

Dairy Industry Profile

December 2014



Victoria's Dairy Industry

December 2014 Update

Key points

- This Dairy Industry Profile provides an overview of the location, structure, production and performance of Victoria's dairy industry.
- Victoria's dairy industry has a gross value of milk production of around \$2.3 billion in 2012-13ⁱ. The industry is mature, well resourced, well organised and internationally competitive.
- In 2013-14, Victorian milk production was 6.12 billion litres, accounting for 66 per cent of Australia's total milk production.
- Victoria represents around 85 per cent of Australia's dairy product exports worth around \$2.3 billion in 2013-14 (a slight increase from \$1.87 billion in 2012-13). As a result, returns to Victorian dairy farmers are strongly connected to world dairy commodity prices and exchange rates.

Location of Victoria's dairy farms

Victoria's dairy farms are predominantly located in the north, south west and Gippsland regions (Figure 1). The northern region is dominated by irrigated farms on the Murray-Goulburn reticulated system, which is undergoing modernisation under the Northern Connections program managed by Goulburn Murray Water Authority. The south west dairy region is largely rainfall based, but augmented by use of ground water. The Gippsland region is rain-fed in South and West Gippsland, but with significant irrigated dairy farming in the Macalister Irrigation District which is centred on Maffra.

Structure of Victoria's dairy industry

There were around 4,268 licensed dairy farms in Victoria in 2013-14, spread relatively evenly between the three production regionsⁱⁱ. The Victorian dairy herd totalled around 1.1 million head, or about 66 per cent of the national dairy herd. The average herd size in Victorian dairy farms increased from 167 cows in 1999-00 up to 261 in 2013-14, an increase of 56 per cent over 14 years. There appears to be a trend towards very large farm operations of over 1,000 cowsⁱⁱⁱ.

Dairy producers in Victoria can sell to either liquid milk or manufactured dairy product processors. In 2013-14, the liquid milk processing plants processed 612 million litres. These plants are located nearer to major population centres. Dairy manufacturing plants are generally located in the dairy production regions. Dairy product manufacturers used 5.11 billion litres in 2013-14 or 90 per cent of Victorian milk production. Half of these manufactured milk products are consumed domestically while the rest is exported. There are around 20 major liquid and manufacturing plants in Victoria. Murray-Goulburn Cooperative, Fonterra and Lion (formerly National Foods) are the three largest processors.

Victorian milk production

Australia's milk production finished the 2013-14 season at 9.2 billion litres, almost unchanged from the previous year^{iv}. Victorian milk production increased slightly to 6.1 billion litres in 2013-14 (66 per cent of Australia's total milk production) from 6.04 billion litres in 2012-13 (Figure 1)^v and is above the rolling average for milk production over the last five years. Victoria's milk production peaked in 2001-02 at 7.4 billion litres, more than double the three billion litres produced in 1980-81. Yield per cow has increased from 3,012 litres in 1979-1980 to 5,611 litres in 2012-13.

Across the North in 2013-14, farms experienced very dry conditions with 30 per cent below average rainfall. Some areas had the driest summer on record. Milk prices rose by 5 per cent, but the cost of production also rose. In contrast, the South had rainfall that was 15 per cent below average, but south-eastern Victoria generally experienced more favourable seasonal conditions for most of the year. Milk prices in the South increased by around 11 per cent over the previous year, improving farmer confidence^{vi}.

Milk price

The liquid milk market only consumes about 10 per cent of Victorian production, with most Victorian dairy farmers supplying to the manufacturing sector. As such, farm gate prices in Victoria are strongly influenced by global dairy prices and exchange rates. Historically, Victorian farm gate prices (Figure 3) have followed global prices (Figure 4) with only a small lag.

