

Australia's expanding dairy industry – productivity and profit

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A
DAIRY RESEARCH AND
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Farmer Funded Project

This publication contains summarised information from a number of reports prepared by the Australian Bureau of Agricultural and Resource Economics (ABARE) and commissioned by the Dairy Research and Development Corporation.

There are fewer dairy farms now than a generation ago. However, those farmers who have remained in the industry have been able to maintain their farm incomes in real terms by increasing farm areas and herd sizes, and by adopting more intensive production practices.

Introduction

The Dairy Research and Development Corporation (DRDC) funds a range of survey and analytical research by the Australian Bureau of Agricultural and Resource Economics (ABARE). Some projects are undertaken annually, some every second year and some on an occasional basis. The results are reported in a range of publications. This publication brings together important and interesting results from a number of these projects, in a report designed for wide distribution.

Farm numbers and milk production

The number of dairy farms in Australia has halved since the mid-1970s. However, Australian milk production, currently around 11 million litres a year, has more than doubled over the past 20 years (Figure 1).

Victoria is Australia's largest milk-producing State, accounting for more than 60% of the national milk production and more than 70% of manufacturing milk production. The average Victorian dairy herd has increased from 150 head in the late-1970s to around 250 per farm. All States have increased their herd sizes; the national average is around 240 head per farm (Figure 2).

Value of production and exports

With an estimated gross value of production of around \$3 billion a year, the dairy industry ranks third behind wheat and beef in terms of its output value at the farmgate.

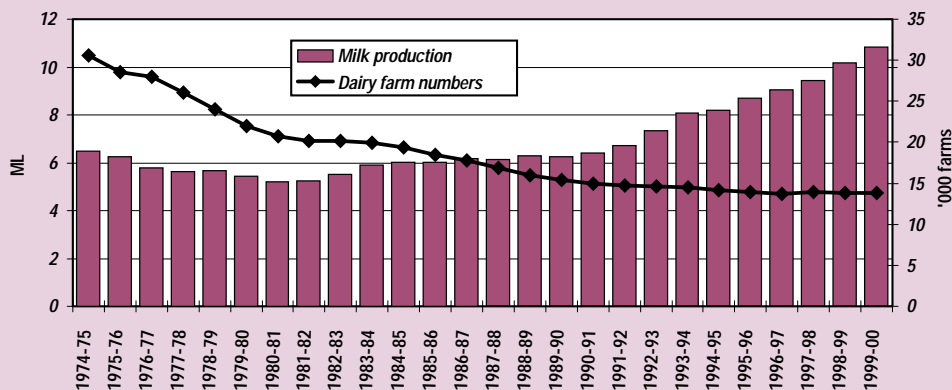
The industry is also an important value-adding manufacturer. While one fifth of the milk produced is consumed domestically as drinking milk, four fifths is used to manufacture dairy products, principally butter, cheese and milk powders.

The dairy industry is Australia's largest exporter of processed food, achieving export sales of \$3.04 billion in 2000/01. In all, about half the milk produced in Australia is exported. Exports are virtually all in the form of processed dairy products. Asia, the main export destination, took about three-quarters of Australia's dairy exports in 1999/2000.

Australia is now the world's third largest dairy product exporter behind the European Union and New Zealand. Boosted by increased Asian demand and by Australian exporters' efforts to develop new markets, Australia's share of world dairy product trade has risen to around 15%.

FIGURE 1

Australian dairy farm numbers and total milk production.



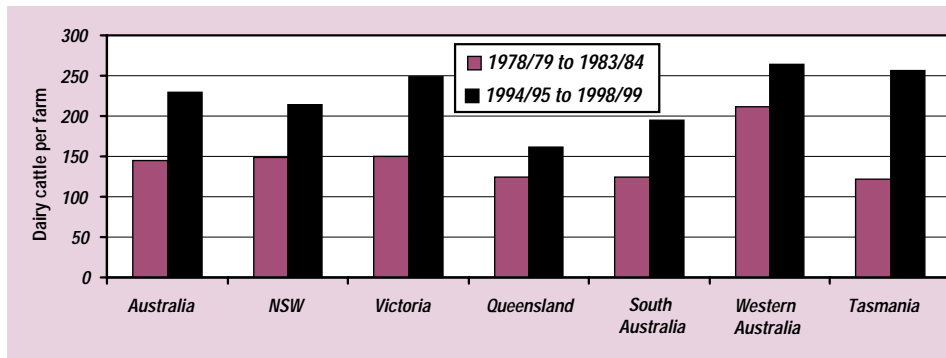


FIGURE 2
Average herd size.

Terms of trade and farm adjustment

In common with other rural industries, the dairy industry has been under financial pressure in recent years. One measure of this pressure is the ratio of prices received by dairy farmers for their products (milk and other farm outputs) to prices paid for inputs (feed, fuel, labour and other inputs). This ratio is called the industry's 'terms of trade'.

