



AUSTRALIAN AGRIBUSINESS GROUP

# MARKET OVERVIEW – THE AUSTRALIAN DAIRY INDUSTRY

Independent Assessment – May 2007

## Industry Snapshot

- The Australian dairy industry is one of the most efficient and competitive dairy industries in the world with a farmgate value of \$3.3 billion annually (Section 1).
- Victoria is the leading dairy state accounting for 65% of Australia's total milk production and 60% of the national herd and Victoria, NSW and SA combined accounting for 84% of the national milk output (Section 2).
- 81% of global dairy trade is accounted for by just seven regions in the world with the EU having dominated trade for decades, yet its share has recently declined and is expected to continue declining as internal consumption increases and price supports and export subsidies are reduced (Section 3).
- Australia's dairy industry is directly influenced by international markets with around 50% of milk production being exported annually and producer prices in the southern regions being largely dictated by international processed milk markets (Section 4)
- Recent milk production levels have been significantly affected by the drought in Australia. Growth in global demand is expected to outpace global supply in the future helping to secure export markets and upwardly support dairy prices (Section 5)

## 1 Introduction

Dairy is a well established industry across the temperate and some sub-tropical regions of Australia. It is Australia's third largest rural industry with a farm gate value of \$3.3 billion. Dairy is also a major value-added food industry with a value of \$9.5 billion at the wholesale level <sup>1</sup> with dairy products contributing to approximately \$5.1 billion annually in domestic supermarket sales <sup>2</sup>.

The Australian dairy industry is one of the most competitive and efficient dairy industries in the world. In 2005/06 there were 8,844 dairy farms producing about 10 billion litres of milk each year from a herd of just less than 2 million milking cows <sup>2</sup>.

Like most Australian agricultural industries, the Australian dairy sector has experienced declining terms of trade over the past few decades. This is the ratio of the price of milk and other farm outputs received by dairy farmers relative to the prices paid for inputs <sup>3</sup>. As a result the industry has had to intensify operations. This has resulted in fewer dairy farms milking a higher number of cows. Since 1980 the number of dairy farms in Australia has declined by 60%, the number of dairy cows has increased by 6% and annual milk production per cow has increased by 2,186 litres (77%) <sup>4</sup>.

Australia's climate and natural resources are generally favourable to dairying and allow the industry to be predominately pasture-based with approximately 75% of cattle feed requirements coming from grazing. This underpins the industry's efficiency in low cost, high quality milk production. Feedlot based dairying remains the exception in Australia, although the use of supplementary feed – grains, hay and silage, is widespread. In FY-2006 average grain usage was 1.3 tonnes per cow <sup>4</sup>.

## 2 Producing Regions In Australia

Victoria is the leading dairy state producing more than 65% of Australia's total milk production in 2005-06 and accounting for 60% of the nation's herd. However all states have viable dairy industries supplying fresh milk to nearby towns and cities (Figure 1).

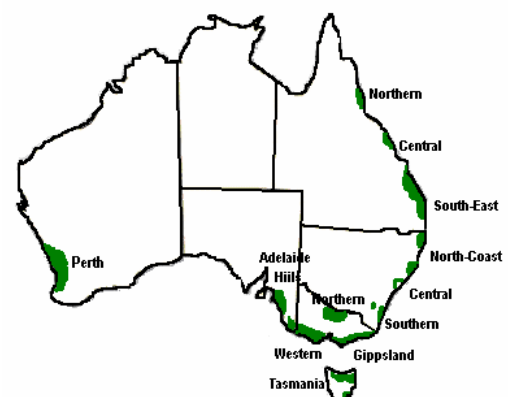


Figure 1 Location of Australia's Major Dairy Regions <sup>2</sup>

Australia's milk production regions tend to be located in coastal areas where pasture growth generally depends on natural rainfall. However the inland irrigated dairy regions of northern Victoria, the south east of SA and southern NSW are very significant accounting for about a quarter of the national milk production <sup>4</sup>.

