Dairy Australia

Dairy Farm Monitor Project

South Australia Annual Report 2024-25

Delivering for Dairy

Acknowledgements

Participants

To continuing and returning participants and those new to the project, thank you for your participation, including all your efforts in supplying data for the 2025 Dairy Farm Monitor Project.

Project participants were selected based on a distribution of farm size, feeding system, herd size and geographical location within each region and results should not be viewed as a representation of the entire South Australian dairy farm population.

Report

The report was prepared by Fiona Smith (F. Smith Agribusiness Consulting) in conjunction with Dairy Australia.

Contributors/data collectors

Greg Mitchell (FPAG), Chris Scheid (Moore Australia) and Fiona Smith (F. Smith Agribusiness Consulting).

These people collected farm data and provided feedback and validation to ensure the accuracy and integrity of the information.

The diligent work of Dairy Australia's consultant analysts Fiona Smith and Kerry Kempton, who conducted data checking, validation and analysis is much appreciated.

Appendix tables

The appendices at the end of this report provide detailed metrics on the historical physical and financial performance and efficiency for the average of the South Australian project participants.

Further information

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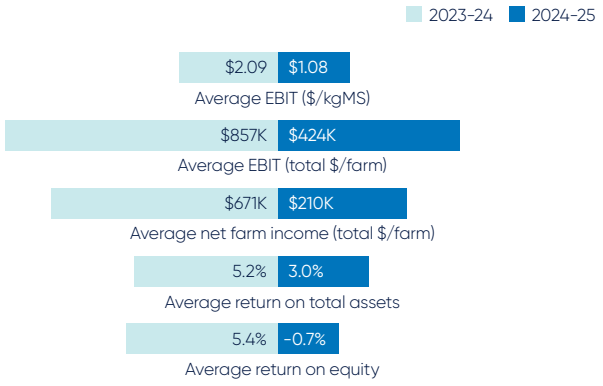
Executive summary

In 2024-25 the average South Australia Farm Monitor profitability decreased to the fourth lowest, on a $ per kilogram milk solids basis (accounting for inflation) on the back of extremely challenging seasonal conditions.

Directly grazed pasture decreased with feed inventory declining across the year as participant farms used reserves to offset the lack of available grazed feed.

Average milk price decreased to $9.46/kg MS, which combined with a $0.25/kg MS drop in livestock trading profits, $0.21/kg MS increase in variable costs and $0.25/kg MS increase in overhead costs contributed to a 48 per cent decline in profit for the year.

South Australia



Average profits for participants in South Australia decreased by 48 per cent to $1.09 per kilogram milk solids ($/kg MS) largely on the back of extremely dry conditions, with annual rainfall 31 per cent below the long-term average across participant farms.

Lower milk prices and a further reduction in livestock trading profits, compared to 2023-24, resulted in a decrease in gross farm income to $9.97/kg MS, just above the 13 year average of $9.72/kg MS (adjusted for inflation).

With all participant farms experiencing below average rainfall, and some having the driest year on record, fodder purchases increased 31 percent, on the back of both higher quantities purchased and higher prices.

When combined with an increase in total feed costs and overhead costs, this resulted in a decrease in overall profitability to $1.09/kg MS which is the fourth lowest (adjusted for inflation) in the 13 years of DFMP in South Australia.

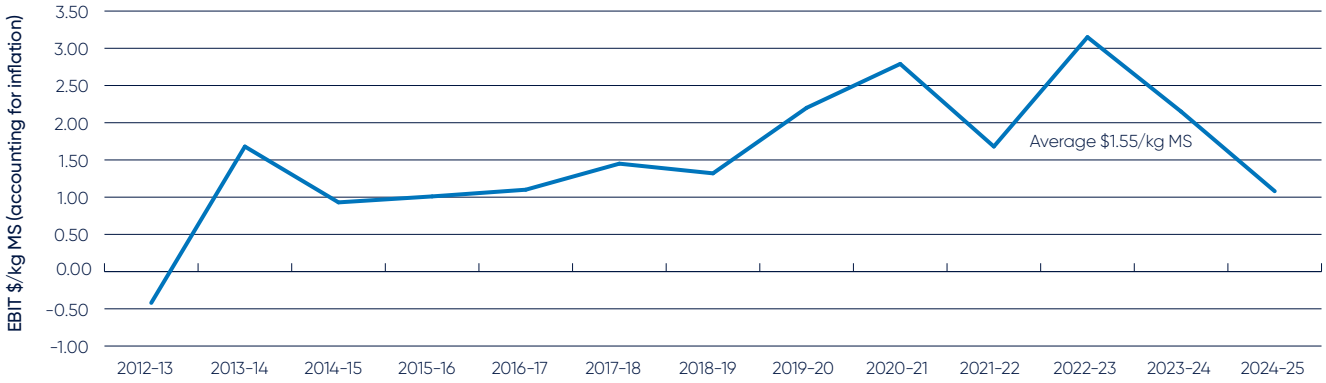
Financing costs continued to rise on the back of continued increases in debt levels across participant farms with average equity dropping from 83 per cent last year to 76 per cent this year.