Figure 1 – Victoria’s milk production regions^{vii}

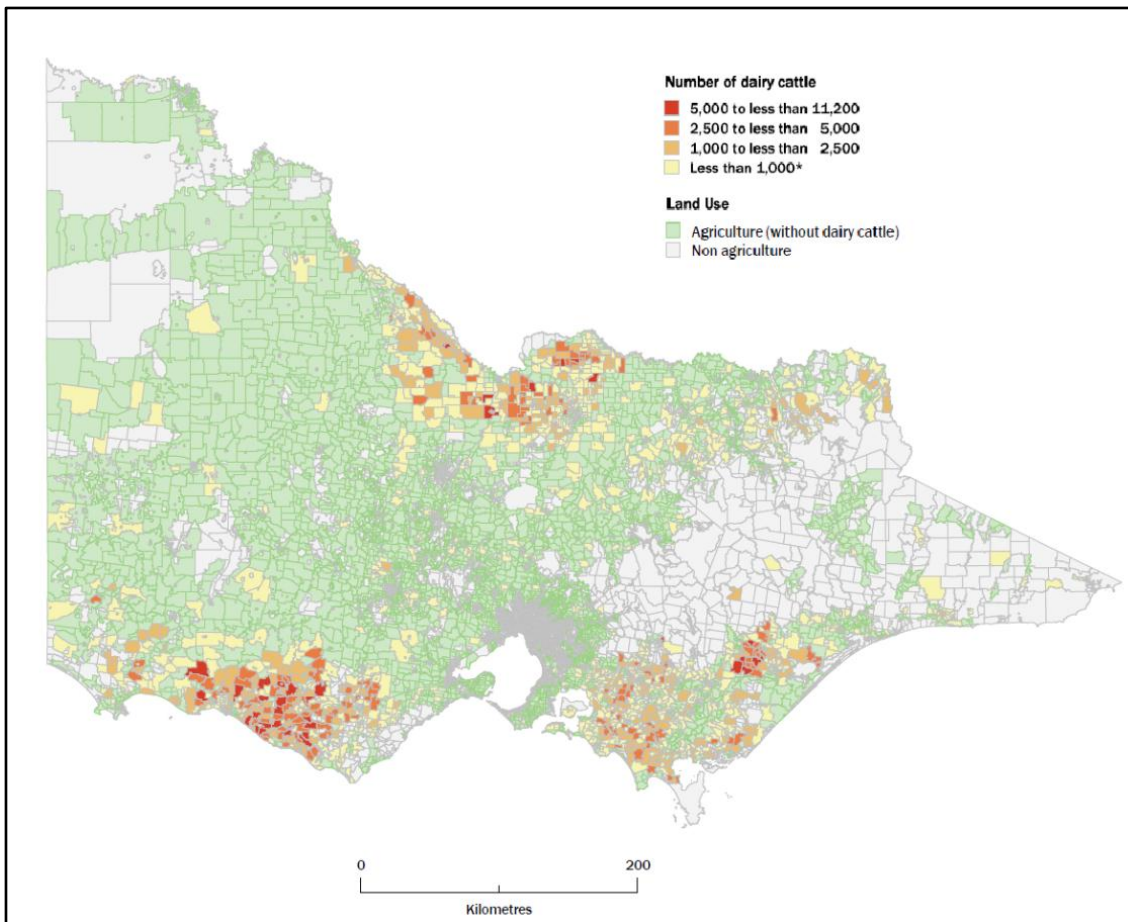