### 3 International Supply and Demand

Both world production and consumption of dairy products has continuously risen over the past quarter of a century. This is largely driven by rising incomes enabling dairy products to become more affordable to a greater percentage of the population and the expanding production of emerging dairy producing countries such as China and Argentina <sup>5</sup>.

The EU is the world's largest milk producing region accounting for 30% of total production. The USA is the largest single producing country accounting for 19% of world milk production (Figure 2). The US has been steadily increasing its share of world dairy production over the past few years however production levels have fallen slightly in the EU over this time <sup>6</sup>.

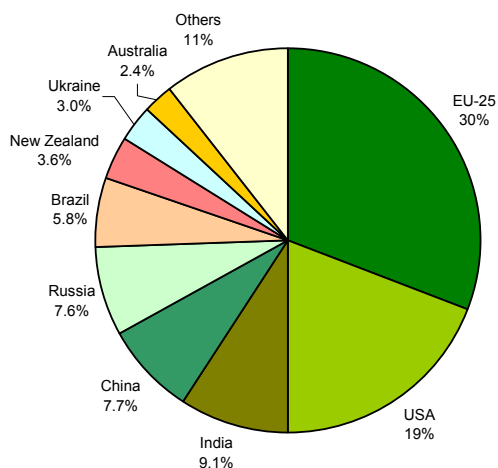


Figure 2 Worlds leading dairy producers: 2006 <sup>6</sup>

India (9.1%), China (7.7%), Russia (7.6%) and Brazil (5.8%) are the next largest dairy producing countries with Australia contributing to 2.4% of total world milk production. India, China and Brazil have all experienced significant growth in their milk production over the past five years. Chinese milk production has increased by a massive 152% since 2002 whilst Brazil has increased production by 9% and India 7%. Russia's production has however fallen by 3% <sup>6</sup>. Argentina is another country which is rapidly emerging as a major dairying country. In 2006 Argentina increased its milk production by 8% from 2005 <sup>5</sup>.

The major dairy commodities produced and consumed are fluid milk, cheese, butter, skim milk powder (SMP) and whole milk powder (WMP). Fluid milk comprises the largest proportion of dairy products consumed in the world followed by cheese, butter, SMP and then WMP (Figure 3).

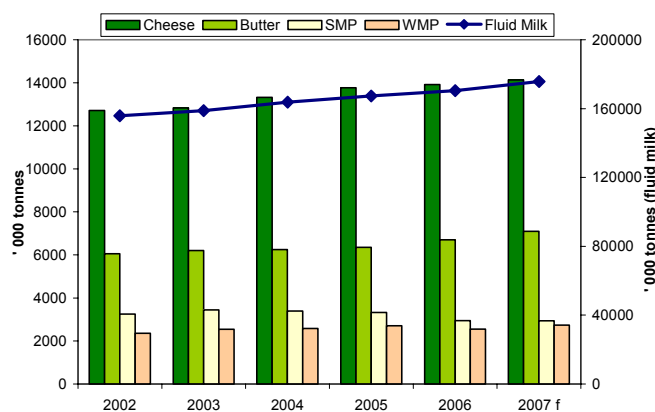


Figure 3 World Consumption of major dairy products <sup>7</sup>

As can be seen in Figure 3 consumption of dairy products has risen over the past five years with the exception of SMP for which consumption has declined by 10%. The largest increase in consumption has come from butter and WMP which has risen by 17% and 16% respectively <sup>7</sup>.

World fluid milk consumption has increased by 13% between 2002 and 2006 with consumption in 2006 in the major emerging economies of China and India increasing by 18% and 6% respectively. Milk and dairy product consumption per person in these countries remains relatively low compared to more developed countries indicating that there is significant potential for further increases in consumption over time <sup>5</sup>.

World trade in dairy products has been dominated by the EU for decades. The EU maintains a system of high price supports for its dairy industries, has significant barriers to imports and disposes of surplus production on world markets with the aid of subsidies. However trade negotiations and internal pressures have reduced the EU's export subsidies and their share of international dairy trade has been steadily falling <sup>8</sup>.

