



IUF Dairy Division



Australian Dairy Industry

Abstract

With the direct employment of approximately 40,000 people and further downstream processing, the dairy industry is one of Australia's major rural industries. Since the first herd was brought to Australia in 1788, dairying in the country developed steadily through breeding and importing. Today, although Australia only accounts for an estimated 2% of the world's milk production, it is a significant exporter of dairy products as its level of production is well above that required for domestic consumption. With a 10% share of world dairy export, Australia ranks third in terms of world dairy trade, just behind New Zealand and the European Union. Australia's top dairy export destinations include Japan, Singapore, China, Indonesia, and the Philippines. The concentration of exports to Asia/East Asia reflects both Australia's geographic proximity to these markets and the extent to which Australia is excluded from other major markets by direct restrictions (as in the case of the European Union) or the impact of the export subsidy programs of major competitor countries. Australia's three main manufactured dairy product streams are cheese, butter and milk powders, as well as fresh dairy products such as drinking milk. Although most of the country's milk production occurs in south-east seaboard states, all states have dairy industries that supply fresh drinking milk to nearby cities and towns and the Australian dairy industry remains predominantly pasture-based.

As a result of the Dairy Structural Adjustment Program (DSAP), which was implemented between 1999 and 2000, Australian dairy farmers now operate in a completely deregulated industry environment, where international prices are the major factor in determining the price received by farmers for their milk. Australian dairy farmers receive a low price for the milk they produce by world standards and therefore have to run very efficient production systems. However, in order to maintain the research and develop within the dairy sector, Dairy Australia Limited, a public company limited by guarantee, was created in 2003 to fund projects that span the industry value chain for the benefit of the Australian dairy industry. There are currently various challenges faced by the Australian dairy industry throughout the different stages of its supply chain, including input, milk production, processing and manufacturing, exporting and retailing. In response to these challenges, various strategies and actions have been planned or executed by the industry in respect to the industry's production systems, response to climate change and natural resource management, and market access. In sum, the Australian dairy industry has already faced significant challenges including deregulation, droughts and the financial crisis. However, the industry has also demonstrated its ability to adapt to difficult situations through sharing its view of the challenges and opportunities and addressing these challenges with collective action. One critical element for success now would be the policy environment, which plays an important role in allowing the industry to adapt and further develop.

Background Information ¹

Based on a farmgate production value of AUD 3.4 billion in 2009/10 and directly employing approximately 40,000 people, the dairy industry is one of Australia's major rural industries. Further employment in the related activities such as transport, distribution, research and development are also associated with Australia's dairy industry. Furthermore, dairy is also one of Australia's leading rural industries in terms of adding value through further downstream processing. Significant economic activity and employment are generated in country regions as most of these processing activities occurs close to farming areas. The industry ranks third behind the beef and wheat industries.

Dairying is a well-established industry across temperate and some subtropical areas of Australia. Although most of the country's milk production occurs in south-east seaboard states, all states have dairy industries that supply fresh drinking milk to nearby cities and towns. The manufacturing of longer shelf life products, including cheese and specialised milk powders, is gradually becoming more concentrated in the south-east region of Australia. Nevertheless, high-quality consumer products, including fresh milks, custards, yogurts and a wide variety of cheese types, are produced in most Australian states.

While supplementary feeding with grains is becoming increasingly common, the Australian dairy industry remains predominantly pasture-based. As a major regional employer, the industry value-adds through the processing of milk to produce fresh lines such as butter, cream, cheese and yogurt. Bulk milk and specialised powdered milks are also significant. Below are some key statistics for Australia's dairy industry (as of 2009/10): ²

Annual Export Volume	AUD\$2.4 billion (≈EUR 1.84 billion as of Aug 2011)
Annual Milk Production	9,023 million litres
Proportion of national produce exported	45%
Share of world trade in dairy products	10%
Dairy herd	1.6 million cows
Average herd size	220 cows
Per capita consumption (Drinking milk)	102 litres
Per capita consumption (Cheese)	13 kgs
Dairy industry workforce (Direct employment)	40,000

Historical Background to Australian Dairy Industry ³

Dairying in Australia first happened in 1788, when Captain Arthur Phillip and the First Fleeters came ashore at Sydney Cove with seven cows and two bulls bred to survive a hostile environment. This small herd soon moved to the greener pastures of Parramatta where they escaped into the bush not to be seen for some seven years. Upon their recapture, the herd comprised 61 cattle. It was the cows of this group which became Australia's first dairy herd.

