	199	192	50	1,920
2001/02 (r)	622		459	403	184	192	50	1,909
2002/03 (r)	616		472	404	181	200	51	1,924
2003/04 (p)	628		484	410	183	204	52	1,961

State figures exclude interstate traded milk prior to 2001, NSW includes ACT after June 2000.

Source: Milk processors and state milk authorities

Table 11

Drinking milk sales by type (million litres)

	Regular	Reduced	Low Fat	Flavoured	UHT	Other	Total
1989/90	1,251	244	79	111	40	6	1,730
1994/95	1,217	332	111	143	77	14	1,894
1995/96	1,195	336	113	146	94	20	1,905
1996/97	1,163	352	120	160	104	21	1,920
1997/98	1,125	359	130	163	122	19	1,919
1998/99	1,111	358	141	169	131	20	1,931
1999/2000	1,079	354	144	173	164	20	1,933
2000/01 (r)	1,072	381	119	164	161	23	1,920
2001/02 (r)	1,064	395	126	171	135	18	1,909
2002/03 (r)	1,055	403	134	177	136	19	1,924
2003/04 (p)	1,037	427	143	186	138	30	1,961

Source: Milk processors and state milk authorities

Competition between the milk processors has seen the development of innovative specialty milks delivering different consumer benefits, such as a range of fat content levels, milks fortified with extra vitamins and minerals, lactose-free milk and extra-frothing milk for cappuccinos.

The major players in the drinking milk market are National Foods (with the Pura brand), Dairy Farmers (with the Dairy Farmers brand) and Parmalat (with the Pauls brand).

The supermarket channel has continued to increase its share of total drinking milk in recent years – to nearly 57% in 2003/04.

Plastic bottles now account for 76% of all milk sales in supermarkets, with the balance split between gable-top cartons and UHT packs. There has been a long-term trend towards plastic bottles, with the figure being 64% some four years ago.

There have also been significant trends within the pack sizes bought by consumers

in supermarkets. While the 2L plastic bottle remains the most popular size, with a 41% share, this is down from 49% four years ago. Similarly, the share of the 1L carton and 1.1L plastic bottles has slipped from 33% to 25%. The major change has been in the explosive growth of the 3L plastic bottle, with a growth in the share of all supermarket milk sales from 13% to 30% in just four years – after first appearing on the market in June 1998.

See Appendix 3 (page 39) for more details on supermarket sales of milk.

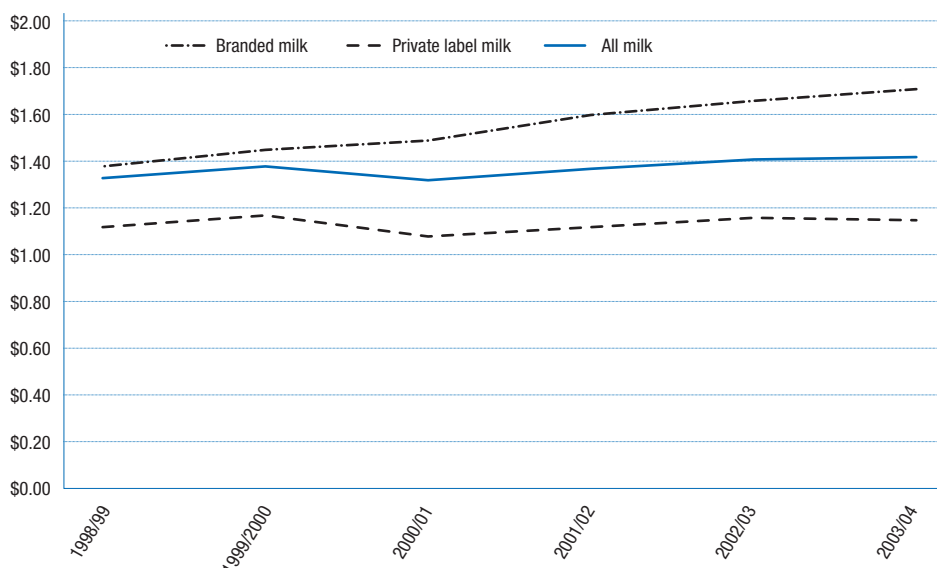
In 2003/04, the average price of branded milk increased 3% and offset a 1% decline in private label prices.

Australia exports relatively small volumes of milk – equivalent to approximately 4% of the domestic drinking milk market – with more than 75% of that going into Asia.

See Appendix 4 (page 45) for more details of drinking milk exports.

Figure 20

Supermarket milk price trends (\$/litre)



Cheese

Australia produced nearly 390,000 tonnes of cheese in 2003/04 – an increase of 5% on the previous year. While the production of cheddar cheese remained in line with last year, non-cheddar cheese types showed very strong growth, especially the semi-hard and fresh cheeses, which were up 13%.

Australian cheese production continues to be dominated by cheddar and cheddar types, which make up more than 53% of the total. Nevertheless, there is a continuing long-term trend to non-cheddar cheese types apparent in the Australian industry, in both production and consumption.

Approximately 55% of domestic cheese sales are through supermarkets. A significant proportion, mostly specialty cheeses, is sold through the smaller, independent retail trade, with the remainder used in the foodservice sector and food processing applications. Cheese is a major product for the Australian dairy industry, with sales around 186,000 tonnes within Australia, valued at an estimated A\$1.8 billion, and export sales approaching 212,000 tonnes and worth nearly A\$740 million in 2003/04.

See Appendix 3 (page 40) for more details of supermarket cheese sales.

Table 12

Australian cheese production by type of cheese (tonnes)

	1998/99 (r)	1999/ 2000 (r)	2000/01 (r)	2001/02 (r)	2002/03 (r)	2003/04 (p)
Cheddar	178,465	214,769	215,047	221,942	209,700	208,493
Semi-hard	74,722	82,000	84,124	93,671	83,743	95,183
Hard grating	11,370	11,513	11,312	15,581	11,127	11,116
Fresh	59,257	61,590	61,311	79,215	61,835	71,116
Mould	3,073	3,746	3,813	3,689	4,023	3,995
Total cheese	326,887	373,617	375,606	414,098	370,428	389,903

*Revisions due to reclassification of cheeses and revisions of specialty cheese production
Source: Dairy manufacturers*

Sales by channel data (for 2002/03) show the relative importance of the foodservice sector for sales of cheese – estimated at 28% in 2002/03.

Cheese imports account for approximately 20% of domestic sales. In 2003/04, more than 75% of the 48,700 tonnes of cheese imported into Australia was sourced from New Zealand. The remaining cheese imports come from Europe.

Natural and processed cheddars are the most exported Australian cheeses. Nevertheless, the range and volume of non-cheddar cheese types being exported continues to grow every year.

Australia's most important overseas cheese market was Japan, which accounted for 40% of product exports. Other important markets are the European Union, South Korea, Saudi Arabia and the United States.