The dairy industry's terms of trade has fluctuated over the past two decades around a declining trend (Figure 3). Between 1978/79 and 1999/2000, output prices rose an average of 3.7% a year, but input prices rose more rapidly, at 4.8% a year. As a result, the industry's terms of trade fell an average 1.1% a year.

Farm areas and herd sizes

In response to declining terms of trade, dairy farmers can increase the size of their operations (larger farms, more cows) and the intensity of their operations (higher stocking rates, more intensive production practices). Australian dairy farmers have done both. The size of the average dairy farm has increased by more than 40% in the past 15 years. The number of cows milked per farm has increased by nearly 75%, while milk yield per cow has risen by more than 40%. The net result has been a 160% increase in milk production per farm in 15 years (Figure 4).

Farm management practices and technology

Farmers have made many changes to management practices and adopted a range of new technologies. These have included increases in the use of supplementary feeding, fodder conservation, soil testing, artificial insemination, synchronised oestrus, defined mastitis control programs and computers.

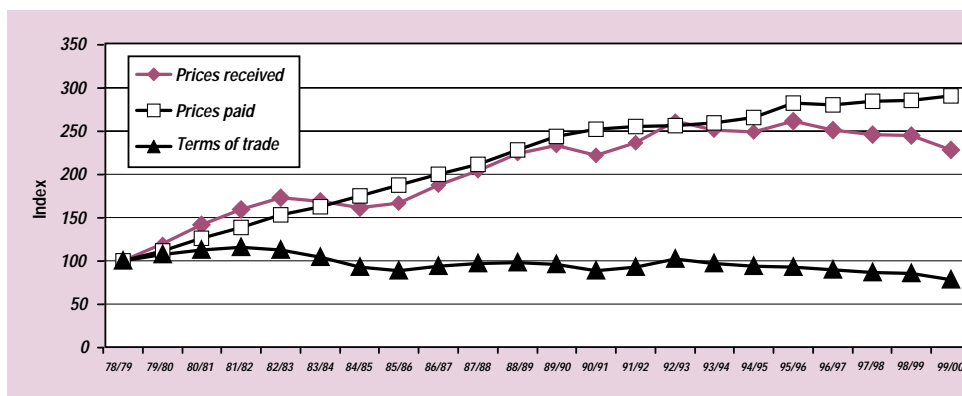
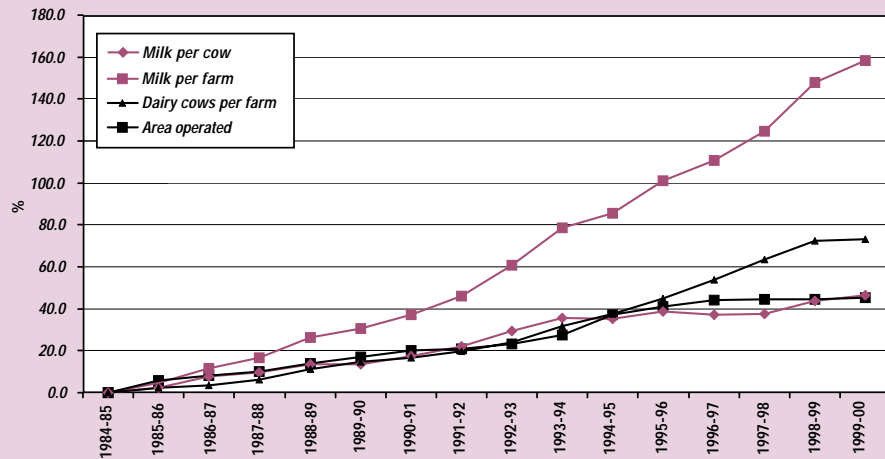


FIGURE 3
Terms of trade, Australian dairy industry.

FIGURE 4

Percentage change in herd size, farm size and milk production, Australian dairy farms.



In the 1990s, many farmers replaced or modified their dairy sheds, vats and milking machines. Adoption of new dairy shed technology has enabled dairy farmers to increase milk production per week of labour from an estimated average of 3,950 litres in 1991/92 to 6,057 litres in 1999/2000. Farmers have also substantially increased stocking rates by producing and using more supplementary feed, including silage, concentrates and grain (Figure 5).

These increased stocking rates have been accompanied in many cases by management practices aimed at ameliorating their adverse environmental effects. For example, the number of farms that allow effluent to run off into the paddock without any treatment has fallen by more than half since 1991/92, to fewer than 25% of farms in 1999/2000.

Dairy farmers are also increasingly adopting computer technology. Around 46% of dairy farms were using computers in 1999/2000 compared with only 38% in 1997/98.