By 1800, through breeding and importing, there were 332 bulls and 712 cows in the colony. The settlers were adapting to their new Australian environment. They made butter and cheese during spring and summer (when cows produce most milk), and preserved these commodities with salt for autumn and winter.

Pioneers such as John Macarthur imported more dairy cattle to his Parramatta farm while, in 1805, Dr John Harris built Sydney's first commercial dairy at what is now inner-suburban Ultimo. However, Tasmania gave Australia its first cheese industry.

In the 1820s, the Van Dieman's Lan Company established Australia's first commercial cheese factory. Farmers from the NSW district of Illawarra began to send their cheese and butter to Sydney markets by sea, and as more ports opened, dairying extended all the way down to Bega.

In 1832, with two cows and two calves, John Fawkner arrived in what was to become Melbourne. With the ideal dairying conditions around Port Phillip Bay, the herd grew. Within a year, there were 155 cattle in the district. By 1850, there were 347,000.

South Australian dairy farmers were becoming so successful that they were selling cheese to Tasmanians. In 1891, there were almost 1 million dairy cows in Australia. The gold rush brought thousands of people to Australia. With its collapse, many were offered Government pastoral leases on the outskirts of inland towns. By 1900, there was hardly a township, even in remote outback Australia that did not have its own fresh milk.

Trade ⁴

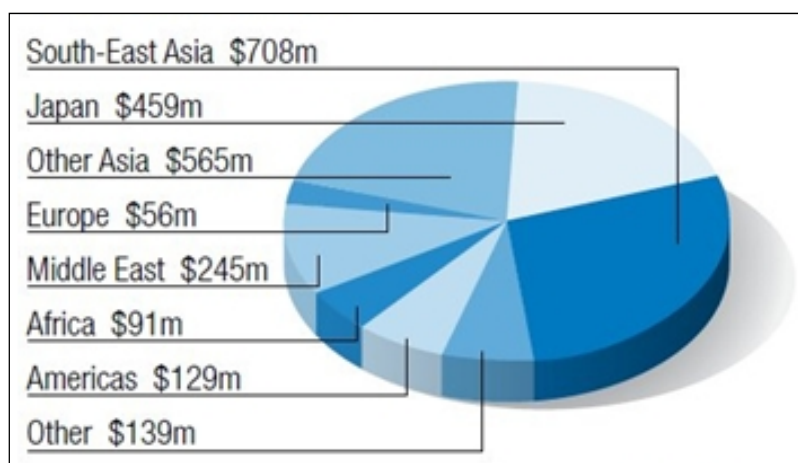
While Australia accounts for an estimated 2% of the world's milk production, it is a significant exporter of dairy products. As the volume of Australian milk production has been well above that required for domestic consumption, a significant proportion is destined for export markets over the past two decades. With a 10% share of world dairy export, Australia ranks third in terms of world dairy trade, just behind New Zealand and the European Union as a bloc. The proportion of total production exported has ranged from 40-60%. However, the lowest proportion of export since the mid-1990s was observed between 2007 and 2009 when Australia has only exported around 45% of its milk production; this is largely due to the reduced availability of product for export.

As of 2009/10, Japan is the single most important export market for Australia, accounting for around a fifth of all exports by value. Australian exports are largely concentrated in Asia, which represented 72% of the total dairy export value of AUD 2.4 billion. This concentration of exports in Asia/East Asia reflects both Australia's geographic proximity to these markets and the extent to which Australia is excluded from other major markets by direct restrictions (as in the case of the European Union) or the impact of the export subsidy programs of major competitor countries.