Figure 2 – Victorian milk production^{viii}

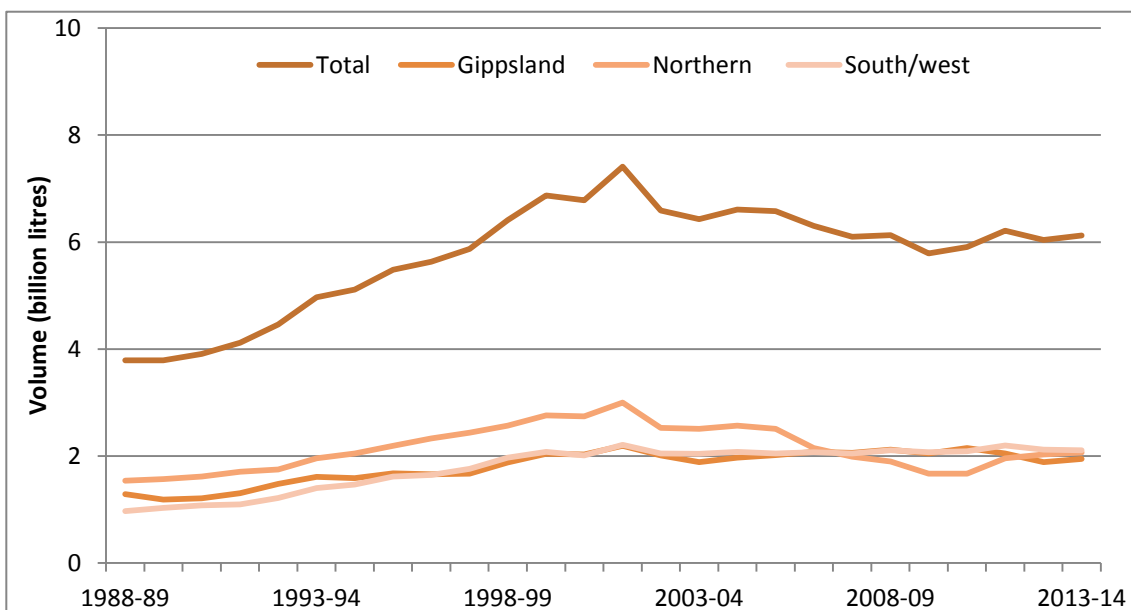
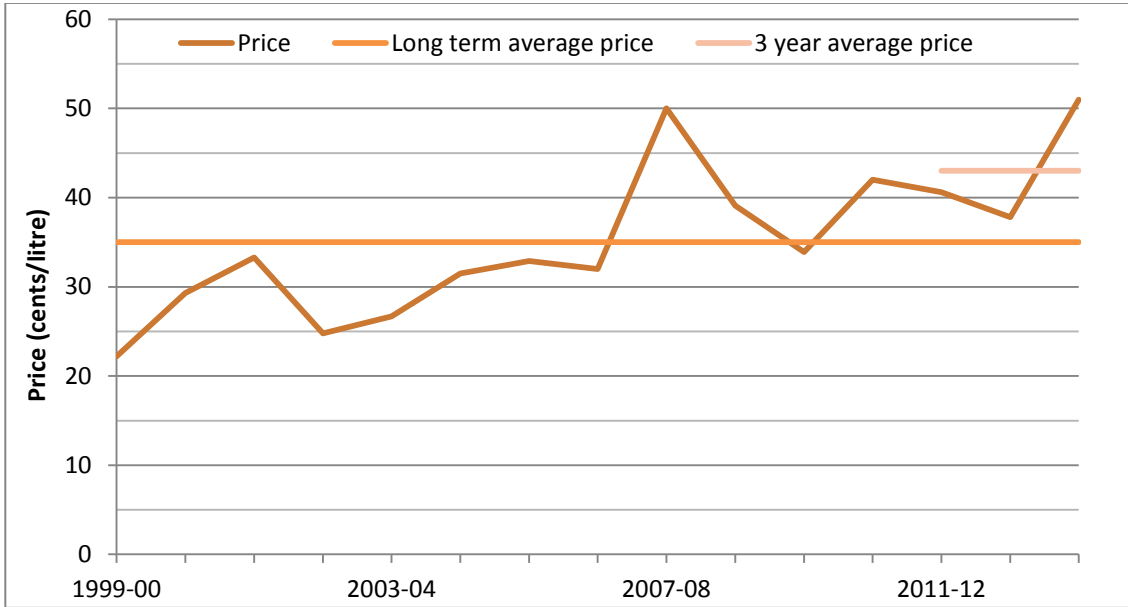