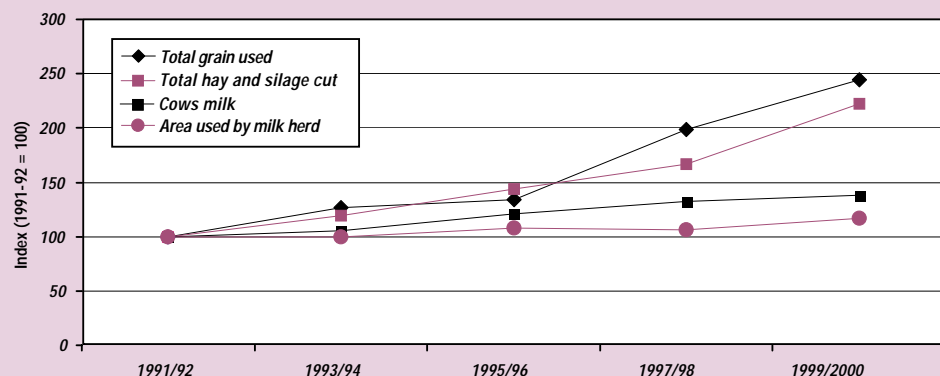
Productivity growth

Productivity growth is a measure of the gains from technological change and the adoption of better farming methods. Annual rates of productivity growth need to exceed rates of decline in the terms of trade to maintain farm incomes.

Aggregate productivity growth is measured by total factor productivity, which is calculated by dividing an index of total outputs by an index of total inputs. During the 1990s, changes to farm management practices and the use of new technologies led to appreciable gains in labour productivity and increases in milk yields per cow and per hectare. To estimate whether total factor productivity has increased, however, it is

FIGURE 5

Index of feed inputs and cows milked.



	Over two decades 1978/79 to 1999/2000	First decade 1978/79 to 1989/90	Second decade 1989/90 to 1999/2000
Productivity growth a			
Output index (%)	4.4	3.2	5.1
Input index (%)	2.6	1.1	3.9
Total factor productivity (%)	1.8	2.1	1.2
Terms of trade (%)	-1.1	-1.1	-1.3
Input use a			
Land capital (%)	1.7	0.2	2.8
Plant and structures capital (%)	1.0	-0.7	3.1
Livestock capital (%)	2.8	1.3	3.9
Livestock purchases (%)	0.7	0.5	-0.6
Labour (%)	0.6	0.5	0.9
Materials and services (%)	4.7	2.6	6.1

TABLE 1

Productivity annual growth rates for Australian dairy farms.

necessary to determine whether the rate of increase in total output is higher than the rate of increase in the use of all inputs.

The calculation confirms that total factor productivity in the dairy industry has been increasing over the past two decades, at an average of 1.8% a year (Table 1). Though not as high as the productivity increases achieved on grain farms (3.2% a year), the result for dairying is within the range of increases estimated for other livestock industries; ranging from 0.6% a year for sheep farms to 2.1% a year for beef farms.

Total factor productivity on dairy farms grew relatively quickly in the decade to 1989-90. Growth rates in this period averaged 2.1% a year. The use of inputs growing by 1.1% a year, on average, and output growing by 3.2% a year.

In the following decade, 1989/90 to 1999/2000, the annual rate of increase in total factor productivity slowed. Although dairy farmers achieved higher rates of growth in output (5.1% a year), to obtain these increases they had to increase their use of inputs by 3.9% a year. As a result, the annual rate of increase in total factor productivity on Australian dairy farms slowed to average 1.2% in the 1990s (Figure 6).

Increased feeding has been a major factor contributing to the high growth rate of output, particularly in the past 10 years. Growth in the use of materials and services (including feed in particular), is estimated to have increased from 2.6% a year in the first decade to 6.1% in the second.

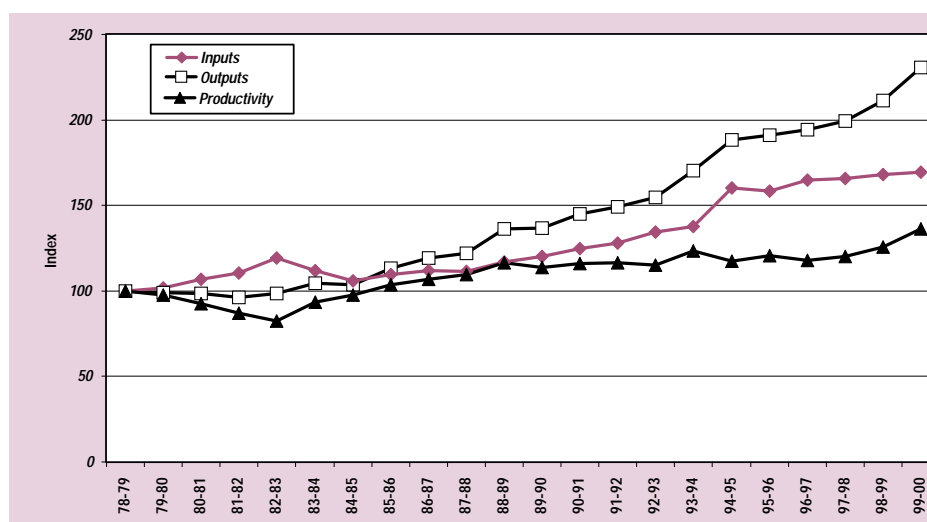
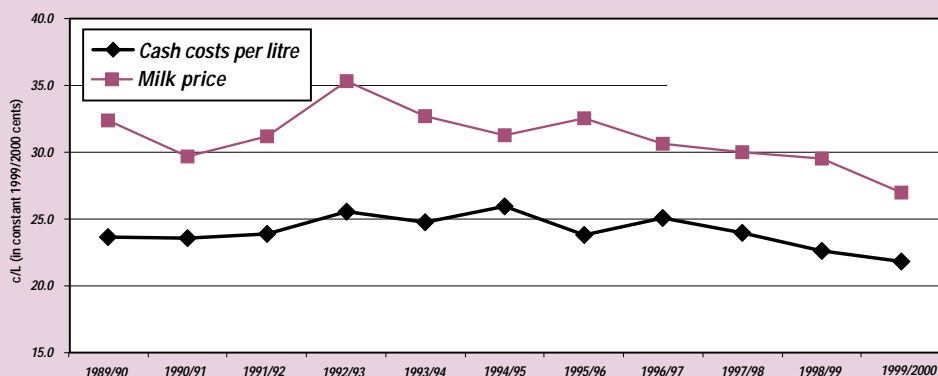