Figure 21

Cheese sales by channel, 2002/03

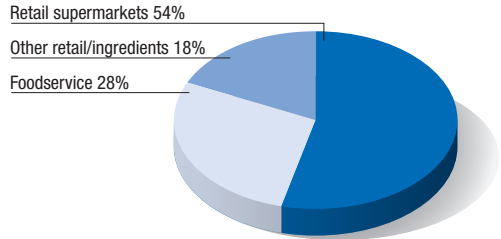
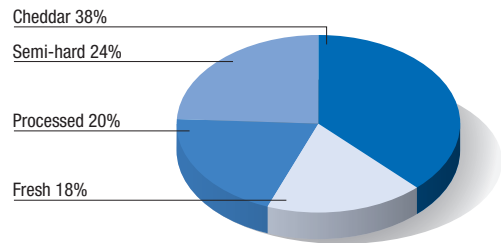


Figure 22

Australian cheese exports by type, 2003/04



Butter

In 2003/04, Australia produced 148,900 tonnes of butter and butteroil or anhydrous milk fat (AMF) in commercial butter equivalent terms (CBE).

AMF is butter with the water content removed. It is primarily produced for export and domestic food processing applications, such as bakery and confectionery. These sectors also use butter; however, most domestic sales are through retail and foodservice outlets.

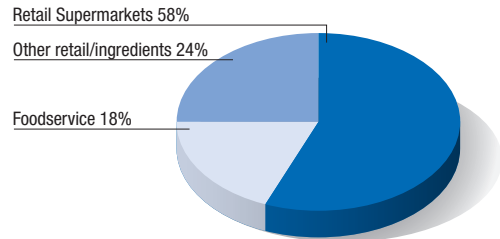
The introduction of butter and vegetable oil-based dairy blends, which are easier to spread and lower in saturated fat, has helped to stabilise this market in recent years, after a sustained decline. In 2003/04, dairy spreads took a further 2% retail market share from margarine – the same trend as for the past two years.

Australia's total tablesreads market appears to be decreasing in size. Consumer concerns about margarine consumption have meant another significant decline of 4% in the margarine segment. Although the total category has declined by 1%, butter and dairy blend sales have actually increased by nearly 5%.

See Appendix 3 (page 41) for more details of supermarket sales of butter and dairy blends.

Figure 23

Dairy spread sales by channel, 2002/03



Sales by channel data show the relative importance of the foodservice sector for sales of dairy spreads – estimated at 18% in 2002/03.

Exports of butter and butteroil vary significantly from year to year. In 2003/04, Australian butter/butteroil exports totalled 83,250 tonnes in CBE terms – valued at A\$180 million.

Australia's most important overseas market for butter/butteroil in 2003/04 was Egypt.

See Appendix 4 (pages 43–44) for more details of butter and butteroil exports.

Table 13

Butter and butteroil production (tonnes)

	1998/99 (r)	1999/2000 (r)	2000/01 (r)	2001/02 (r)	2002/03 (r)	2003/04 (p)
Butter *	106,537	110,325	103,145	108,308	104,189	104,143
Butteroil (CBE)	82,963	71,295	69,175	70,045	59,560	44,754

* Butter figures now include butter blends as CBE

Source: Dairy manufacturers

Table 14

Australian exports of butter and butteroil (CBE)

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Butter *	48,766	67,783	56,871	42,603	49,528	41,925
AMF (CBE)	69,287	71,534	66,060	79,999	59,947	41,324

* Butter figures now include butter blends as CBE

Source: Dairy Australia and ABS

Fresh products

Australian manufacturers also produce a range of other dairy products, including fresh products such as yogurt, dairy desserts, chilled custard and cream, and frozen products such as ice-cream.

Yogurts have been a category of considerable growth for the dairy industry over the past decade. Yogurt has a favourable consumer image as a convenient, healthy snack. Reflecting this, low-fat and diet variants account for more than 60% of the annual supermarket sales of yogurt. The segment is dominated by strong international brands such as Ski, Yoplait and Nestlé.

The growth in yogurt sales has been underpinned by continued product innovation in the areas of packaging, flavours and the use of probiotic cultures, as well as new products, such as drinking yogurts.

See Appendix 3 (page 41) for more details of supermarket yogurt sales.

Dairy desserts are a smaller, but growing, dairy category. 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 and often feature popular characters on the pack.

Chilled custards, a traditional favourite, are also a growth category as manufacturers expand their product offerings into small, snack-sized plastic cups sold in grocery multi-packs.

The overall market for cream remains fairly stable. Trends differ between the supermarket and foodservice channels, with a decline in supermarket sales apparently being offset by a growth in sales to foodservice outlets. Regular and sour creams are both used extensively as an accompaniment or ingredient.

Australian consumption of ice-cream is relatively high by world standards and the market is stable in volume terms, if highly seasonal.

The major market development in recent years has been in premium indulgent treats, in both stick lines and smaller-sized take-home tubs. Nevertheless, sales of large tubs (2 litres or greater) and multi-packs (of stick lines) make up the majority of sales in supermarkets; 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, Nestlé (Peters) and Cadbury, dominate the category.

Milk powders

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

In recent years, the most obvious trend in powder production has been the increase in whole milk powder (WMP) output, with skim and butter milk powders (SMP/BMP) remaining relatively stable. While total volumes of milk powders have been most

affected by the reduced availability of milk supply during the recent drought and subsequent recovery period, the trend has continued. Over just six years, WMP production volumes have risen from 35% of total milk powders to nearly 50% of total milk powders to nearly 50% last year.

Less than 20% of Australia's powder production is sold domestically. Retail outlets account for only a small percentage of domestic sales, with local usage being mainly as a food ingredient.

Figure 24

Australian production and exports of skim milk and butter milk powders (tonnes)

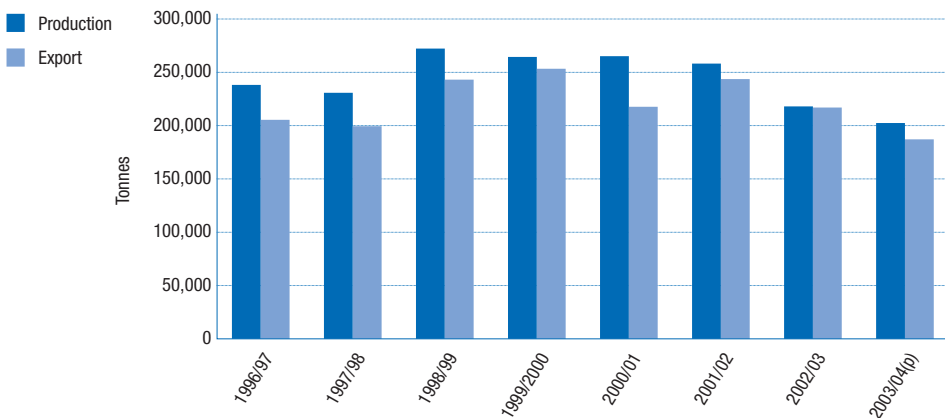
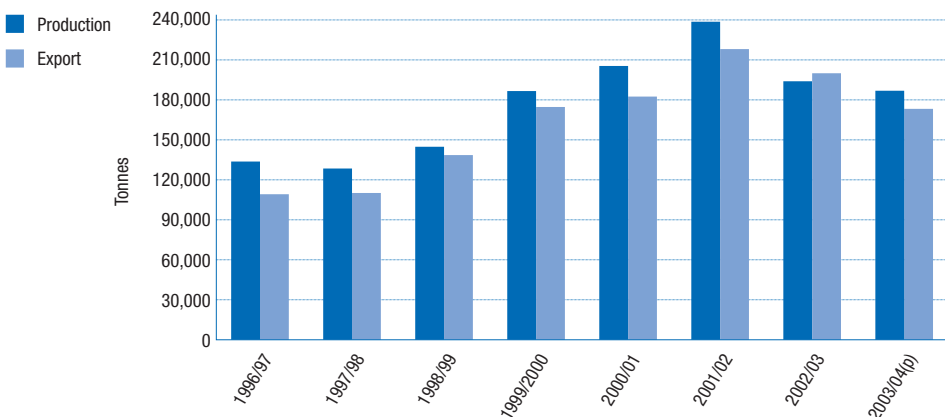