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

Australia's top five export markets by volume in 2009/10 were Japan, Singapore, China, Indonesia, and the Philippines; while the top five export markets by value were slightly different in Japan, China, Singapore, Indonesia and Malaysia. The fastest growing export market for Australia in recent years has been China. See Figure 1 below for the value of Australian exports by geographical regions:

Figure 1. Australian exports by region 2009/10 (in AUD million)



Key Players and Ownership

Deregulation^{5 6}

Australian dairy farmers now operate in a completely deregulated industry environment, where international prices are the major factor in determining the price received by farmers for their milk. At an average of approximately US 34c per litre, Australian dairy farmers receive a low price by world standards and therefore have to run very efficient production systems. The Australian dairy industry implemented the Dairy Structural Adjustment Program (DSAP), a deregulation process which planned for an orderly, national approach to the deregulation of the drinking milk sector in conjunction with the end of manufacturing milk price support between 1999 and 2000. This Program removed both state and federal legislation specific to the dairy industry. The DSAP involves the imposition of a (retail) Dairy Adjustment Levy of 11 cents per litre on consumers of products marketed as dairy beverages. The levy funds quarterly DSAP payments over eight years to Australian dairy farmers, to assist them to make the necessary adjustments to a deregulated environment, with minimal social and economic disruption.

The impact of deregulation at the farm level varied across the different states of Australia. This was very much dependant on how important drinking milk (with its regulated higher farmgate price) was to the individual farm enterprise in relation to their total milk production. A number of farmers took advantage of the exit payments offered under the DSAP scheme to leave the industry. However, while a decrease in the number of farms was observed, this observation was simply the continuation of an industry trend that has been apparent for over three decades. With the return of favourable seasonal conditions in 2001/02, milk production volumes reached new record levels and strong industry growth has continued.

Industry Levies⁷

Dairy Australia Limited, a public company limited by guarantee, was created in 2003 as the result of a merger between the Australian Dairy Corporation (ADC) and the Dairy Research and Development Corporation (DRDC). Dairy Australia is the industry-owned service company, limited by guarantee, whose members are dairy farmers and industry bodies. Dairy Australia invests approximately \$35 million a year of dairy farmer levy payments and \$15 million a year of Australian Government funds in projects that span the industry value chain for the benefit of the Australian dairy industry. They include research and development, information services, international trade development and national marketing programs.

On the other hand, Australian dairy farmers also contribute to the funding of Animal Health Australia (AHA), which is a non-for-profit public company. AHA's task is to facilitate partnerships between governments and livestock industries, and provide a national approach to animal health systems. The AHA levy is the dairy industry's contribution to various AHA programs, such as the National Bovine Johne's Disease Control Program, National Arbovirus Monitoring Program and Accreditation Program for Australian Veterinarians. All dairy companies show the amount of levy that applies to each supplier's milk on their monthly milk statement. Members of AHA include Commonwealth, State and Territory governments and key commodity and interest groups.

Industry Structure and Regional Strengths

Accounting for over 60% of the national milk production output, Victoria is the largest milk producing regions in the nation (see Figure 2). Nevertheless, while to a lesser extent, various other regions are also contributing to the national dairy production. ⁸ Below is an overview of Australian dairy industry status and profile by geographical regions:

Southern, Central and Coastal NSW Dairy Industry ⁹

The southern, central and coastal NSW dairy region is a large and diverse milk production region, servicing important regional fresh milk and product markets and the region has good access to large grain and fodder growing areas. The value of milk produced in this region is determined by the market influences arising from factors including the final market destination (domestic or export), farmgate and marketplace competition within the region, and the sustainable cost of year-round fresh milk production. In general, processors prefer local, reliably-produced milk to maximise shelf-life for fresh products, and minimise logistics and handling costs.

Industry profile (2009/10)-

- Approximately 560 dairy farmers are expected to produce around 741 million litres of milk in southern, central and coastal NSW. This production level represents around 8 per cent of Australian national milk output.
- The dairy industry in the region directly employs some 1,060 people on farms, with a further 1,480 who are employed in the processing sector.
- The estimated value of farm milk production in the region was AUD 385 million.
- Major companies operating in the region include National Foods, Bega Cheese, Fonterra, Murray Goulburn Co-operative and Hastings Co-op.
- The region supplies fresh product requirements for a large metropolitan region that covers more than five million people.