FIGURE 6

Productivity growth on Australian dairy farms.

FIGURE 7

Milk prices and cash costs per litre.



Farm financial performance

ABARE measures the financial performance of farms and publishes a number of indicators (including farm cash income, farm business profit and farm debt ratio) to observe how effectively farmers are adjusting to financial pressures.

Real cash receipts per litre (milk prices) and real cash costs per litre are useful for showing trends in real unit values. Both measures fluctuated during the 1990s in response to short-term factors, such as changes in international dairy product prices and seasonal conditions. However, the margin per litre remained roughly the same over the decade (Figure 7). Reflecting the fact that cash margins remained roughly the same, but milk production increased, dairy farmers' real farm cash incomes (total cash receipts less total cash costs, expressed in constant dollars) trended up in the 1990s.

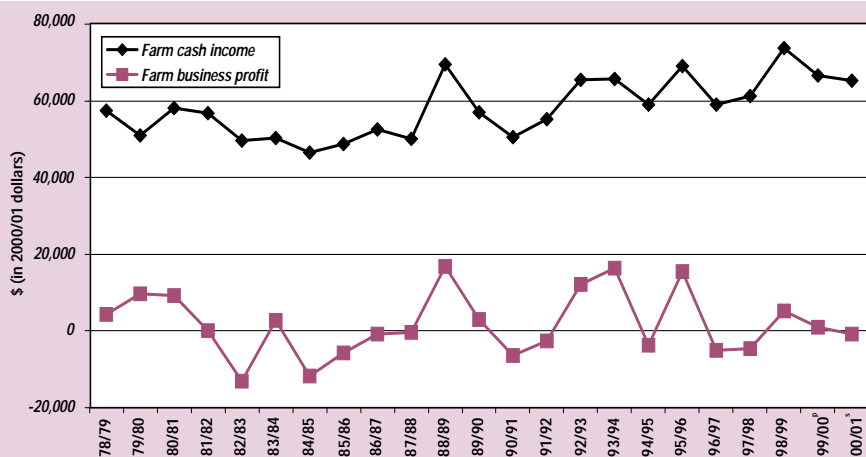
While needing to cover its cash costs, a viable farm business must also provide for future capital replacement and return its operator some margin on management and labour. To measure this, ABARE uses farm business profit, including cash costs, depreciation, the value of family labour and change in the value of trading stocks.

Although dairy farmers' real farm business profits fluctuated during the 1990s, the underlying trend in real farm business profits appears flat (Figure 8). The explanation for this trend can be found partly in the pattern of dairy capital investment in the 1990s. In the mid-1990s, farmers invested in technology and expanded farm operations. This increased depreciation levels and lowered farm business profits in the late 1990s. The increase in investment was also associated with higher levels of debt.

For example, the debt to receipt ratio on an average dairy farm rose from around 60% in 1993/94 to 90% in 1997/98 (Figure 9).

FIGURE 8

Financial performance, Australian dairy industry.