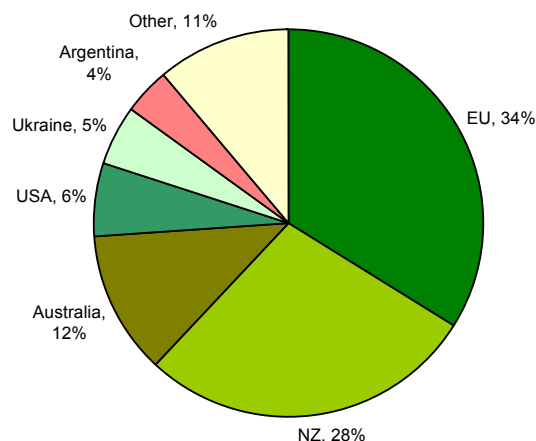


Figure 4 Exporters share of world trade in 2005 <sup>1</sup>

Just six regions of the world account for 89% of global dairy trade. New Zealand (28%) and Australia (12%) hold the largest share of world trade in dairy products after the EU with the USA (6%), Ukraine (5%) and Argentina (4%) being the other major traders of dairy products in the world <sup>1</sup>. Both Australia and New Zealand have lower production costs and a greater focus on exports than other countries and have gradually increased their share in world trade <sup>8</sup>. Australia has in fact doubled its share on the world market since 1990 with the industry being heavily reliant on export markets for its products, selling between 50% and 80% of dairy products produced in 2005/06 to overseas markets <sup>2</sup>.

It is expected that emerging dairy countries like China, Brazil, Argentina and the Ukraine will have a major influence on dairy trade balances in the future as they expand both consumption of products and the development of their own dairy industry. Some of the large unknowns in the trade balance are China's ability to sustain rapid growth rates in milk production and whether Brazil's dairy industry will out-compete soy production for resources and continue to grow <sup>8</sup>.

## 4 Australian Supply and Demand

Over the past decade, Australian milk production has grown at an average rate of around 1.5% per annum with the majority of production occurring in the south-eastern states. Together Victoria, NSW and SA account for 84% of the national output <sup>2</sup>.

The average annual yield per cow on Australian dairy farms is 4,923 L <sup>5</sup>. Milk production does however vary considerably according to the management system and feeding regimes of dairy farms. Cows also vary substantially in their capacity to produce large volumes with factors such as breed, genetics, body size, and climate along with feed available and consumed all driving production. High intensity dairies, using a combination of grass and significant levels of supplementary feeding can deliver yields per cow in excess of 9,000 L, with the better managers able to exceed 11,000 L per cow. Feed lot dairies where cows are fed their entire ration as grain and hay/silage fodder and don't consume grass, can achieve yields in excess of those stated above.

The Australian dairy industry is directly influenced by international markets with around 50% of milk production being exported annually in the form of commodities such as cheese, milk powders and butter <sup>8</sup>. Dairy exports are worth \$2.7 billion to the Australian economy with the most valuable market being Japan at \$422 million <sup>4</sup>.

Cheese is the largest utiliser of milk in Australia with 373 kt being produced annually (Figure 5) <sup>9</sup>.

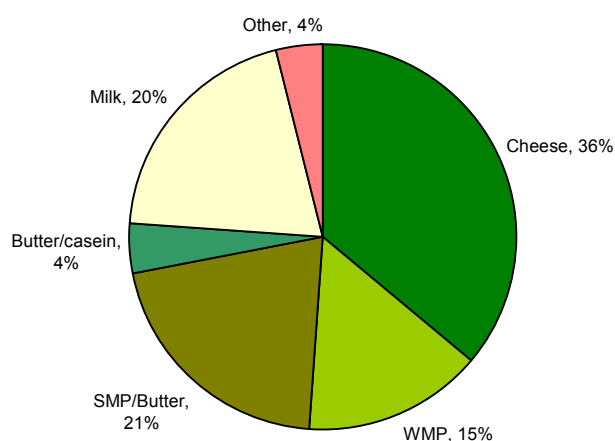


Figure 5 Australian Industry Product Mix <sup>8</sup>

Fluid milk utilises 20% of Australia's annual milk production and is consumed almost entirely within the domestic market. WMP and SMP are the next largest utilisers of milk. These commodities are primarily destined for the export market with about 85% of the volume produced being exported <sup>8</sup>.