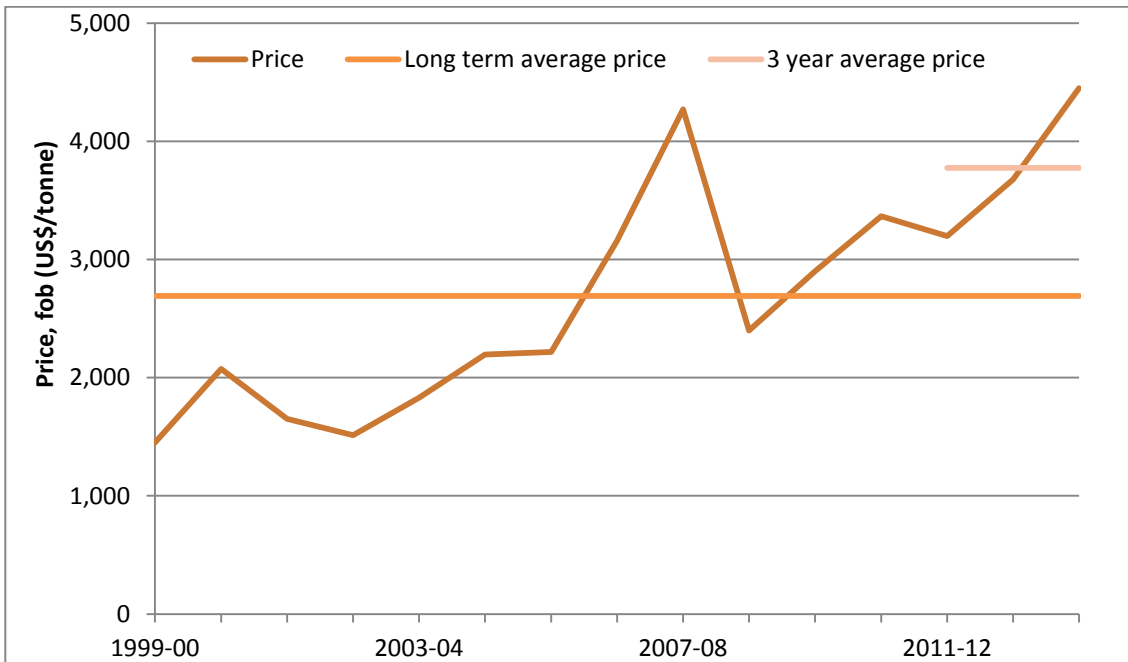
Figure 3 – Victorian farm gate milk prices^{ix}



In 2013-14 Victoria's average milk price increased by 35 per cent compared to 2012-13, from \$5.05 to \$6.81 per kilogram of milk solids (\$/kg MS)^x. This price increase followed a 7 per cent decline in milk prices from 2011-12 to 2012-13. Compared to 2012-13, the average milk price in the Northern region increased by 35 per cent to \$6.81/kg MS. The average milk price in the South West increased by 41 per cent, closing the year at \$6.91/kg MS, while in Gippsland milk prices increased by 39 per cent to \$6.62/kg MS.

Both the Victorian farm gate milk price and the global, indicative export price peaked in 2013-14 and 2007-08, with another smaller peak in 2010-11. Prices in below-average years follow the same pattern between the farm gate and global export prices.

Figure 4 – European and Oceania average indicative export price for skim milk powder^{xi}



Outlook for the 2014-15 season

The farm gate milk price reached an average of \$6.79/kg MS in the 2013-14 season, which is the second-highest on record since 2006-07. In 2014-15, in contrast, the farm gate milk price is forecast to fall by 10 per cent to an average of around \$6.08/kg MS, reflecting mainly lower world dairy product prices^{xii}. A predicted depreciation of the Australian dollar will partially offset this.