P - preliminary S - provisional estimate

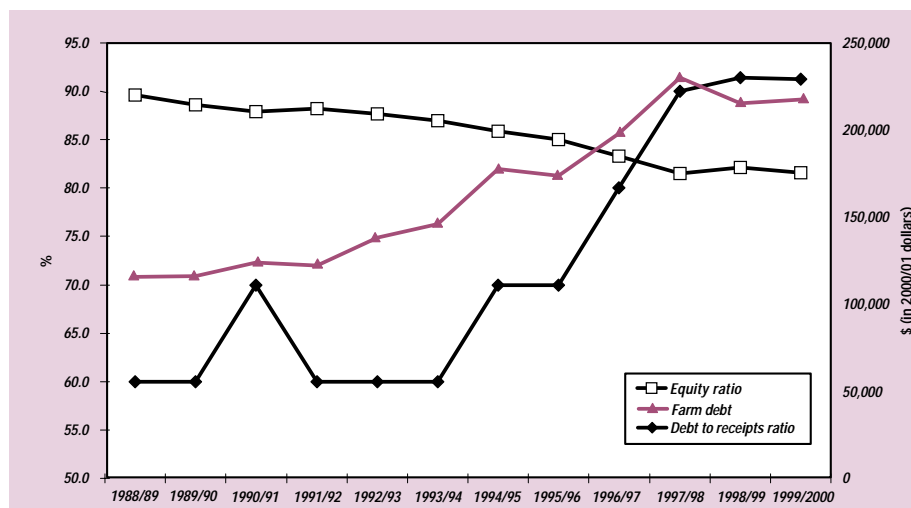


FIGURE 9

Farm debt, equity ratio and debt to receipts ratio.

More recently, dairy farmers appear to have opted to reduce farm debt rather than to undertake further new investment. This response may reflect farmers' concerns that deregulation of the industry would lead to lower milk prices and asset values. In scaling back investment and reducing farm debt, many dairy farmers may have been seeking to better position themselves to operate in the new deregulated market.

Farm performance in 2000/01

Following the introduction of an open market in milk on 1 July 2000, the average farmgate milk price fell in all States. However, world prices for dairy products rose in 2000/01 and the value of the Australian dollar declined, pushing up domestic farmgate prices for manufacturing milk in the latter half of 2000/01. At the same time, some processors offered higher prices to ensure continuity of supply for drinking milk.

Milk production in 2000/01 was 10.56 million litres, slightly lower than 1999/2000. Before 2000/01 Australian milk production was increasing at about 6% a year. The slowdown in production growth in 2000/01 reflects a combination of factors, including dry seasonal conditions in some dairying areas, higher feed grain prices, and the exit of some former market milk quota holders from the industry after deregulation.

Gross milk receipts per farm are estimated to have fallen in NSW and Queensland, due, in part, to relatively large falls in farmgate milk prices in these States. However, higher milk prices in Victoria and South Australia, combined with increased milk production is estimated to have increased average milk receipts per farm (Table 2).

Dairy farmers in Queensland are estimated to have incurred lower overall cash costs in 2000/01, largely on the basis of a substantial reduction in milk levies. However, in the other states, total cash costs in 2000/01 are estimated to have increased. Average farm cash incomes are estimated to have increased in Victoria, Western Australia, and South Australia, but to have fallen in NSW, Queensland and Tasmania.

For most individuals, assistance to dairy farmers being provided under the Commonwealth Dairy Structural Adjustment Program (DSAP) is likely to partly offset falls in farm cash income. For example, dairy farmers in NSW are expected to receive average payments of \$20,500 in 2000/01. As payments are directly related to each eligible farm's production of market and manufacturing milk in 1998/99, the exact level will differ from farm to farm. Also, since payments may be divided among partners, sharefarmers, lessees and lessors, the average payment shown in Table 2 may not necessarily all accrue to the current operators of the farm.

TABLE 2

Financial performance, dairy industry (average per farm).

	Unit	1998/99	1999/2000 ^p	2000/01 ^s
Total cash receipts	\$	235,280	238,420	252,000
Total cash costs	\$	167,360	173,670	186,800
Farm cash income	\$	67,920	64,750	65,200
Farms with negative farm cash income	%	5	6	10
Farm business profit	\$	4,855	1,030	-700
Farms with negative farm business profit	%	51	53	60
Profit at full equity				
– excl. cap. appreciation	\$	26,837	22,330	23,400
– incl. cap. appreciation	\$	16,869	-7,760	na
Farm capital at 30 June ^{ab}	\$	1,202,843	1,182,250	na
Farm debt at 30 June ^b	\$	215,155	217,580	na
Change in debt ^b	\$	-2,274	2,710	na
Equity at 30 June ^{bc}	\$	987,689	964,660	na
Equity ratio ^{cd}	%	82	82	na
Rate of return ^e				
– excl. cap. appreciation	%	2.2	1.8	1.9
– incl. cap. appreciation	%	1.4	-0.6	na
Estimated annual payments from DSAP ^f	\$	0	0	14,400

a. Excludes leased plant and equipment.

b. Average per responding farm (For assistance interpreting debt estimates see Australian Farm Surveys Report 2001).

c. Farm capital minus debt.

d. Equity expressed as a percentage of farm capital.

e. Rate of return to farm capital at 1 July.

f. Dairy Structural Adjustment Program (DSAP).

p. Preliminary estimates. s Provisional estimates.

na. Not available.

TABLE 3

Selected physical estimates, Australian dairy industry by state (average per farm).