Gippsland Dairy Industry

The Gippsland region is located in the south-east of the Victoria state. It extends from the edge of Melbourne's Metropolitan Region in the region's west, eastwards to the New South Wales border, with the northern boundary formed by the edge of alpine country, with the coastline and Wilsons Promontory comprising its southern border. There is a large dairy-processing sector within the region producing fresh milk, milk powder, butter, cheese and other products for domestic and significant export markets. Several speciality cheese businesses also exist in Gippsland producing a wide range of high quality cheeses and other value added dairy products. ¹⁰

Industry profile (2009/10) -¹¹

- The region produced around 2 billion litres of milk, which was 22 per cent of national milk output
- Dairy industry in the region was the biggest agricultural contributor to the Gippsland economy, and was one of the largest dairying areas in Australia.

- The estimated farmgate value of the region's dairy production was AUD 658 million.
- The region's dairy industry directly employed around 6,800 people in farming and processing.
- Supplied 16 dairy factories with milk. Large dairy processors include Murray Goulburn Co-operative, Fonterra, Burra Foods, Longwarry Food Park, National Foods and Parmalat.

Western Victoria Dairy Industry¹²

This region is one of the largest milk producing regions in Australian national dairy industry, processing milk sourced from outside the region using its extensive manufacturing infrastructure. Inherent advantages of the region include the dryland pasture base and relatively reliable seasonal climate. Also, there are few limitations on feed supply, with good access to fodder and grain supplies. Farmgate prices are usually driven by export returns, which have been affected by the volatility in international dairy commodity prices and sustained competition for milk.

Industry profile (2009/10)-

- Around 1,500 dairy farmers in Western Victoria are expected to produce 2.0 billion litres of milk in 2009/10. This represents about 23 per cent of the national milk output.
- The dairy industry directly employs around 7,400 people in both farming and processing. This represents about 15 per cent of the regional workforce.
- The estimated value of farmgate production in the region is approximately AUD 687 million.
- Dairy companies manufacturing product in the region include Murray Goulburn Co-operative, Fonterra, Warrnambool Cheese & Butter and National Foods.

Murray Dairy Industry¹³

In 2009/10, dairy farmers in the Murray Dairy region have taken the opportunity to start pastures with irrigation, which benefited from mild autumn conditions. Also, the announcement of increased allocations late in the 2009/10 season has led to increased carryover water for dairy farmers, providing options for irrigating in early spring 2010/11 season.

Industry profile (2009/10)-

- Total milk production for the region reached about 1.84 billion litres, representing 20.5 per cent of national milk output.
- The regional dairy industry directly employs around 8,000 people in both farming and processing.
- The estimated value of farmgate production in the Murray Dairy region was \$610 million.
- There are 14 dairy factories including milk processing, milk collection plants and dairy product manufacturing in the region.
- Dairy companies manufacturing product in this region include Murray Goulburn Co-operative, Fonterra, Parmalat, Bega, Tatura Milk Industries and National Foods.

South Australian Dairy Industry¹⁴

Industry profile (2009/10)-

- There are estimated to be 320 dairy farms in South Australia, producing 620 million litres which represent around 7 percent of national milk production.
- The estimated value of farm milk production in 2009/10 from the region was \$205 million.
- There are 17 dairy factories, including milk processing, dairy product manufacturing and milk collection plants.
- Major companies operating in South Australia include Dairy Farmers Milk Company, National Foods, Murray Goulburn Co-operative, Warrnambool Cheese & Butter, Bega Cheese and Fonterra.
- The industry directly employs approximately 2,000 people in the farm sector, and 800 people in the processing sector.

Tasmanian Dairy Industry¹⁵

Milk prices in this region are largely driven by the annual price offered by Fonterra, who collects the majority of milk in the state. This drives prices offered by a number of other regional processors of cheese and fresh dairy products. Milk produced in this region is mainly used in cheese and powder production for export, as well as fresh dairy products.

Industry profile (2009/10)-

- There are 450 dairy farms in Tasmania, producing approximately 650 million litres which account for is over 7 per cent of national milk production.
- The estimated value of farm milk production from the region was around \$211 million.
- The industry directly employs 1,900 people in the farm sector and 800 people in the processing sector.
- Major companies operating in the region include Fonterra Australia, Cadbury and National Foods.