In 2006/07 Australian milk production is expected to fall by almost 11% to 9 billion litres. This is a consequence of persistent drought and low availability of irrigation water reducing pasture growth and driving fodder

costs up causing many dairy farms to dry cows off early and reduce herd numbers. This impact is likely to be the most severe in central NSW and along with Murray River where milk production is forecast to fall significantly. The north coast of NSW and Tasmania are expected to increase production as a result of better rainfall in these regions <sup>10</sup>.

High water, grain and hay prices are impacting dairy farmers in all regions with the current inflated cost of feeding stock significantly increasing the cost of production <sup>11</sup>. Grain prices over the next year are expected to not be driven so much by how the Australian crop recovers in 2007, but how the US corn crop performs in 2007 as demand for corn for ethanol purposes is booming. Hay markets are currently (and continuously) characterised by low volumes at high prices. There is currently a lift in prices emerging at the low quality end with prices at the high quality end of the market easing. Beef and sheep farmers are however keeping hay and fodder markets strong <sup>12</sup>.

Although about 50% of Australia's milk is consumed domestically, the proportion of total product output that is sold in the Australian market varies significantly. The volume of sales of dairy products in the Australian market has increased at approximately the rate of population growth in recent years with per capita milk equivalent consumption estimated at 286 litres in 2005/06. The value of the domestic market has increased by 25% over the past five years <sup>8</sup>.

The major Australian consumer dairy products are drinking milk, cheese, butter and dairy blends and yogurt. Per capita consumption trends over the past two decades have varied significantly by individual product reflecting changes in consumer tastes and preferences due to multicultural influences on food trends, health perceptions about dairy products and manufacturers responses (low fat varieties), new product developments, flavourings, packaging, competitive category offerings and the distribution and availability of products <sup>4</sup>.

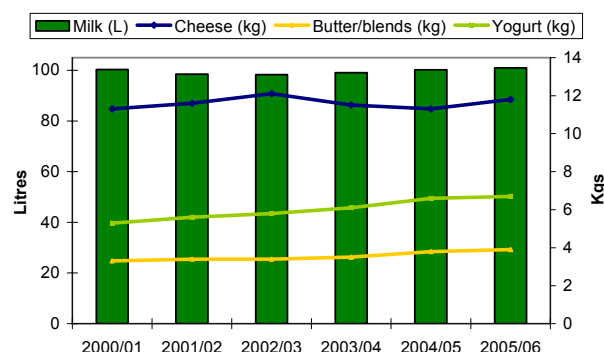


Figure 6 Australian per capita consumption of major dairy products (litres/kg) <sup>4</sup>

The per capita consumption of fluid milk is estimated at approximately 101 litres and has increased over the past three years, reversing a downward trend that started in the mid-1990s. Cheese consumption has recently stabilised with an on-going shift from cheddar to non-cheddar varieties and butter consumption has recently increased with the growing popularity of dairy blends after having slowed in the 1970s and 1980s as people began to limit their intake of saturated fats. Yogurt has been the consistent and strongest grower over the past two decades with its combination of convenience and health attributes making it the ultimate 'healthy snack' <sup>4</sup>.



## 5 Price and Yield

The price farmers receive for milk varies across the states reflecting how the milk is used in the marketplace. Farmers in the southern regions receive a blended price incorporating returns from both drinking and manufactured milk whilst higher prices are received for drinking milk under commercial supply contract arrangements in the northern and western regions where drinking milk makes up a larger proportion of the production mix<sup>4</sup>. Producer prices in southern regions are also largely dictated to by international milk markets as supply far outweighs demand in these regions so export markets are heavily relied upon<sup>8</sup>.