	Unit	NSW		Victoria		Queensland		Western Australia		
		1998/99 ^e	1999/2000 ^p	1998/99 ^e	1999/2000 ^p	1998/99 ^e	1999/2000 ^p	1998/99 ^e	1999/2000 ^p	
Estimated population	no.	2,052	2,021	8,215	8,131	1,732	1,742	448	441	
Total farm area at 30 June	ha	244	231	171	174	298	315	341	344	
Area harvested – fodder crops	ha	26	25	42	40	17	11	93	97	
– other crops	ha	9	4	1	0	9	9	0	1	
Dairy herd at 30 June	no.	225	231	252	251	184	182	285	286	
Beef herd at 30 June	no.	34	34	24	36	32	45	139	166	
Dairy cows at 30 June	no.	133	140	166	168	112	110	167	149	
Labour used	week	134	135	122	121	148	146	135	129	
Milk production										
Market milk	L	272,557	271,776	53,551	56,184	240,589	221,780	352,960	417,754	
Manufacturing milk	L	334,808	397,776	700,886	757,596	239,903	252,353	504,372	487,893	
Total milk production	L	607,365	669,552	754,436	813,780	480,492	474,134	857,331	905,647	
Milk yield per cow	L/cow	4,426	4,958	4,350	4,697	4,364	4,360	5,326	5,985	
	Unit	South Australia		Tasmania		Australia				
		1998/99 ^e	1999/2000 ^p	1998/99 ^e	1999/2000 ^p	1998/99 ^e	1999/2000 ^p			
Estimated population	no.	816	785	740	724	14,003	13,844			
Total farm area at 30 June	ha	290	343	231	228	213	218			
Area harvested – fodder crops	ha	61	59	48	44	40	38			
– other crops	ha	25	40	10	10	5	5			
Dairy herd at 30 June	no.	219	247	300	279	241	242			
Beef herd at 30 June	no.	13	23	38	40	30	41			
Dairy cows at 30 June	no.	142	151	181	176	154	156			
Labour used	week	135	141	140	136	129	128			
Milk production										
Market milk	L	140,278	143,737	0	0	120,576	122,031			
Manufacturing milk	L	608,952	731,448	790,336	789,715	583,316	633,117			
Total milk production	L	749,230	875,185	790,336	789,715	703,891	755,148			
Milk yield per cow	L/cow	5,233	5,865	3,991	4,004	4,415	4,756			

e Final estimate. p Preliminary estimates.

Year to year changes in both sample and population affect the comparability of estimates between years.

The Northern Territory dairy industry is not listed as there are few or no farms in the Territory.

TABLE 4

Receipts and costs, dairy industry by state (average per farm).

	Unit	NSW		Victoria		Queensland		Western Australia		South Australia		Tasmania		Australia	
		1998/99 ^e	1999/ 2000 ^p	1998/99 ^e	1999/ 2000 ^p	1998/99 ^e	1999/ 2000 ^p	1998/99 ^e	1999/ 2000 ^p	1998/99 ^e	1999/ 2000 ^p	1998/99 ^e	1999/ 2000 ^p	1998/99 ^e	1999/ 2000 ^p
Estimated population	no.	2,052	2,021	8,215	8,131	1,732	1,742	448	441	816	785	740	724	14,003	13,844
Cash receipts															
Total milk receipts ^a	\$	209,608	219,270	195,525	188,530	191,971	178,490	288,093	309,000	219,349	240,230	197,036	177,810	201,578	197,960
Sales															
– dairy cattle	\$	14,131	17,220	12,320	18,580	10,765	13,210	15,604	45,900	13,305	20,780	21,545	24,320	13,043	19,000
– beef cattle	\$	5,359	6,310	5,506	7,620	4,614	9,050	37,264	43,440	3,285	5,370	7,733	17,050	6,378	9,120
– sheep	\$	173	70	6	na	0	0	42	150	999	1,440	1,166	1,690	150	180
– wool	\$	496	250	na	0	0	0	110	1,560	1,791	2,180	273	300	195	230
– crops	\$	4,973	2,490	1,260	380	2,377	2,720	1,851	900	5,218	5,520	26,834	38,400	3,543	3,280
Off-farm contracts	\$	3,804	2,730	287	800	1,262	540	1,206	390	3,364	2,160	7,697	15,840	1,523	1,900
Other cash receipts	\$	7,150	5,820	8,462	5,480	13,065	11,350	11,534	8,750	7,715	8,700	7,982	9,250	8,869	6,750
Total cash receipts	\$	245,695	254,170	223,367	221,390	224,054	215,360	355,704	410,080	255,027	286,390	270,267	284,660	235,280	238,420
Cash costs															
Purchases															
– dairy cattle	\$	3,562	3,580	3,599	3,690	2,658	2,510	5,230	3,130	4,318	5,140	2,489	2,120	3,513	3,510
– beef cattle	\$	705	1,140	599	1,380	61	2,000	4,252	5,540	121	2,090	1,423	2,450	681	1,650
Hired labour	\$	9,974	10,240	5,299	5,870	5,276	5,560	13,664	18,160	7,960	8,980	11,924	13,590	6,754	7,440
Fertiliser	\$	10,760	9,100	14,897	12,360	9,892	6,630	24,987	23,990	11,151	13,920	27,951	23,460	14,466	12,200
Fodder	\$	45,327	45,230	33,594	38,150	45,794	40,670	63,777	59,530	47,116	52,750	20,741	23,030	37,896	40,220
Crop and pasture chemicals	\$	1,093	790	734	590	1,181	1,590	749	1,300	2,053	3,030	2,152	2,170	994	990
Fuel, oil and grease	\$	7,119	7,580	5,415	6,530	7,987	8,670	11,219	9,780	7,808	9,450	10,232	9,760	6,563	7,390
Repairs and maintenance	\$	15,369	15,120	12,953	15,740	17,535	15,220	25,605	28,040	18,821	22,400	22,649	20,930	15,133	16,620
Electricity	\$	5,374	5,400	4,066	4,180	4,385	4,620	6,327	5,470	6,152	6,960	8,168	9,220	4,708	4,880
Dairy supplies	\$	3,221	3,380	4,347	4,440	2,262	2,490	3,862	5,320	3,747	4,430	3,202	2,860	3,813	3,990
Livestock materials	\$	4,457	5,100	4,448	5,850	3,915	4,250	6,380	7,520	5,106	5,690	6,186	7,260	4,575	5,660
Other materials	\$	6,490	6,330	4,159	4,390	4,090	4,120	6,209	8,700	5,391	5,470	11,452	11,040	5,015	5,180
Contracts	\$	3,613	3,810	4,047	4,020	1,590	2,330	2,841	4,630	3,510	3,870	7,514	8,810	3,793	4,040
Rates	\$	5,275	6,450	8,493	8,420	2,268	3,210	8,452	8,430	6,267	6,080	3,117	3,430	6,837	7,080
Milk levies	\$	6,996	7,130	3,440	3,670	8,184	8,670	9,059	10,150	6,602	7,460	2,583	2,600	4,867	5,170
Other services	\$	26,876	27,460	18,137	19,890	18,996	18,560	39,531	43,060	21,012	24,190	20,565	24,260	20,504	22,040
Interest	\$	14,637	14,630	18,457	16,770	12,130	10,480	24,701	29,470	16,691	19,010	21,409	16,690	17,368	16,190
Rent	\$	4,480	4,340	3,772	3,910	2,031	1,300	4,758	11,660	989	3,970	6,331	4,780	3,665	3,940
Payment to sharefarmers	\$	5,589	4,230	6,533	5,910	na	0	3,071	na	11,227	12,130	4,724	6,870	5,654	5,140
Other cash costs	\$	427	110	551	10	446	580	68	420	1,368	3,550	730	560	561	340
Total cash costs	\$	181,344	181,150	157,543	165,780	150,682	143,460	264,743	284,300	187,411	220,570	195,542	195,870	167,360	173,670