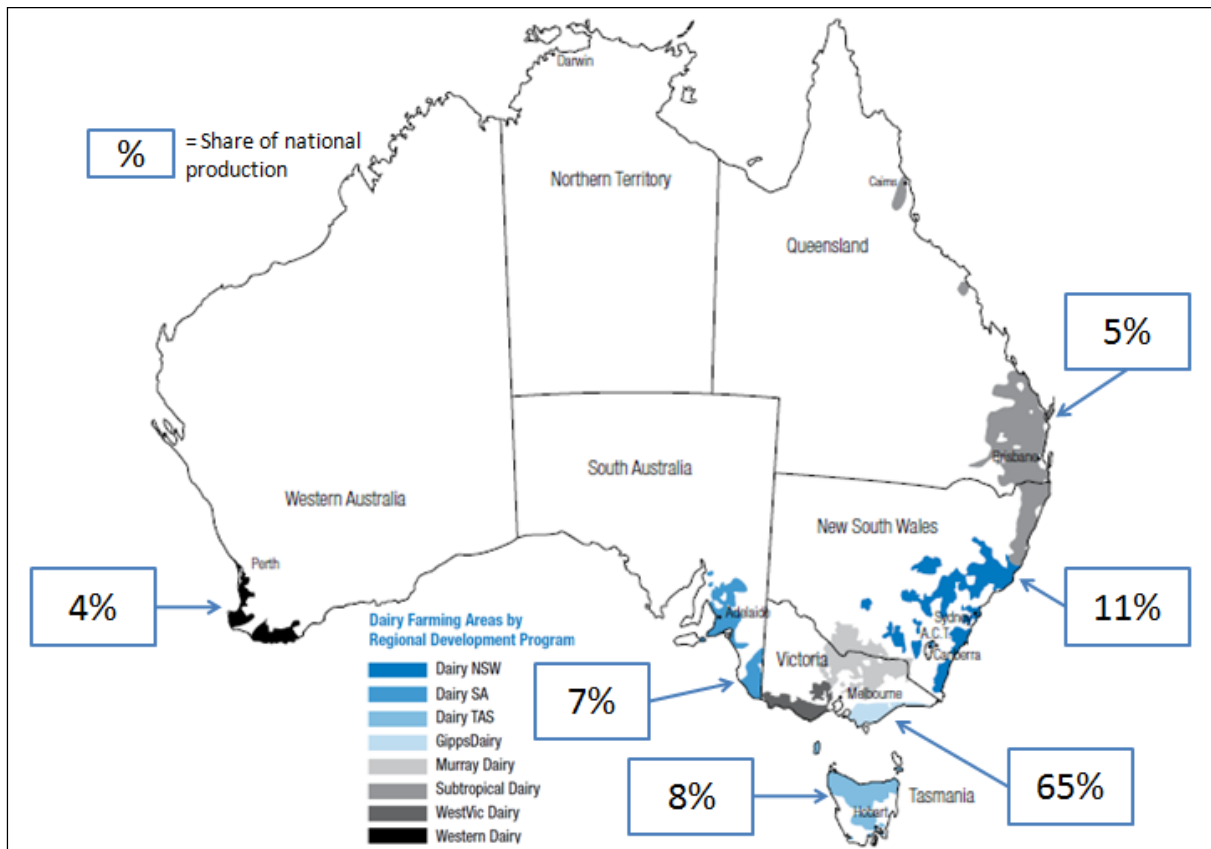
Western Australia Dairy Industry¹⁶

The Western Australia (WA) dairy region enjoys a reliable climate, good water supply and has the capacity to process large volumes of milk. The region has good access to grain and fodder supplies from the WA grain belt. The majority of milk from the region is processed into fresh dairy products. Milk prices in the region are paid by two major companies (National Foods and Fonterra) and are driven by a combination of factors, including the domestic retail market competition for milk and fresh dairy, the value achieved by Challenge Dairy from manufacturing, and the price necessary to achieve a secure flow of milk for fresh product needs. Potential loss of water resources to city demands over the coming years may put a cap on additional licenses, and provide significant stimulus to water use efficiency practices.

Industry profile (2009/10)-

- Around 170 dairy farmers produced 338 million litres of milk, which represents around 3.8 per cent of national milk production.
- The estimated value of farm milk production was \$135 million.
- The dairy industry directly employs around 2,000 people in the region, in both farming and processing.
- There are eight dairy factories in the region including milk processing, dairy product manufacturing and milk collection plants.