Figure 25

Australian production and exports of wholemilk powder (tonnes)



Milk powder is recombined into liquid milk products, particularly in tropical climates where fresh milk supplies are not available. 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 81% of SMP and BMP, and 73% of WMP, destined for the region.

See Appendix 4 (pages 44–45) for more details on powder exports.

The Philippines was the largest single export market for Australian SMP and BMP in 2003/04, followed by Malaysia, Singapore, Indonesia and Taiwan.

Malaysia was the largest single export market for Australian WMP in 2003/04, followed by Taiwan, the Philippines, Indonesia and Sri Lanka.

Table 15

Australian production of milk powders (tonnes)

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04(p)
Skim milk and buttermilk powder*	272,217	264,415	265,149	258,176	218,018	202,445
Wholemilk powder	144,839	186,653	205,449	238,684	193,985	186,860

* Includes mixtures Source: Dairy manufacturers

Table 16

Australian exports of skim milk and butter milk powders (tonnes)

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia	202,286	210,750	182,111	197,278	174,553	151,514
Middle East	14,515	9,745	11,147	15,714	12,588	11,740
Africa	10,109	13,039	3,242	8,469	7,787	4,962
Pacific	1,005	1,524	568	4,411	6,230	5,628
Americas	12,753	13,695	19,044	16,959	15,341	11,948
Europe	2,351	4,487	1,057	770	499	1,287
Others	130	87	535	1	1	0
Total	243,149	253,327	217,704	243,602	216,999	187,079

Includes dairy component of mixed powders Source: Dairy Australia and ABS

Table 17

Australian exports of whole milk powder (tonnes)

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia	111,720	141,897	129,471	157,839	153,778	126,957
Middle East	5,740	17,926	19,253	22,423	22,221	21,324
Africa	4,690	6,214	15,243	21,020	13,677	12,916
Pacific	2,923	4,459	4,133	4,809	4,779	6,969
Americas	8,308	2,985	11,180	11,383	5,720	3,429
Europe	5,153	1,034	2,693	617	184	1,700
Others	41	142	561	0	0	0
Total	138,575	174,657	182,534	218,091	200,359	173,295

Also includes infant powder Source: Dairy Australia and ABS

Whey products and casein

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

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 (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 detergent also contain protein concentrates.

Approximately 20% of Australia's whey production is used domestically, in infant formula, biscuit and ice-cream

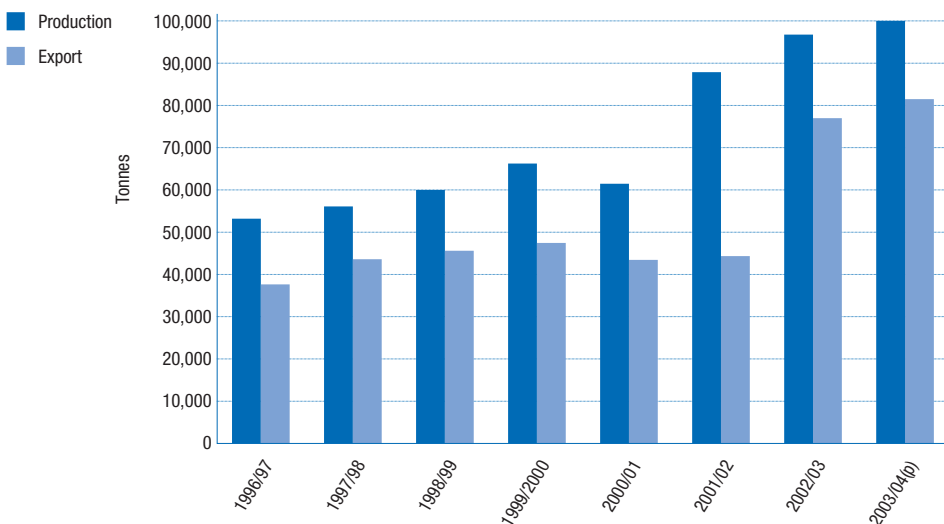
manufacture. The remainder is exported, with China, the Philippines and Indonesia being the largest export markets for Australian whey products in 2003/04.

Casein and caseinates are ingredients in noodles, chocolate, sweets, mayonnaise, ice-cream and cheese manufacture. It is used as a binding ingredient, emulsifier and milk substitute in processed foods. Industrial uses of casein and caseinates include: plastics (buttons, knitting needles); the manufacture of synthetic fibres and chemicals (plants, glues, glazed paper, putty and cosmetics); as a reinforcing agent and stabiliser for rubber in automobile tyres; a nutritional supplement and binder in calf milk replacers; and a range of other technical applications.

Australia also produces casein and caseinates, primarily for export markets. The United States and Japan are our largest export markets. Only a small amount of casein is used domestically.

Figure 26

Production and export of whey products (tonnes)



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 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. It is fully accountable to its members – levy payers who elect to become members, and the peak industry bodies.

The new structure provides farmers, as members, with a direct say in the activities of the organisation. With the goal of improving the Australian dairy industry's competitiveness and profitability, the new organisation is delivering increased effectiveness through the integration and co-ordination of activities to efficiently provide better value for farmers' levy investment. Together with the farmer-paid levy, the company receives matching government research and development (R&D) funds.

Dairy Australia invests in R&D activities to improve competitiveness in the farm and manufacturing sectors of the industry.

It works with industry groups such as the Australian Dairy Industry Council and government on trade policy issues (such as trade liberalisation and trade access) to improve the environment for export market growth.

Dairy Australia also works to educate consumers, health professionals and opinion leaders about the health and nutrition benefits of dairy products, with the aim of increasing Australian consumption.

Finally, Dairy Australia works to provide information, address environmental and community issues, and facilitate industry consultation and communication.

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.