After an initial slowdown in the early stages of the 2014-15 season, Australian milk production is tracking 2.8 per cent ahead of last season, at 2.34 billion litres from July to September 2014^{xiii}. Weather conditions have been mixed, but a stronger production peak than last year is likely. Dairy Australia forecasts that for 2014-15 growth will remain at around 2 per cent, generating a production range of 9.35 to 9.45 billion litres. The national dairy cow herd is forecast to remain largely unchanged at 1.7 million head.

Victorian exports and domestic consumption of dairy products

Over recent years Australia exported around 40 to 45 per cent of its milk production. Australian dairy exports currently account for seven per cent of dairy products entering world trade and are worth around 2.76 billion in 2012-13. The other large suppliers in the world market are New Zealand (37 per cent), the European Union (31 per cent) and the United States of America (11 per cent)^{xiv}.

Victoria's dairy product exports in 2013-14 were worth \$2.3 billion, an increase of 23 per cent from 2012-13^{xv}. Victoria supplies around 85 per cent of national dairy exports. Milk and cream, and cheese and whey, products dominate Victorian dairy exports (Table 1). In 2013-14, the main markets for Victorian dairy products, by value, were China (16 per cent), Japan (16 per cent), Singapore (10 per cent) and Indonesia (8 per cent).

Table 1 – Victorian exports of dairy products, 2013-14

Product	Value (\$ million)
Milk and cream	1,252
Cheese and whey products	723
Butters, fats and oils	224
Yoghurt and Fermented drinks	55
Milk extracts	41
Total	2,296

Greater China (which includes mainland China, Hong Kong and Macau) is the fastest growing export market for Australian dairy products. The Chinese market for premium UHT milk exports is projected to grow by around 50 per cent from 2012 to 2017.

The market for premium milk products in China is dominated by foreign suppliers, mainly New Zealand, Australia and the European Union. There has been strong growth in China's premium dairy imports over recent years. China's development of large-scale dairy farms (with over 500 cows) is aided by live imports of around 80,000 Victorian dairy heifers per annum. However, perceived safety concerns around domestically produced dairy products in China are driving demand for Victorian dairy products.

Total factor productivity

Ongoing structural adjustment has transformed the dairy industry in Australia, driving productivity growth. Productivity growth averaged 1.6 per cent a year from 1978-79 to 2011-12, growing most strongly in the decade since deregulation at a rate of 1.9 per cent^{xvi}. Before deregulation in July 2000, total industry output increased as a result of productivity growth and growth in total inputs used. Since the removal of industry price supports in 2000, industry output and input use have trended downward, with inputs contracting more rapidly than output and thereby resulting in productivity gains. Many smaller producers exited the industry, and the production share of small operators remaining in the industry gradually declined. In contrast to industry trends, individual dairy farms on average continued to expand their use of inputs, although at a slower rate than in the decades before deregulation.

Victorian dairy industry productivity has grown at an annual average rate of 1.3 per cent from 1977-78 to 2011-12. Tasmania and Western Australia, having the highest proportion of large dairy farms, had the strongest productivity growth at rates above national average.

Farm financial performance

Dairy farm performance has been tracked by the Victorian Dairy Farm Monitor Project^{xvii}, which collects information from 75 dairy farms that are equally distributed between the three dairy regions of Victoria.

Profitability in the surveyed farms improved markedly in 2013-14 compared to the previous year's performance as a result of favourable operating conditions. The price of milk reached an average of \$6.79/kg MS, its second highest recorded level in real terms in the past eight years. Seasonal conditions were relatively favourable across most of the dairying areas. Average farm physical parameters across the survey sample are shown in Table 2 with average farm financial parameters reported in Table 3.

