



Signposts for Australian Agriculture



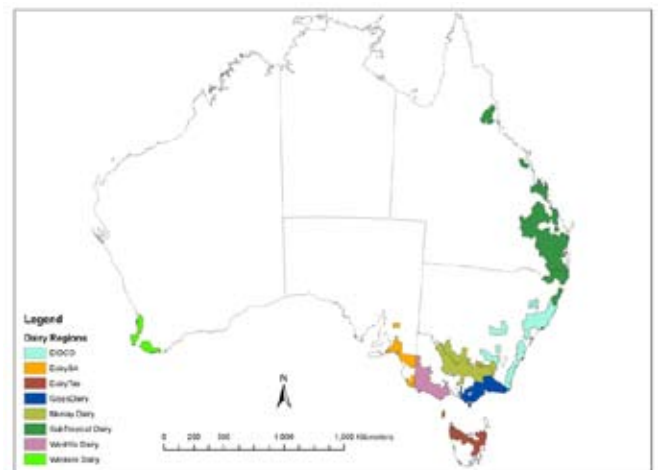
The Australian dairy industry

Snapshot June 2007:

- 8055 dairy farms
- 1.8 million dairy cows
- annual production of 9.6 billion litres
- gross value of production \$3.2 billion
- 80% of production from Victoria, South Australia and Tasmania
- produces: milk, cheese, butter, milk powder, yoghurt and casein
- all states supply fresh milk

- The Australian dairy industry now has the assets and on-farm processing and marketing skills to produce more milk and sell more products than at any time in its history.
- The number of dairy farms has contracted by 63% since 1979–80 and 32% over the past six years. Milk production has been affected by drought since 2000–01, but average annual milk production is presently just below record levels.

AUSTRALIAN DAIRY LAND USE



Sources: Dairy regions and BRS (Bureau of Rural Sciences) (2002). Land Use Mapping at Catchment Scale: Principles, Procedures and Definitions, Edition 2.

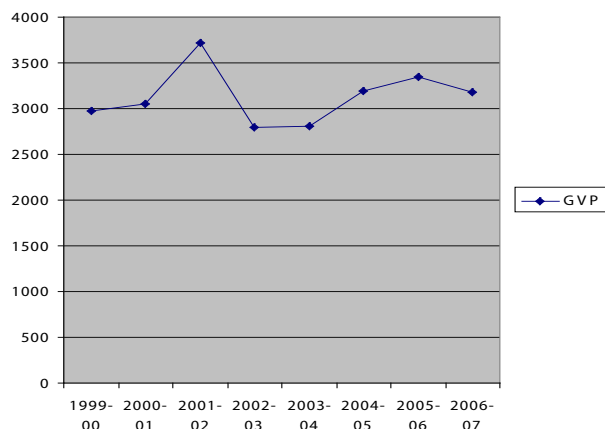
Economic overview

The dairy industry is Australia's fourth largest agricultural industry (after grains, beef and horticulture) with a gross value of production (GVP) in 2006–07 of \$3.2 billion. This was 5% lower than 2005–06 due to the impact of the drought, but the trend over the past 20 years has been significantly upward.

Signposts for Australian Agriculture (Signposts) is a partnership between industry, government and research organisations. It provides access to economic, social and environmental data specific to an industry in order to inform policy development, strategic decision making and research priorities.

Signposts reports on the contributions of agricultural industries to ecologically sustainable development. It does this by examining how an industry's assets are changing over time and how the industry is affecting assets held by others. This factsheet provides a summary of key information extracted from the Signposts for Australian Agriculture — The Australian dairy industry report, published by the National Land & Water Resources Audit, 2008.

DAIRY INDUSTRY GROSS VALUE OF PRODUCTION (GVP)



Source: ABARE (Australian Bureau of Agricultural and Resource Economics) (2007). Australian farm survey results, 2004-05 to 2006-07, ABARE, Canberra.



DAIRY PRODUCTS. BY SIMON GRIFFITHS. SOURCE: DAIRY AUSTRALIA

AVERAGE ECONOMIC RESULTS FOR DAIRY FARMS

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06 ^a	2006-07 ^b
Farm capital (\$ million)	1.3	1.6	1.9	2.05	2.3	2.8	3.2
Farm debt							
Farm debt (\$ million)	0.237	0.298	0.328	0.235	0.335	0.443	0.494
Equity (\$ million)	1.1	1.4	1.5	1.7	2.0	2.4	2.7
Equity ratio (%)	82	82	82	83	85	84	84
Rate of return (%) (excluding capital)	3.1	5.7	-0.7	0.9	2.5	2.3	0.0
Rate of return (%) (including capital appreciation)	5.1	10.8	7.2	9.9	8.0	7.0	9.9

^a preliminary results, ^b provisional results.

Source: ABARE (Australian Bureau of Agricultural and Resource Economics) (2007). Australian Commodity Statistics, ABARE, Canberra. ABARE (Australian Bureau of Agricultural and Resource Economics) (2008). Australian Commodities March Quarter 08.1, ABARE, Canberra.

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Condition of industry assets

- The increased land value in dairying regions since 2000-01 has raised the total capital value of farms and more than offset increases in farm debt.
- This has maintained farm equity ratios at a relatively high annual-average level of 83% between 2000-01 and 2005-06, rising to 85% in 2004-05.
- Prices received for agricultural commodities have failed to keep pace with the prices paid for agricultural inputs over the past three decades. Increasing productivity has been necessary to offset declining terms of trade and to maintain the viability of agricultural industries.
- The proportion of dairy farms with native vegetation has fallen 12 percentage points since 2000, from 64% to 52%, although this varies considerably by dairy region. In many cases the fall in the proportion of industry land covered by native vegetation has resulted from industry restructuring and subsequent contraction or movement of the industry to more productive areas with less native vegetation.
- The industry is generally located on productive soils however the intensive nature of dairy production results in substantial inputs in nitrogen and phosphorus. Irrigation-induced salinity is considered a threat to the condition of the industry's soil assets in most dairy regions.