Farmgate milk prices reached record highs in 2005/06 reflecting strong competition for milk among the processing companies and high world dairy commodity prices due to constraints on supply primarily in the southern hemisphere<sup>4,8</sup>. Currently dairy product prices have never been higher with a recent surge in prices been led by milk powder prices rising in response to low production<sup>13</sup>. This has led the way for many milk processing companies in Australia to recently increase the farmgate price suppliers are receiving (Figure 7).

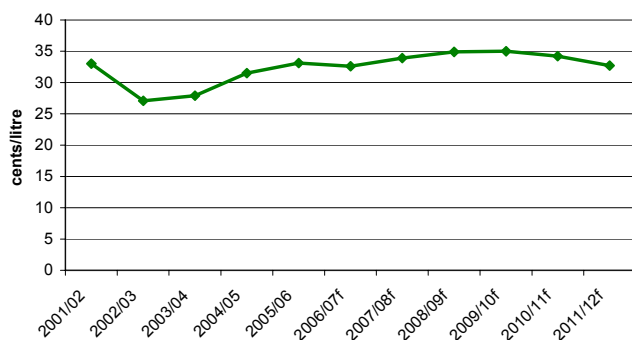


Figure 7 Historic and forecast farmgate milk price – 2006/07 dollars<sup>5</sup>

Prices received by farmers can vary significantly from the indicative prices in Figure 7. Manufacturers pay higher rates for counter seasonal production (winter), for quality and for volume. A price increment of around 3-6 cents per litre can be added to the base milk price for these production incentives.

World dairy prices are expected to be higher in 2007/08 and 2008/09 due to strong growth in global demand exceeding limited growth in production<sup>5</sup>. Additionally, intervention stockpiles in the US and Europe which were overhanging the market have been significantly reduced and will have less of a negative impact on prices<sup>8</sup>.

World demand for various dairy products have diverged over the past few years with demand increasing for cheese relative to other products such as butter and skim milk powder. This has also generated changes in Australia's dairy export mix with cheese and whey becoming more important and powders and butters less important<sup>13</sup>. Increases in cheese production has however come at the expense of other dairy products particularly milk powder production resulting in prices for WMP and SMP rising strongly as supply is reduced. Butter prices are expected to remain relatively weak reflecting a lack of growth in per person consumption in the major markets<sup>5</sup>.

Due to the drought milk production in Australia is expected to fall by 10% in 2006/07 and then a further 3% in 2007/08 to 8.8 billion litres. Milk production is then expected to recover to around 10.6 billion litres in 2011/12<sup>5</sup>. It is not expected that milk production in Australia will return to the pre-drought volume of over 11 billion litres any time in the near future. Static cow numbers are going to remain as the major constraint on expanding milk production as herd numbers have been significantly reduced in some regions and will take some time to recover. Coming out of the drought farmers are also tending to focus on making more money and not necessarily more milk<sup>8</sup>.

## 6 Future Outlook and Conclusions

Based on current forecasts, world demand will outstrip supply from traditional dairy exporters creating a number of opportunities for Australia's large export market<sup>8</sup>. Recent forecasts by Fonterra expect global demand for dairy products to grow by 2.7% per year to 2014 outpacing supply growth of 2% per year<sup>14</sup>. This growth is largely being driven by population growth, westernisation, urbanisation and government and corporate promotion throughout Asia, India, Latin America and the Middle East. High existing consumption levels in the EU and North America are also helping demand growth to continue along with consumers wishing to seek alternate protein sources to meat in wake of avian flu and mad cow disease scares<sup>13</sup>.

Confidence within the Australian dairy industry appears to have shifted positively with a 2006 survey indicating 61% of farmers representing 64% of milk production, were positive in 2006 compared to 53% of farmers (56% of production) in 2005<sup>8</sup>. Structural change within the industry is also expected with a trend towards more intensive dairy production systems, particularly the increase use of supplementary feeding of herds and the economies of scale associated with larger average farm herd size will drive projected increases in average milk yield<sup>2</sup>. However this is not expected to result in large increases in total milk output with only 59% of farmers intending to increase milk production, 31% planning on operating at static or declining levels of output and 8% looking to exit the industry<sup>8</sup>.