Figure 2. Australian Dairy Regions ¹⁷



Products and Innovation

Australia's three major manufactured product streams are:

- Fresh dairy products: this stream includes drinking milk and other consumer products such as yogurts, custards and dairy desserts
- Cheese: this includes specialised ingredients such as whey, proteins and nutraceuticals
- Butter and milk powders: this stream includes skim milk powder (SMP), butter milk powder (BMP), wholemilk powder (WMP) and casein.

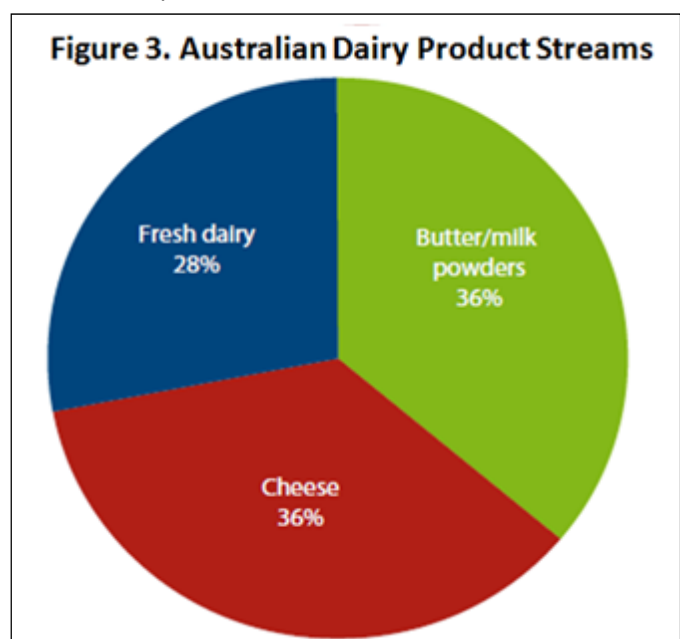
Dairy manufacturers have pursued new and innovative, value-added products such as specialty cheeses and drinking milk with increased nutritional value. These initiatives have allowed manufacturers to stay competitive despite the reduced raw milk production. In line with international trends, there was a general trend in Australia's product mix towards cheese and WMP production, and away from butter and SMP lines. However, over the past two years, strong commodity prices motivated a significant re-balancing of company product mixes back towards SMP and butter, to take advantage of the higher relative export returns available from these products.

Around 60% of manufactured product (in milk equivalent terms) is exported. This contrasts with drinking milk, where some 96% is consumed in the domestic market (see Figure 3 for the production proportion of each dairy product stream).

Partners in the Dairy Industry ¹⁸

The Australian dairy industry gets better outcomes, leverage and returns from its programs and projects through the following partnerships with the following Partners In The Dairy Industry. With the significant reduction over the past five years in the number of operational dairy R&D centres as well as total number of staff in research and farm extension, there is a greater need to develop partnerships and collaboration to ensure the best possible use of scarce resources.

- **Australian Dairy Herd Improvement Scheme:** The Australian dairy industry's independent genetic evaluation service.
- **Dairy Extension Centre:** Centre of extension capability and program delivery established by the Victorian Government and Dairy Australia
- **Dairy Futures Cooperative Research Centre (CRC):** The Dairy Futures Cooperative Research Centre (CRC), is a \$128 million partnership between Dairy Australia, Australian and Victorian governments, pasture and cattle breeding companies, dairy companies, industry bodies, universities and the CSIRO.