Figure 27

Farmer investment in Dairy Australia, 2004/05 expenditure budget

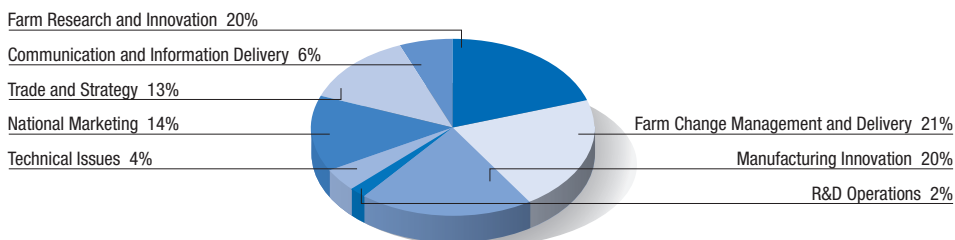
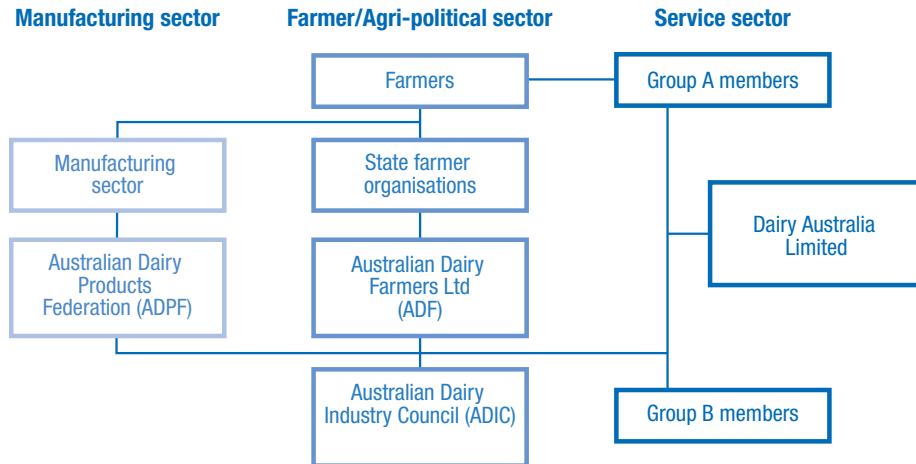


Figure 28

Australian dairy industry organisations



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 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 both State and Federal Governments, and other sectors of the community.

Australian Dairy Farmers Limited

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

There are six member dairy farmer organisations, one from each State:

- New South Wales Farmers' Association, Dairy Committee (NSWFA);
- Queensland Dairyfarmers' Organisation (QDO);
- South Australian Dairyfarmers' Association (SADA);
- Tasmanian Farmers and Graziers Association, Dairy Council (TFGA);
- United Dairyfarmers of Victoria (UDV); and
- Western Australian Farmers' Federation, Dairy Section (WAFF).

State food safety organisations

Each State now has a food safety organisation to ensure that individual processors and dairy farmers comply with food safety standards.

The Australian Dairy Authorities Standards Committee (ADASC), with representatives from each State food safety organisation, ensures there is a national approach to dairy food safety issues. ADASC is responsible for the Australian Milk Residue Analysis (AMRA) survey.

Industry levies

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 research and development activities that meet established criteria.

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.

As part of the Dairy Structural Adjustment Program, the Dairy Adjustment Levy was imposed on domestic (retail) sales of products marketed as dairy beverages from 8 July 2000. The levy is set at 11¢/litre and is expected to continue until the end of the decade.

Table 18

Average rate of milk levies for 2004/05 (cents/kg)

	Milkfat (¢/kg)	Protein (¢/kg)	Milk* (¢/L)
Animal Health	0.037	0.088	0.004
Dairy Australia	2.605	6.350	0.317
Dairy Adjustment [#]			11.000

** Based on average 2003/04 Australian milk composition of 4.10% milkfat and 3.31% protein*

[#] Levied on dairy beverages only at retail

Appendices

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3. Supermarket sales	39
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Appendix 1 – Milk production

Table A1

Milk production by region (million litres)

New South Wales	North Coast	Southern	Central	Total
2000/01	343	569	414	1,326
2001/02	322	595	425	1,343
2002/03	314	551	437	1,302
2003/04 (p)	316	546	409	1,271
No. factories receiving milk (2003/04)	8	12	9	29
Av intake per factory	39	45	45	44

Victoria	Gippsland	Northern	Western	Total
2000/01	2,026	2,744	2,014	6,784
2001/02	2,191	3,005	2,208	7,405
2002/03	2,008	2,527	2,050	6,584
2003/04 (p)	1,888	2,511	2,035	6,434
No. factories receiving milk (2003/04)	12	15	7	34
Av intake per factory	157	167	291	189

Queensland	Total
2000/01	760
2001/02	744
2002/03	720
2003/04 (p)	674
No. factories receiving milk (2003/04)	22
Av intake per factory	31

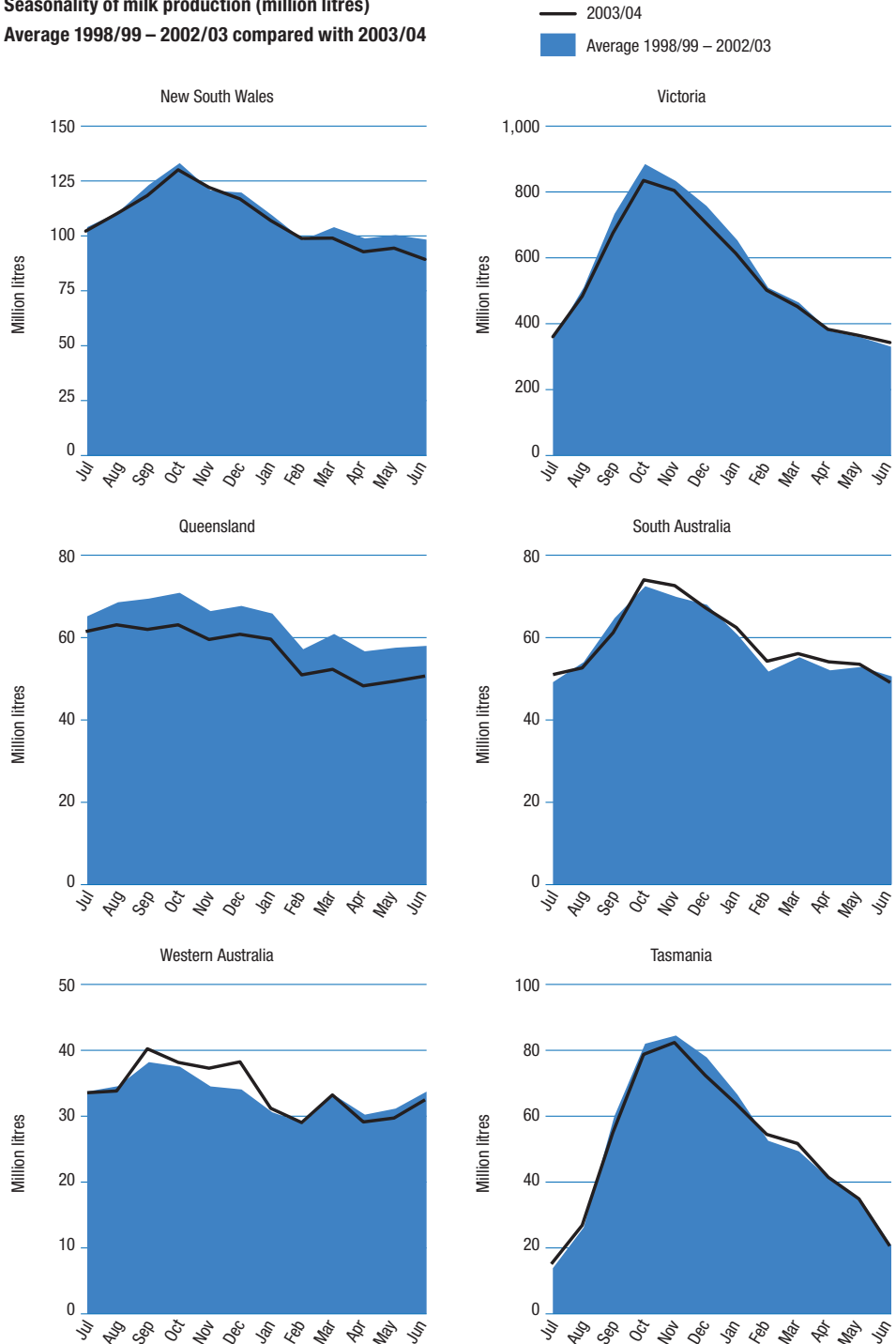
Western Australia	Total
2000/01	388
2001/02	393
2002/03	404
2003/04 (p)	403
No. factories receiving milk (2003/04)	10
Av intake per factory	40