PRODUCTIVITY — ANNUAL GROWTH RATES FOR AUSTRALIAN DAIRY FARMS

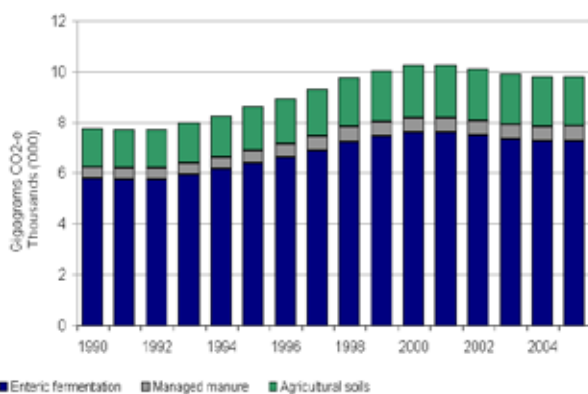
	1984-85 to 2003-04 (two decades)	1984-85 to 1993-94 (first decade)	1994-95 to 2003-04 (second decade)
Terms of trade			
Prices received	1.9	4.4	0.3
Prices paid	3.0	4.2	2.6
Terms of trade	-1.1	0.3	-2.3
Productivity growth			
Outputs	5.3	5.3	5.3
Inputs	4.1	3.5	4.4
Total factor productivity	1.2	1.8	1.0

Source: Carlisle D (2007). *Signposts for Australian Agriculture — Dairy Industry Profile: Productivity National Land & Water Resources Audit*, Canberra.

Environmental overview

- The industry manages a complex set of natural resource management (NRM) and environmental issues. These include soil fertility, irrigation-induced soil salinity, soil acidity, native-vegetation conservation, weeds, greenhouse gas (GHG) emissions, water use and water quality.

ESTIMATED GHG EMISSIONS, BY SOURCE, FROM THE DAIRY INDUSTRY, IN GIGAGRAMS OF CARBON DIOXIDE EQUIVALENTS



Source: AGO (Australian Greenhouse Office) (2007). *Australian Greenhouse Gas Emissions Information System*. <http://www.climatechange.gov.au/inventory/index.html>

Impact of the industry on assets held by others

- The 2006 NRM survey found that 54% of dairy farms are irrigated and there has been a substantial increase in the percentage of dairy land irrigated from 43% to 56% since 2000.
- In 2004–05, dairy farms used around 19% (2.3 million megalitres) of total agricultural water consumption, or around 12% of national water consumption.
- The dairy industry emitted 9.8 million tonnes of CO₂e in 2005, comprising approximately 11% of total agricultural emissions.
- The key water quality issue for dairy farmers is the prevention of fertiliser and effluent leakage to surface and ground water; both on- and off-farm. Over 70% of farms use a pond system to manage effluent.



MILKING CLUSTERS. BY GAVIN BLUE. SOURCE: DAIRY AUSTRALIA

Management responses

Management practices to improve water use efficiency include:

- modernising irrigation technology including automation
- installing soil moisture monitoring and weather stations linked to controllers
- improving irrigation scheduling
- laser grading
- improving nutrient and pasture grazing management
- providing adequate share in summer to reduce cattle consumption.

Farmers have responded to the challenge of biodiversity conservation by:

- taking areas out of production and revegetating them
- fencing remnant bush, revegetated areas and riparian zones to exclude stock and feral animals
- planting tree belts to provide shelter for stock and native fauna.

Social overview

Key industry bodies:

- Dairy Australia
- Australian Dairy Farmers
- Individual state dairy farming organisations.
- The industry contributes to the health of Australians through dairy foods that provide essential nutrients.
- Dairy Australia Dairy Australia has established Regional Development Programs (RDPs) in the eight major dairying areas of Australia. RDPs drive innovation in research and extension through the use of regional knowledge and skills.

TOTAL NUMBER OF PERSONS EMPLOYED IN DAIRY FARMING

State / territory	Persons employed (number)	Percentage of total in industry
Vic	16 418	57
NSW	4 275	15
Qld	3 486	12
SA	1 824	6
Tas	1 496	5
WA	1 066	4
NT and ACT	84	less than 1
Total	28 649	100

Source: Whitworth B (2007). *Signposts for Australian Agriculture — Dairy Industry Profile: Employment*. National Land and Water Resources Audit, Canberra.



DAIRY COW IN THE MURRAY RIVER WOODLAND. VICTORIA. BY ALISON POULIOT 2008. SOURCE: LAND & WATER AUSTRALIA.

Policy and management responses

- The dairy industry gives priority to investment in its people through a wide range of programs. Dairy Australia recognises that dairy farmers acquire technical skills in a number of ways, including formal training, extension activities and engagement with consultants and advisers.

Key programs include:

- Dairying for Tomorrow
- DairySAT (a planning tool used to measure environmental management)
- Feed, Fibre, Future
- National Centre for Dairy Education
- The People in Dairy Program
- Subtropical Dairy.



CHRIS VAUGHAN WORKS ON THE FENCES AT HIS FARM AT YARRAGON, GIPPSLAND. BY NORMAN KRUEGER. SOURCE: DAIRY AUSTRALIA.

PRODUCT NUMBER: PN21912