- **Dairy Innovation Australia Limited:** Company formed by membership from Dairy Australia and Australian Dairy Manufacturing Companies
- **Dairy Management Inc:** America's domestic and international planning and management organization that builds demand for dairy products on behalf of America's 60,000-plus dairy producers
- **De Laval:** Company specialising in milking systems, equipment and products
- **Department of Agriculture and Food Western Australia:** Western Australian agency focused on maximising the economic potential of primary industries on a sustainable basis
- **Department of Agriculture, Fisheries & Forestry:** Australian Government agency for agricultural, fisheries, food and forestry industries
- **Department of Primary Industries Victoria:** Victorian agency focused on maximising the economic potential of primary industries on a sustainable basis
- **Geoffrey Gardiner Dairy Foundation:** Funding organisation for the benefit of the Victorian dairy industry and dairying communities
- **National Centre for Dairy Education Australia:** Joint venture between Dairy Australia and GOTAFE responsible for national development and delivery of vocational dairy education
- **National Dairy Alliance:** A voluntary grouping of investors, providers and industry that seeks to improve the sustainable competitiveness of the on-farm sector of the Australian dairy industry
- **National Heritage Trust:** Fund to help restore and conserve Australia's environment and natural resources
- **National Landcare Program:** Program that supports landcare and the sustainable use and management of natural resources
- **NSW Department of Primary Industries:** NSW agency focused on maximising the economic potential of primary industries on a sustainable basis
- **Primary Industries & Resources South Australia:** South Australian agency for food, fibre and minerals industries and economic development
- **Queensland Department of Primary Industries & Fisheries:** Queensland agency focused on maximising the economic potential of primary industries on a sustainable basis
- **Regional Development Victoria:** Victorian Government's lead agency in developing rural and regional Victoria
- **South Australian Research and Development Institute:** Services the research and extension needs of the SA dairy industry
- **Tasmanian Institute of Agricultural Research:** Joint venture between University of Tasmania and the Tasmanian Department of Primary Industries and Water

Development/ dynamics ¹⁹

Issues and Challenges

There are currently various challenges faced by the Australian dairy industry throughout the different stages of its supply chain. These stages include input, milk production, processing and manufacturing, exporting and retailing.

At the input level, while 2009/10 saw a decrease in input prices, the pricing is still volatile. Also, the uncertainty of water access as a result of lower rainfall and increased urban competition poses threat to the development of the dairy industry. This issue is compounded by the competition for arable land in favoured regions.

There are also a number of challenges and issues present at the milk production stage. First, the level of risk for investments and adaptation may affect milk production. Second, major restructuring is likely to be made at the milk production stage in challenged regions, which will in turn impact on the current system and structure. Third, the Emission Trading Scheme, coupled with a limited production growth and increased ethical standards, all have the potential to raise costs above competitors, and this may affect the competitiveness and pricing of Australian products.

Factors that may influence the processing and manufacturing of dairy products include the requirement to divest assets as well as the step down requirement for exporters. In addition, the Emission Trading Scheme may again affect the manufacturing stage, and hence reduce the competitiveness of the dairy industry.

In terms of dairy export, the global economic meltdown has brought several challenges. In 2009/10 the global demand of Australian dairy products appears to be falling. Also, attention needs to be paid to greater volatility and polarisation of markets as well as policy responses to food security issues. However, increased population and wealth in developing countries may drive the demand for dairy products and bring more exporting potential.

Although the sale prices of dairy products are likely to come under pressure, the outlook for the retail stage remains rather positive. Both category value and market growth are still healthy, with the market growing steadily at 1-2%. Also, there has been a reduction in inflationary pressure, which further benefits the selling of dairy products. The only two issues of concern are that consumption decisions are subject to change as these decisions are influenced by environmental and ethical attributes. Also, the rise of supermarket brands may limit the ability for category innovation.

The Industry Response

In response to the aforementioned challenges, various strategies and actions have been planned or executed by the industry. These objectives and activities are set in respect to the industry's production systems, response to climate change and natural resource management, and market access.

Production Systems

- Improving understanding and communication of market information and drivers
- Development of recognised competencies to build skill levels
- Leveraging international networks to maximise technology development and uptake
- Industry demonstrating the ethics and trustworthiness of production

Climate Change and Natural Resource Management

- Rapid adaptation of farming practices
- Continuous improvement in efficiency of resource use
- Modelling of likely climate change impact
- Testing resilience of current farming practices and strategies
- Analysing impacts of ETS implementation on industry viability & informing policy makers

Accessing Markets

- Establishing international networks to create active preference for Australian product and push for reform (Global Dairy Alliance)
- Provide government with technical policy input for FTA negotiations
- Higher margin product mix

Overall, the Australian dairy industry has already faced significant challenges including deregulation, droughts and the financial crisis. However, the industry has also demonstrated its ability to adapt to difficult situations through sharing its view of the challenges and opportunities and addressing these challenges with collective action. One critical element for success now would be the policy environment, which plays an important role in allowing the industry to adapt and further develop.

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