South Australia	Total
2000/01	699
2001/02	715
2002/03	733
2003/04 (p)	703
No. factories receiving milk (2003/04)	19
Av intake per factory	37

Tasmania	Total
2000/01	590
2001/02	671
2002/03	585
2003/04 (p)	590
No. factories receiving milk (2003/04)	10
Av intake per factory	59

Figure A1

**Seasonality of milk production (million litres)
Average 1998/99 – 2002/03 compared with 2003/04**



Appendix 2 – Manufacturing processes

The milkfat and solids contained in manufacturing milk can be used to produce a wide variety of dairy products. There are four major production processes. The first two are for butter/skim milk powder production and butter/casein production, which are joint product processes. The other two are whole milk powder production and cheese production. Furthermore, for each of these separate product lines, other dairy products can be made from the residual milk components.

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

There are various ways of making casein. A common method is to set the skim milk by mixing it with acid to produce curd. The curd is shaken to remove large clumps. The remaining liquid whey by-product is removed and the curd repeatedly rinsed in water and 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 and passing it through a sieve.

Table A2

Product composition

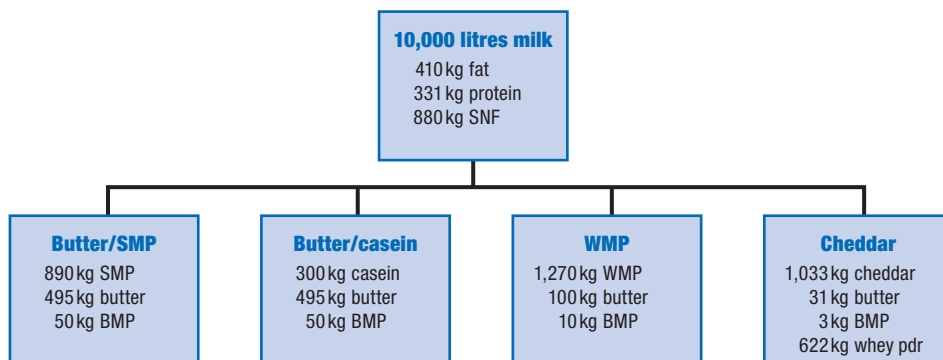
Product	Product composition	
	% Fat	% SNF
Skim milk powder	1.0	94.5
Butter	80.5	2.0
Ghee	99.6	0.1
Casein	1.5	88.5
Whole milk powder	26.0	70.4
Cheddar cheese	33.0	31.0
Gouda	31.5	23.5
Edam	21.2	31.8
Parmesan	21.8	46.2
Cottage cheese	4.0	16.0
Brie	25.0	25.0
Mozzarella	23.1	30.9

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

Figure A2

Product yield from 10,000 litres of milk, 2003/04



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 WMP, casein and cheddar production is used to make butter and BMP.

Table A3

Australian cheese production by State (tonnes)

	NSW	VIC	QLD	SA	WA	TAS	AUST
1979/80	12,720	91,308	11,054	17,895	2,886	15,328	151,191
1989/90	14,198	103,216	12,842	22,774	4,129	18,172	175,331
1994/95	16,563	151,495	17,010	29,155	5,625	20,509	240,358
1995/96	18,786	171,928	20,251	31,361	5,118	25,031	272,474
1996/97	22,385	179,757	23,464	33,847	4,952	25,589	289,994
1997/98	27,663	195,538	22,620	30,871	6,680	26,995	310,368
1998/99 (r)	29,560	204,320	23,820	33,176	5,868	30,143	326,887
1999/2000 (r)	26,410	239,939	25,936	40,593	7,277	33,462	373,617
2000/01 (r)	22,954	256,624	22,672	33,541	7,305	32,510	375,606
2001/02 (r)	24,364	285,380	24,618	36,120	8,473	35,143	414,098
2002/03 (r)	22,686	254,760	22,569	28,364	8,411	33,638	370,428
2003/04 (p)	22,269	272,036	23,523	26,488	8,596	36,991	389,903

Source: Dairy manufacturers

Table A4

Australian production of dairy products (tonnes)

	Butter**	Butteroil (CBE)	SMP*	BMP	WMP	Whey products
1979/80	na	na	67,129	0	75,414	0
1989/90	78,053	26,105	135,054	8,673	56,476	19,897
1994/95	88,280	52,872	197,464	12,935	104,380	44,939
1995/96	96,260	57,258	215,455	14,180	113,035	50,082
1996/97	101,835	56,036	223,494	14,732	133,727	53,180
1997/98	103,545	59,417	215,112	15,702	128,487	56,087
1998/99	106,537	82,963	255,216	17,001	144,839	59,972
1999/2000	110,325	71,295	246,566	17,849	186,653	66,258
2000/01	103,145	69,175	249,310	15,839	205,449	61,452
2001/02	108,308	70,045	240,202	17,975	238,684	87,841
2002/03	104,189	59,560	201,681	16,337	193,985	96,748
2003/04 (p)	104,143	44,754	185,802	16,643	186,860	105,390