Table 2 – Farm physical parameters of the survey sample, 2013-14

	Victoria	Northern	South West	Gippsland
Herd size (no. of milking cows)	335	332	390	284
Total usable area (ha)	242	210	330	186
Stocking rate (milking cows/usable ha)	1.6	1.9	1.2	1.8
Milk solids sold (kg MS/cow)	498	522	503	468
Milk solids sold (kg MS/ha)	810	995	600	835
Milk price received (\$/kg MS)	6.79	6.83	6.91	6.62
Labour efficiency (milking cows/FTE)	105	109	102	104
Labour efficiency (kg MS/FTE)	52,251	56,611	51,524	48,617

Table 3 – Farm financial parameters of the survey sample, 2013-14

	Victoria	Northern	South West	Gippsland
Gross farm income (\$/kg MS)	7.44	7.46	7.54	7.33
Total variable costs (\$/kg MS)	3.39	3.61	3.37	3.19
Gross margin (\$/kg MS)	4.05	3.85	4.17	4.13
Overhead costs (\$/kg MS)	2.03	1.83	2.14	2.11
Earnings before interest and tax (\$/kg MS)	2.02	2.02	2.03	2.03
Return on assets (%)	8.5	11.3	7.9	6.4
Return on equity (%)	11.6	14.8	9.9	10.2
Equity ratio (%)	62	59	60	66

Northern region

In 2013-14, the North experienced favourable seasonal conditions with above average rainfall, 100 per cent allocation of high reliability water shares on all northern irrigation systems and good availability of temporary water. This saw irrigation costs increase 27 per cent to \$0.47/kg MS as the cost of temporary water increased to an average of \$74 per megalitre and 21 of the 25 farms purchased temporary water allocations again this year. Expenditure also increased on concentrates as a result of the higher grain price. This led to a higher average cost of production at \$5.34/kg MS. The average milk price in the region increased by 35 per cent to \$6.83/kg MS. These factors resulted in average whole farm earnings before interest and tax increasing five-fold to \$393,700 while the return on assets rose to 11.3 per cent. Average return on equity was 14.8 per cent.

South West region

Operating conditions in the South West improved in 2013-14 compared to the previous challenging year. The region recorded the highest milk price of all the regions at \$6.91/kg MS, increasing 41 per cent from 2012-13. The better seasonal conditions meant farmers were able to use more pasture per milking hectare and reduce their reliance on purchased fodder. Despite this decrease in fodder costs, overall feed costs rose in 2013-14. This was due to higher rates of fertiliser applied to pastures increasing fertiliser costs by 35 per cent to \$0.50/kg MS, and the higher grain prices increasing the cost of concentrates by 10 per cent to \$1.65/kg MS. Overhead costs remained stable, as the

increase in repairs and maintenance costs and employed labour was counter-balanced by a decrease in imputed labour, resulting in an overall increase in the cost of production to \$5.34/kg MS. Average return on assets for farms in the South West rose to 7.9 per cent in 2013-14 and earnings before interest and tax to \$424,647. Average return on equity was 9.9 per cent with positive returns recorded by 24 of the 25 farms.

Gippsland region

In 2013-14, south, west and north east Gippsland experienced variable growing conditions despite receiving average to above average rainfall. The Macalister Irrigation District (MID) had a good season finishing the year with 100 per cent allocation of high and 5 per cent allocation of low reliability water shares. Grazed and conserved pasture increased by 16 per cent to 8.6 t DM/ha and incurred higher home grown feed costs. Purchased feed costs increased on the back of higher grain prices. Farmers controlled expenditure on overhead costs, particularly repairs and maintenance and imputed labour, thereby decreasing the total cost of production to \$5.16/kg MS. The price of milk increased by 39 per cent to \$6.62/kg MS. These conditions resulted in a large improvement in farm returns with average earnings before interest and tax for Gippsland farms increasing six-fold to \$284,948 and return on assets was 6.4 per cent. The average return on equity was 10.2 per cent.

Employment

In 2010-11, around 10,600 people were employed in the dairy production sector and around 9,300 were employed in the dairy processing sector; with many more in related services including R&D and logistics^{xviii}.

Opportunities and challenges

Victoria has long been open to foreign investment in its agri-food sector and remains a preferred location in the Asia Pacific for advanced food and beverage processing. Victorian food and agriculture has a clear brand identity that is widely recognised and respected in key Asian growth markets.