a To put all states on a comparable basis, total milk receipts are shown net of milk freight, and freight costs are excluded from cash costs. e Final estimate. p Preliminary estimates.

Year to year changes in both sample and population affect the comparability of estimates between years.

The Northern Territory dairy industry is not listed as there are few or no farms in the Territory.

TABLE 5

Financial performance measures, Dairy industry by state (average per farm).

	Unit	NSW			Victoria			Queensland			Western Australia		
		1998/99 ^e	1999/2000 ^p	2000/01 ^s	1998/99	1999/2000	2000/01	1998/99	1999/2000	2000/01	1998/99	1999/2000	2000/01
Components of investment returns													
Total cash receipts	\$	245,695	254,170	236,000	223,367	221,390	244,600	224,054	215,360	195,900	355,704	410,080	449,400
less total cash costs	\$	181,344	181,150	186,300	157,543	165,780	179,600	150,682	143,460	141,600	264,743	284,300	320,300
Farm cash income	\$	64,352	73,020	49,700	65,823	55,610	65,000	73,371	71,900	54,300	90,961	125,780	129,100
plus buildup in trading stocks	\$	8,313	4,690	3,500	2,935	4,580	5,700	5,766	6,650	2,000	10,929	-17,290	4,500
less depreciation	\$	18,154	19,580	22,600	21,091	19,780	20,700	19,711	19,150	20,500	35,158	32,460	44,400
less operator and family labour	\$	44,891	48,120	50,000	45,825	45,610	45,700	55,333	56,270	61,400	44,494	42,270	48,700
Farm business profit^a	\$	9,620	10,010	-19,400	1,843	-5,200	4,400	4,094	3,130	-25,500	22,239	33,760	40,600
Profit at full equity	\$	30,586	30,650	3,400	24,547	16,270	29,600	20,517	16,180	-13,800	54,023	81,190	81,500
plus capital appreciation	\$	-3,645	-78,920	na	7,530	-6,010	na	-93,785	-50,440	na	-116,285	-317,710	na
Profit at full equity, incl. capital appr.	\$	26,941	-48,270	na	32,077	10,260	na	-73,268	-34,260	na	-62,263	-236,530	na
Farm capital at 1 July	\$	1,474,770	1,400,980	1 392 600	1,151,506	1,131,820	1,104,600	1,067,856	1,019,530	1 059,000	2,824,394	2,887,060	3,391,500
Rate of return													
– excluding capital appreciation	%	2.1	2.2	0.2	2.1	1.4	2.7	1.9	1.6	-1.3	1.9	2.8	2.4
– including capital appreciation	%	1.8	-3.4	na	2.8	0.9	na	-6.9	-3.4	na	-2.2	-8.2	na
Other financial items													
Net capital purchases	\$	24,289	14,040	na	14,385	15,190	na	24,768	31,930	na	70,361	32,340	na
Farm capital at 30 June ^{ab}	\$	1,418,017	1,306,670	na	1,147,435	1,135,680	na	957,950	976,800	na	2,721,486	2,549 130	na
Farm business debt at 30 June ^b	\$	191,199	203,030	na	225,549	227,640	na	147,322	133,670	na	356,354	376,830	na
Change in debt over year ^b	\$	1,227	4,990	na	-4,703	3,650	na	-9,951	-3,330	na	20,905	8,420	na
Farm business equity at 30 June ^b	\$	1,226,819	1,103,640	na	921,886	908,050	na	810,628	843,130	na	2,365,132	2,172,300	na
Farm business equity ratio at 30 June ^b	%	87	84	na	80	80	na	85	86	na	87	85	na
Farm liquid assets at 30 June ^c	\$	25,075	23,940	na	29,413	39,970	na	41,277	42,460	na	95,364	144,270	na
Off-farm income ^c	\$	9,373	6,980	na	8,431	9,320	na	9,595	10,980	na	7,729	6,900	na
Estimated annual payment from DSAP ^d	\$	na	na	20,500	na	na	12,000	na	na	15,700	na	na	28,900