*includes mixtures **includes butter blends as CBE Source: Dairy manufacturers

Table A5**Australian cheese production by variety (tonnes)**

	1998/99 (r)	1999/2000 (r)	2000/01 (r)	2001/02 (r)	2002/03 (r)	2003/04 (p)
Cheddar and cheddar types						
Cheddar (1)	160,131	191,893	197,321	200,891	179,493	176,882
Reduced-fat cheddar	16,687	18,602	10,689	14,101	23,064	27,074
Cheedam	914	1,202	3,067	2,905	1,898	1,884
Other cheddar type cheese (2)	733	3,070	3,969	4,045	5,245	2,653
Total cheddar	178,465	214,768	215,047	221,942	209,700	208,493
Semi hard cheese						
Mozzarella	34,752	43,007	55,743	57,829	49,973	58,117
Pizza	9,925	7,618	5,976	7,070	8,413	8,663
Other stretch curd and shredding	7,769	9,346	5,665	5,099	4,723	6,742
Edam	2,168	2,228	1,034	241	671	1,168
Gouda	14,732	14,381	10,944	17,260	12,527	14,222
Other eye-type cheese (3)	3,391	3,914	2,159	1,531	1,624	2,252
Other semi-hard cheese (4)	1,986	1,506	2,603	4,642	5,812	4,019
Total semi-hard cheese	74,722	82,000	84,124	93,672	83,743	95,183
Hard grating types						
Parmesan	4,044	3,965	5,115	7,159	4,819	5,009
Pecorino	1,764	1,190	1,540	1,059	1,259	1,511
Romano	2,309	2,994	1,710	3,100	2,108	1,326
Other (5)	3,253	3,364	2,947	4,262	2,941	3,270
Total	11,370	11,513	11,312	15,581	11,127	11,116
Fresh types						
Cottage	4,489	4,170	4,338	4,271	3,093	2,877
Cream cheese	32,114	40,061	37,273	55,689	39,625	49,153
Fetta	2,450	2,363	2,467	2,698	4,161	4,844
Neufchatel	3,964	5,417	4,656	5,011	5,169	5,040
Ricotta	3,595	2,158	3,010	3,122	2,612	2,902
Other fresh types (6)	12,645	7,421	9,566	8,425	7,175	6,300
Total	59,257	61,590	61,311	79,215	61,835	71,116
Mould ripened						
Blue vein	432	512	733	740	703	801
Brie and camembert	2,349	2,834	3,021	2,890	3,172	3,011
Other mould ripened	292	400	58	58	147	183
Total	3,073	3,746	3,813	3,689	4,022	3,995
Total cheese	326,887	373,617	375,606	414,098	370,428	389,903

(1) Includes: vintage (2) Includes: colby, cheshire, gloucester, lancashire, leicester, nimbun 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, parmigiano (6) Includes: quark, stracchino, mascarpone

Revisions due to reclassification of cheeses and revisions of specialty cheese production Source: Dairy manufacturers

Appendix 3 – Supermarket sales

MILK

Table A6

Supermarket milk sales by State (million litres)

	NSW	VIC	QLD	SA	WA	TAS	AUST
2001/02	303	274	216	121	113	20	1,047
2002/03	320	281	223	124	115	21	1,084
2003/04	329	288	230	127	115	23	1,112

Source: AC Nielsen

Table A7

Supermarket milk sales by type (million litres)

	Regular	Reduced fat	Low fat	Flavoured	UHT	Other	AUST
2001/02	548	246	74	43	123	14	1,047
2002/03	555	263	76	45	130	15	1,084
2003/04	554	284	75	50	132	16	1,112

Source: AC Nielsen

Table A8

Supermarket milk sales – brand vs private label (million litres)

	2001/02		2002/03		2003/04	
	Million litres	Price/litre	Million litres	Price/litre	Million litres	Price/litre
Branded milk						
Regular whole	176	\$1.36	165	\$1.40	155	\$1.42
Reduced fat	168	\$1.56	163	\$1.62	165	\$1.64
Low fat	71	\$1.62	72	\$1.68	72	\$1.70
Flavoured	42	\$2.65	43	\$2.75	47	\$2.77
UHT	68	\$1.56	79	\$1.56	71	\$1.69
Other	14	\$1.68	15	\$1.80	16	\$1.87
Total branded milk	538	\$1.59	537	\$1.65	525	\$1.70
Private label						
Regular whole	372	\$1.08	389	\$1.11	400	\$1.11
Reduced fat	78	\$1.23	100	\$1.27	119	\$1.27
Low fat	4	\$1.47	4	\$1.54	4	\$1.53
Flavoured	1	\$1.81	2	\$1.82	3	\$1.82
UHT	55	\$1.11	51	\$1.12	61	\$1.09
Total private label milk	509	\$1.11	547	\$1.15	587	\$1.14
Total milk	1,047	\$1.36	1,084	\$1.40	1,111	\$1.41

Source: AC Nielsen

CHEESE

Table A9

Supermarket cheese sales by type (tonnes)

	2001/02	2002/03	2003/04
Cheddar			
Natural cheddar	67,598	71,030	72,786
Processed cheddar	26,674	24,797	23,565
Total cheddar	94,272	95,827	96,351
Non-cheddar			
Eye	2,711	3,131	3,356
Shredding	5,679	5,776	6,082
Hard grating	3,163	3,313	3,414
Fresh	14,711	16,306	17,536
Mould ripened	3,054	3,388	3,694
Other non-cheddar	433	386	379
Total non-cheddar	29,751	32,300	34,461
Total cheese	124,023	128,127	130,812

Source: AC Nielsen

Table A10

Supermarket cheese sales by pack size (tonnes)

	2001/02		2002/03		2003/04	
	tonnes	Price/kg	tonnes	Price/kg	tonnes	Price/kg
250 gram	25,189	\$10.62	25,446	\$11.20	25,007	\$11.40
500 gram	53,559	\$7.60	53,273	\$7.81	48,764	\$7.88
1 kilogram	20,290	\$6.22	22,625	\$6.23	24,226	\$6.20
Other sizes	24,984	\$13.51	26,784	\$14.03	32,816	\$13.53
Total cheese	124,022	\$9.18	128,128	\$9.51	130,813	\$9.66

Source: AC Nielsen

Table A11

Supermarket cheese sales by form (tonnes)

	2001/02		2002/03		2003/04	
	tonnes	Price/kg	tonnes	Price/kg	tonnes	Price/kg
Blocks	54,349	\$9.11	57,455	\$9.47	59,315	\$9.64
Bulk deli	8,052	\$13.15	8,504	\$12.73	8,649	\$12.94
Shredded/grated	21,757	\$8.47	22,318	\$8.73	22,303	\$8.83
Slices	26,826	\$8.00	26,356	\$8.39	26,339	\$8.41
Tubs/jars	10,753	\$9.15	11,084	\$9.57	11,553	\$9.72
Others	2,285	\$17.25	2,411	\$17.99	2,654	\$18.47
Total cheese	124,022	\$9.18	128,128	\$9.51	130,813	\$9.66

Source: AC Nielsen

TABLESPREADS

Table A12

Supermarket tablespreads sales by type (tonnes)

	2001/02		2002/03		2003/04	
	Tonnes	Price/kg	Tonnes	Price/kg	Tonnes	Price/kg
Dairy						
Butter	16,952	\$4.55	16,868	\$4.67	17,459	\$4.54
Blends	17,379	\$4.77	19,040	\$4.87	20,072	\$5.10
Ghee	44	\$8.72	51	\$9.54	53	\$9.73
Total dairy	34,375	\$4.67	35,959	\$4.78	37,584	\$4.85
Margarine						
Polyunsaturated	49,625	\$3.93	49,525	\$4.19	45,649	\$4.37
Monounsaturated	21,806	\$4.06	18,790	\$4.34	20,008	\$4.36
Saturates	3,257	\$3.24	2,845	\$3.54	2,970	\$3.65
Total margarine	74,688	\$3.94	71,160	\$4.20	68,627	\$4.33
Total tablespreads	109,063	\$4.17	107,119	\$4.40	106,211	\$4.52