An inherent advantage of the industry is its clean and green image. The Australian dairy industry's high food standards are the result of its geographic location, relative isolation from the rest of the world, conservative quarantine and phytosanitary laws and the dairy industry's excellence in on-farm production and processing making it a leader in promoting food safety at every step of the production chain. The National Livestock Identification System (NLIS) is Australia's way of identifying and tracing livestock and is a significant advantage in upholding Australia's reputation as a quality producer<sup>2</sup>.

The Australian dairy industry is currently in desperate need of rain in order to restore water catchment supplies for irrigation purposes and boost feed production around the nation, increasing the availability and easing prices of grain and fodder supplies. Helping to alleviate some of these economic pressures and production constraints will provide a much needed boost in productivity to the industry. Aside from the current seasonal conditions, Australia's dairy industry has a very positive outlook with milk prices set to rise throughout the world and marketing and sales opportunities increasing as global demand outstrips supply.

## 7 References

1. Dairy Australia (2006), 'Australian Dairy Industry in Focus 2006', Retrieved May 2007 from [www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)
2. Australian Government – Invest Australia (2007), 'Australian Dairy Industry Report', Retrieved May 2007 from [www.investaustralia.gov.au](http://www.investaustralia.gov.au)
3. Dairy Australia (2005), 'Production Systems, Productivity and Profit', Retrieved May 2007 from [www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)
4. Dairy Australia (2006), 'Australian Dairy Industry in Focus 2006', Retrieved May 2007 from [www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)
5. Berry, P. and Hogan, J. (2007), 'Dairy – Outlook to 2011-12', Retrieved May 2007 from [www.abare.gov.au](http://www.abare.gov.au)
6. FAS (2007), 'Milk Production', PSD Online, Retrieved May 2007 from [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline)
7. FAS (2006), 'Dairy: World Markets and Trade', Retrieved May 2007 from [www.fas.usda.gov.au](http://www.fas.usda.gov.au)
8. Spencer, S. (2006), 'Report to the Australian dairy industry – Dairy 2006: Situation and Outlook', Retrieved May 2007 from [www.australiandairyfarmers.com.au](http://www.australiandairyfarmers.com.au)
9. ABARE (2006), 'Australian Commodity Statistics', Retrieved May 2007 from [www.abare.gov.au](http://www.abare.gov.au)
10. Berry, P. (2006), 'Dairy – Australian Commodities Report' Retrieved May 2007 from [www.abare.gov.au](http://www.abare.gov.au)
11. Dairy Australia (2007), 'Drought Conditions and Information', Retrieved May 2007 from [www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)
12. Dairy Australia (2007), 'Production Inputs Monitor (Drought Update)' Issue 26, Retrieved May 2007 from [www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)
13. Hunt, T. (2007), 'Commodity Price Boom – drivers and implications', Rabobank Food and Agribusiness Research
14. Spencer, S. (2007), 'Fonterra sees world as land of milk and money'

### Disclaimer

*This document has been prepared for use by Financial Planners. Australian Agribusiness Group (AAG) has received no fee for undertaking this report. AAG notes that this report is for information purposes only; it does not constitute stand-alone advice. The user must undertake their own research prior to any investment decision and such investment decision is made entirely on the recognisance of the investor. This report is not a warranty, express or implied, of any outcome. AAG makes every reasonable effort to ensure that this report is accurate and reasonably reflects the facts. Information is sourced from industry experts, private and public sector research, public domain sources and the web, as well as from the substantial in-house resources of AAG. AAG and its employees disclaim any liability for any error, inaccuracy or omission from the information contained in this report and disclaim any liability for direct or consequential loss, damage or injury claimed by any entity relying on this information, or its accuracy, completeness, currency or reliability. AAG point out that this industry and all commercial activity is affected by the passage of time, income, yield and expense factors. In reading this report the user accepts this statement and sole responsibility for the impact of such change on their investment decisions.*