	Unit	South Australia			Tasmania			Australia		
		1998/99 ^e	1999/2000 ^p	2000/01 ^s	1998/99	1999/2000	2000/01	1998/99	1999/2000	2000/01
Components of investment returns										
Total cash receipts	\$	255,027	286,390	340,200	270,267	284,660	275,400	235,280	238,420	252,000
less total cash costs	\$	187,411	220,570	260,800	195,542	195,870	203,300	167,360	173,670	186,800
Farm cash income	\$	67,616	65,820	79,400	74,724	88,790	72,200	67,920	64,750	65,200
plus buildup in trading stocks	\$	11,395	9,680	4,400	3,511	-4,010	1,900	4,853	4,000	4,700
less depreciation	\$	20,525	22,400	26,400	21,727	21,580	23,000	20,940	20,320	22,100
less operator and family labour	\$	46,952	49,110	52,500	47,534	45,500	46,100	46,977	47,400	48,500
Farm business profit^a	\$	11,534	4,000	4,900	8,974	17,700	5,000	4,855	1,030	-700
Profit at full equity	\$	30,020	28,370	35,300	36,690	39,640	28,700	26,837	22,330	23,400
plus capital appreciation	\$	18,848	2,750	na	6,969	24,260	na	-9,967	-30,100	na
Profit at full equity, incl. capital appr.	\$	48,868	31,120	na	43,659	63,900	na	16,869	-7,760	na
Farm capital at 1 July	\$	966,985	1,073,460	1,226,100	1,104,026	1,138,260	1,186,500	1,228,777	1,209,950	1,223,400
Rate of return										
– excluding capital appreciation	%	3.1	2.6	2.9	3.3	3.5	2.4	2.2	1.8	1.9
– including capital appreciation	%	5.1	2.9	na	4.0	5.6	na	1.4	-0.6	na
Other financial items										
Net capital purchases	\$	41,763	51,370	na	44,135	25,060	na	22,079	20,240	na
Farm capital at 30 June ^{ab}	\$	1,003,388	1,095,370	na	1,090,291	1,110,910	na	1,202,843	1,182,250	na
Farm business debt at 30 June ^b	\$	204,308	230,480	na	250,231	235,100	na	215,155	217,580	na
Change in debt over year ^b	\$	10,874	16,060	na	4,605	-17,640	na	-2,274	2,710	na
Farm business equity at 30 June ^b	\$	799,080	864,890	na	840,060	875,810	na	987,689	964,660	na
Farm business equity ratio at 30 June ^b	%	80	79	na	77	79	na	82	82	na
Farm liquid assets at 30 June ^c	\$	13,884	9,070	na	19,969	38,770	na	31,010	40,120	na
Off-farm income ^c	\$	9,785	8,440	na	6,181	5,880	na	8,646	8,860	na
Estimated annual payment from DSAP ^d	\$	na	na	17,500	na	na	8,600	na	na	14,400

a Excludes leased plant and equipment. b Average per farm responding on debt. c Average per responding farm. d Dairy Structural Adjustment Program (DSAP).

e Final estimate. p Preliminary estimates. s Provisional estimate. na Not available. ns Not supplied, the value is greater than 999.

Year to year changes in both sample and population affect the comparability of estimates between years.

The Northern Territory dairy industry is not listed as there are few or no farms in the Territory.



**DAIRY RESEARCH
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FOR MORE INFORMATION

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