Source: AC Nielsen

YOGURT

Table A13

Supermarket yogurt sales by type (tonnes)

	2001/02		2002/03		2003/04	
	Tonnes	Price/kg	Tonnes	Price/kg	Tonnes	Price/kg
Regular	44,593	\$4.22	44,443	\$4.40	42,753	\$4.44
Low fat	36,053	\$4.10	38,278	\$4.33	44,113	\$4.29
No fat	28,555	\$4.17	31,813	\$4.38	30,288	\$4.40
Total yogurt	109,200	\$4.17	114,535	\$4.37	117,154	\$4.37

Source: AC Nielsen

Table A14

Supermarket yogurt sales by form (tonnes)

	2001/02		2002/03		2003/04	
	Tonnes	Price/kg	Tonnes	Price/kg	Tonnes	Price/kg
Eating	105,520	\$4.15	110,618	\$4.35	113,994	\$4.36
Drinking	3,680	\$4.65	3,917	\$4.84	3,160	\$4.90
Total yogurt	109,200	\$4.17	114,535	\$4.37	117,154	\$4.37

Source: AC Nielsen

Appendix 4 – Exports

Table A15

Australian exports of cheese (tonnes)

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia						
China, Hong Kong	2,389	2,730	3,085	3,469	4,581	6,690
Indonesia	2,326	2,993	4,520	6,808	4,235	5,263
Japan	73,020	83,962	84,549	102,736	72,606	92,550
Korea, South	8,997	14,984	15,775	13,491	15,876	13,137
Malaysia	1,489	1,379	2,153	2,405	2,381	2,295
Philippines	5,934	6,236	5,464	5,200	4,848	3,693
Singapore	2,040	2,650	2,274	2,292	2,412	2,517
Taiwan	2,296	2,483	2,695	3,422	4,742	6,384
Thailand	1,266	775	854	1,066	1,098	948
Other Asia	581	1,229	1,332	1,267	1,015	1,167
Total Asia	100,338	119,421	122,701	142,156	113,794	134,644
Middle East						
Saudi Arabia	12,648	14,475	16,296	17,437	14,839	14,823
United Arab Emirates	1,800	2,121	2,767	2,787	2,802	3,144
Other Middle East	5,313	7,773	6,165	6,417	7,122	7,494
Total Middle East	19,761	24,369	25,228	26,641	24,763	25,461
Africa						
Algeria	3,303	6,218	3,458	4,220	5,525	4,872
Egypt	2,640	4,920	1,768	2,009	2,661	1,404
Other Africa	2,276	3,548	2,765	2,828	2,713	3,240
Total Africa	8,219	14,686	7,991	9,057	10,899	9,516
Pacific						
New Zealand	1,309	1,712	1,207	1,269	1,729	1,713
Others	405	646	740	872	751	803
Total Pacific	1,714	2,358	1,947	2,141	2,480	2,516
Americas						
Caribbean	2,947	3,879	3,280	2,650	2,639	1,317
United States	8,012	10,326	9,414	10,844	8,950	10,241
Others	4,335	7,400	5,090	4,633	4,933	4,495
Total Americas	15,294	21,605	17,784	18,127	16,522	16,053
Europe						
Eastern Europe	960	723	680	380	1,692	1,490
EU (15)	17,843	28,965	40,407	17,060	30,684	19,899
Other Europe	7,553	10,609	2,158	1,829	5,690	2,032
Total Europe	26,356	40,297	43,245	19,269	38,066	23,421
Others	63	103	0	0	0	0
Total	172,374	222,839	218,896	217,391	206,524	211,611

Source: Dairy Australia and ABS

Table A16

Australian exports of butter (tonnes)*

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia						
China, Hong Kong	2,937	3,513	3,263	2,780	3,634	3,245
Japan	1,031	970	1,298	1,079	1,235	2,318
Korea, South	1,359	2,967	3,531	4,524	3,637	5,759
Malaysia	1,746	2,205	2,306	2,330	2,491	1,913
Singapore	3,470	5,675	3,850	3,768	3,607	4,221
Taiwan	2,371	2,666	2,584	2,086	2,858	1,611
Others	822	1,317	1,092	1,137	1,394	1,479
Total Asia	13,736	19,313	17,924	17,704	18,856	20,546
Middle East						
Saudi Arabia	2,198	2,480	1,819	3,032	2,965	1,275
United Arab Emirates	1,177	1,255	2,774	1,218	952	414
Others	4,689	3,981	6,708	3,298	3,568	2,981
Total Middle East	8,064	7,716	11,301	7,548	7,485	4,670
Africa						
Mauritius	405	376	350	360	313	264
North Africa	11,508	18,304	11,977	5,435	8,786	2,436
Others	2,839	2,342	1,169	1,097	922	377
Total Africa	14,752	21,022	13,496	6,892	10,021	3,077
Pacific	592	990	855	378	722	250
Americas	4,028	2,379	3,400	2,277	2,081	2,460
Europe	7,304	16,111	9,834	7,804	10,363	10,922
Others	291	253	61	0	0	0
Total	48,766	67,783	56,871	42,603	49,528	41,925

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

Source: Dairy Australia and ABS

Table A17**Australian exports of butteroil (tonnes)**

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia						
Bangladesh	875	900	1,086	1,027	1,152	537
Indonesia	2,068	3,209	2,587	2,499	3,605	851
Malaysia	1,936	3,369	2,964	2,311	1,807	2,241
Philippines	3,647	4,779	2,950	1,706	1,613	721
Singapore	3,953	4,140	1,996	3,400	2,349	2,227
Others	15,488	18,878	13,538	13,954	14,610	9,410
Total Asia	27,967	35,275	25,121	24,897	25,136	15,987
Middle East						
Kuwait	1,746	1,874	885	1,668	682	1,070
United Arab Emirates	1,840	1,233	1,763	2,677	1,809	2,245
Others	4,184	2,749	4,297	5,264	3,952	3028
Total Middle East	7,770	5,856	6,945	9,609	6,443	6,343
Africa	3,040	4,860	6,992	8,891	5,034	1,887
Americas	13,669	9,057	11,789	15,549	10,391	7,388
Europe	3,120	2,383	2,252	5,256	1,022	1,526
Pacific	201	133	78	197	231	135
Others	9	21	1	0	0	0
Total	55,776	57,585	53,178	64,399	48,257	33,266