Investment on-farm is needed and Australian dairy farmers are increasingly exploring alternative models of attracting capital, from both on and off shore sources. These include adoption of changed business structures, including owner operator, share farming, leasing and, increasingly, co-investment/equity partnerships.

The Victorian Government via its Food to Asia Action Plan is increasing its resources in key Asian markets to strengthen and expand connections between Victorian businesses and buyers and investors in Asia.

Returns on assets are strongly connected to world dairy product prices and exchange rates.

Although it has eased from its US\$1.05 peak in April 2013 to around 85 US cents, the strength of the Australian dollar continues to be a challenge for Victorian dairy producers and processors.

However, return on assets for the 2013-14 year was 8.5% (excluding capital appreciation) due to strong milk prices and favourable feed options.

Victoria is an attractive investment destination with strong values achieved for the capital investment required compared to other high quality milk producing countries.

Government policy/regulation influences

The Victorian Government provides a range of services that assist the profitability and growth of the dairy industry. These include being the lead national research agency for the dairy industry and the most substantial national agency to develop and extend new innovations for the benefit of Australian dairy farmers. The leading role played by the Victorian Government in dairy research and extension reflects that over 60% of the Australian dairy industry is in Victoria, and the majority of exported dairy products leave Australia through the Port of Melbourne.

Examples of government activities include research in dairy bioscience, in the improvement of the feedbase and animal nutrition and in the management of natural resources. Expertise within the Department of Environment and Primary Industries ranges from the genetic evaluation of all Australian dairy cattle to best practice for design of environmental management systems. Substantial investment to remain world-class in agricultural research includes super-computer capacity, new animal facilities to measure performance in a hotter climate and new electronic tools to measure pasture performance.

-
- ⁱ Australian Bureau of Statistics (ABS), Value of Agricultural Commodities Produced, Australia, 7503.0, 2012-13
- ⁱⁱ Dairy Australia (DA), Farm Facts, in: www.dairyaustralia.com.au accessed, December 2014
- ⁱⁱⁱ DA, Farm Facts, in: <http://www.dairyaustralia.com.au/Markets-and-statistics/Farm-facts/Cows-and-Farms.aspx> accessed, December 2014
- ^{iv} DA, Australian Dairy Industry in Focus, 2013
- ^v DA, Farm Facts, in: www.dairyaustralia.com.au accessed, December 2014
- ^{vi} Department of Environment and Primary Industries (DEPI), *Dairy Industry Farm Monitor Project Report 2013-14*
- ^{vii} Australian Bureau of Statistics (ABS), Based on AGS2011 Mesh Block Boundaries. Number of dairy cattle sourced from the 2000-11 Agricultural Census. Land use based on ASGS2011 Mesh Block Use Categories. This map was produced using coordinate system: Lat/Long GDA94 © Commonwealth of Australia, 2014
- ^{viii} DA, Industry Statistics, Victoria Milk Production 2013-14 by Region
- ^{ix} DA, Industry Statistics, Farmgate milk price 2013-14
- ^x DEPI, *Dairy Industry Farm Monitor Project Report 2013-14*
- ^{xi} Food and Agriculture Organisation of the United Nations website, Trade and Markets page, in: <http://www.fao.org/economic/est/statistical-data/est-cpd/en/> accessed, December 2014
- ^{xii} Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), Agricultural Commodities, September Quarter, 2014
- ^{xiii} DA, Dairy Situation and Outlook, November 2014
- ^{xiv} DA, Australian Dairy Industry in Focus, 2013
- ^{xv} DEPI, *Victorian Food and Fibre Export Performance, 2013-14*
- ^{xvi} ABARES, *Agricultural Commodities, March Quarter, 2014*
- ^{xvii} DEPI, *Dairy Industry Farm Monitor Project Report 2013-14*
- ^{xviii} ABS Census Data, 2011 (census of Population & Housing and the Agricultural census)