Source: Dairy Australia and ABS

Table A18**Australian exports of SMP, BMP and SMP/BMP mixtures (tonnes)***

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia						
China, Hong Kong	4,362	5,953	7,038	9,843	10,471	10,930
Indonesia	15,543	13,255	12,924	18,734	15,339	16,577
Japan	17,281	29,272	18,636	27,911	27,180	13,825
Malaysia	34,073	38,810	28,211	25,835	23,049	24,808
Philippines	65,046	58,497	58,619	49,017	37,397	28,614
Singapore	15,269	13,728	14,312	18,040	20,685	19,091
Taiwan	11,236	13,440	11,248	11,113	11,685	11,303
Thailand	26,746	24,888	16,649	23,643	16,466	11,688
Others	12,730	12,906	14,474	13,142	12,281	14,678
Total Asia	202,286	210,750	182,111	197,278	174,553	151,514
Africa	10,109	13,039	3,242	8,469	7,787	4,962
Americas	12,753	13,695	19,044	16,959	15,341	11,948
Europe	2,351	4,487	1,057	770	499	1,287
Middle East	14,515	9,745	11,147	15,714	12,588	11,740
Pacific	1,005	1,524	568	4,411	6,230	5,628
Others	130	87	535	1	1	0
Total	243,150	253,327	217,704	243,602	216,999	187,079

*Includes dairy component of mixed powders

Source: Dairy Australia and ABS

Table A19

Australian exports of whole milk powder (tonnes)*

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia						
Bangladesh	12,254	12,195	14,612	9,023	9,605	5,307
China, Hong Kong	2,521	3,999	7,878	18,552	14,987	8,295
Indonesia	1,377	3,107	6,110	11,430	14,738	12,729
Japan	13,684	20,660	11,735	4,465	4,416	2,832
Malaysia	12,262	10,900	8,462	20,505	19,961	28,088
Philippines	25,031	27,415	25,146	26,664	23,709	16,567
Singapore	5,912	6,669	9,131	12,263	13,567	10,155
Sri Lanka	11,274	16,417	17,214	15,120	14,991	11,361
Taiwan	15,051	19,842	13,462	18,996	19,450	17,891
Thailand	10,743	12,048	7,062	9,633	9,659	7,267
Others	1,612	8,645	8,659	11,188	8,695	6,465
Total Asia	111,720	141,897	129,471	157,839	153,778	26,957
Africa						
Africa	4,690	6,214	15,243	21,020	13,677	12,916
Americas						
Americas	8,308	2,985	11,180	11,383	5,720	3,430
Europe						
Europe	5,153	1,034	2,693	617	185	1,700
Middle East						
Middle East	5,740	17,926	19,253	22,423	22,221	21,324
Pacific						
Pacific	2,923	4,459	4,133	4,809	4,778	6,968
Others						
Others	41	142	561	0	0	0
Total	138,575	174,657	182,534	218,091	200,359	173,295

*Also includes infant powder Source: Dairy Australia and ABS

Table A20

Australian exports of liquid milk (tonnes)

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia						
Singapore	22,047	27,123	21,404	20,631	23,515	18,727
Philippines	9,709	9,307	12,161	18,003	11,795	12,423
Malaysia	1,626	1,119	3,890	3,220	3,799	4,023
Indonesia	776	1,636	2,044	1,806	2,137	1,689
Hong Kong	21,613	21,002	20,760	19,398	18,053	14,529
China	6,747	5,595	3,647	3,107	2,141	961
Other Asia	3,757	2,798	3,980	6,135	9,175	13,439
Total Asia	66,275	68,579	67,886	72,300	70,615	65,791
Africa						
Africa	2,134	2,040	1,684	1,859	1,884	1,984
Europe						
Europe	924	171	228	277	716	1,055
Pacific						
Pacific	12,727	14,384	10,693	11,223	13,204	13,243
Others						
Others	913	701	2,083	1,205	1,768	3,576
Total	82,973	85,876	82,574	86,864	88,187	85,649

Source: Dairy Australia and ABS

Table A21**Australian exports of whey products (tonnes)**

	1998/99	1999/2000	2000/01	2001/02 (r)	2002/03 (r)	2003/04 (p)
Asia						
Malaysia	6,758	6,915	4,347	3,412	2,833	5,237
Indonesia	5,425	5,631	6,159	7,533	6,538	11,558
Philippines	5,100	6,980	6,671	6,471	12,565	14,517
Japan	4,720	2,024	5,198	3,221	11,850	5,443
China	4,507	7,825	8,312	9,730	18,535	17,783
Hong Kong	3,570	1,568	1,549	1,829	681	717
Singapore	2,801	2,826	2,098	4,785	5,232	4,414
Taiwan	2,681	3,942	1,691	2,101	3,397	2,103
Thailand	1,613	1,211	787	931	2,626	3,544
Other Asia	3,388	2,917	1,986	1,456	4,131	5,478
Total Asia	40,563	41,838	38,798	41,469	68,388	70,794
Europe	82	213	201	1	1,086	83
Other	4,957	5,408	4,439	2,858	7,507	10,606
Total	45,602	47,459	43,438	44,328	76,981	81,483

Source: Dairy Australia and ABS

Appendix 5 – Imports

Table A22

Imports of dairy products from New Zealand and other countries (tonnes)

	New Zealand (r)	Other (r)	Total 2002/03 (r)	New Zealand	Other	Total 2003/04
Skim milk powder	3,248	43	3,291	2,218	84	2,302
Whole milk powder	2,079	9	2,088	2,409	14	2,423
Sweetened powder	1,755	98	1,853	5,385	521	5,906
Whey powder and concentrate	1,122	456	1,578	1,534	790	2,324
Condensed milk	1,428	350	1,778	951	531	1,482
Liquid milk	1,647	5	1,652	1,473	1	1,474
Liquid skim milk	48	20	68	49	0	49
Cream	3,989	0	3,989	428	0	428
Yogurt	712	319	1,031	858	217	1,075
Butter	6,158	28	6,186	7,667	83	7,750
Dairy blends	0	0	0	1	1	2
Butteroil	539	84	623	1,626	31	1,657
Cheese	39,948	10,120	50,068	37,568	11,122	48,690
Casein	974	19	993	1,151	17	1,168
Caseinates	420	41	461	673	17	690
Lactose	1,157	3,653	4,810	1,196	3,670	4,866
Ice-cream ('000 litres)	6,299	4,868	11,167	5,426	6,031	11,457

Source: ABS

Table A23

Cheese imports by country (tonnes)

	1998/99 (r)	1999/00 (r)	2000/01 (r)	2001/02 (r)	2002/03 (r)	2003/04 (p)
European Union						
Austria	61	80	73	88	28	59
Belgium/Luxembourg	76	110	29	55	43	0
Denmark	1,348	1,463	1,409	1,479	1,685	1,904
France	643	694	755	831	819	795
Germany	602	531	548	478	490	438
Greece	940	1,003	1,190	914	1,133	1,118
Italy	1,603	1,948	1,689	1,901	1,631	2,158
Netherlands	1,102	996	804	922	941	1,087
Sweden	23	56	37	123	70	9
United Kingdom	147	176	143	146	183	171
Other	2	5	5	8	10	13
Total	6,548	7,063	6,682	6,945	7,033	7,752
New Zealand						
	23,602	28,116	33,198	34,897	39,948	37,568
Other countries						
Bulgaria	917	888	701	982	1,162	1,223
Norway	1,338	1,116	1,136	1,352	1,577	1,620
Romania	106	138	103	137	137	25
Switzerland	109	139	116	106	68	72
Other	209	219	209	273	144	359
Total cheese imports	32,829	37,679	42,145	44,692	50,069	48,619

Source: ABS (Excludes goats cheese)

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