Whilst average homegrown feed was similar to the 2023-24 year on milking area, it was 9 per cent down on usable area with the proportion of homegrown feed dropping from 55 to 50 per cent which is the lowest level seen in the history of the project in South Australia.

Overhead costs increased on last year to the fifth highest (adjusted for inflation) largely on the back of increased imputed labour and depreciation costs as farms invest in further capital infrastructure for the future.

How does 2024-25 compare?

Historical profitability



Average profit (per kg milk solids) in 2024-25 was below the long-term average for South Australia.

Total average profits declined 52 per cent from last year to $423,569, which was below the long-term average of $478,311 (adjusted for inflation).

Milk price

Milk price declined 4 per cent in 2024-25 with milk income contributing on average, 95 per cent of gross farm income. This was an increase on last year caused by the continued decrease in contribution of livestock trading profits to gross farm income due to declining trading conditions compared to last year.

South Australia ↓ 4%
to $9.46/kg MS

Expectations for profit in 2025-26

The majority (60%) of participant farms were expecting farm business returns to improve in the coming 12 months with the remaining 40 per cent of participants expecting similar returns in 2025-26 on the back of the majority of participants thinking milk production and prices would remain stable and fodder production would increase. Climate and seasonal conditions were identified by participants as the greatest risk to their business for the coming 12 months with milk price and input costs being the most important factors over the next 5 years.

Greenhouse gas emissions

The average net greenhouse gas emissions for South Australian dairy farm monitor participants were 4,217 tonnes of carbon dioxide equivalents per farm in 2024-25. This was a decrease on the previous year, likely due largely to the change in participant farms and drop in average herd size compared to last year. Emissions intensity decreased to 0.88t CO_2-e/t FPCM.

South Australia overview

State-wide, average profitability in South Australia decreased by 48 per cent to $1.08/kg MS. Further declines in livestock trading profits by 36 per cent to only 4 per cent of gross farm income combined with an 8 per cent increase in overhead costs were the main drivers of the decrease in Earnings before interest and tax (EBIT).

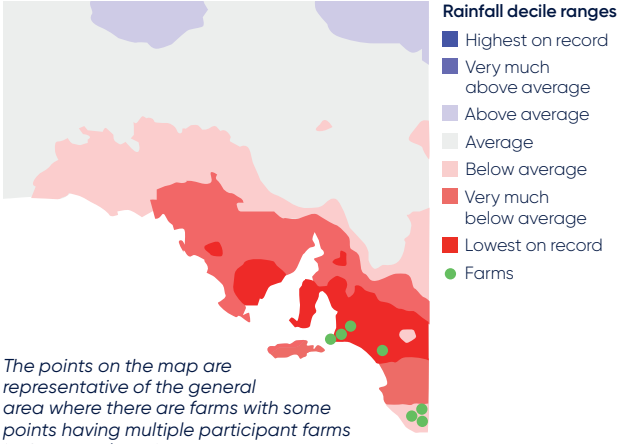
Profitability was again hampered by dry seasonal conditions, although late spring rains provided some relief to farmers with participants managing to increase conserved feed on milking area compared to 2023-24. The proportion of homegrown feed in the diet fell to 50 per cent, which is the lowest level in the 13 years of the project with feed inventories continuing to be drawn down to fill the gap where grazed feed was not available.

Total overhead costs increased by 8 per cent compared to 2023-24 with the biggest increases coming from insurance, on the back of significant increases in premiums, imputed labour and depreciation, on the back of substantial capital development on some farms.

Dairying in South Australia

There were approximately **166** dairy farm businesses in SA that produced **471 million litres** or **5.7 per cent** of Australia's national milk production in 2024-25.

Dairy Farm Monitor Project farm locations and rainfall in 2024-25



The points on the map are representative of the general area where there are farms with some points having multiple participant farms in the same location.

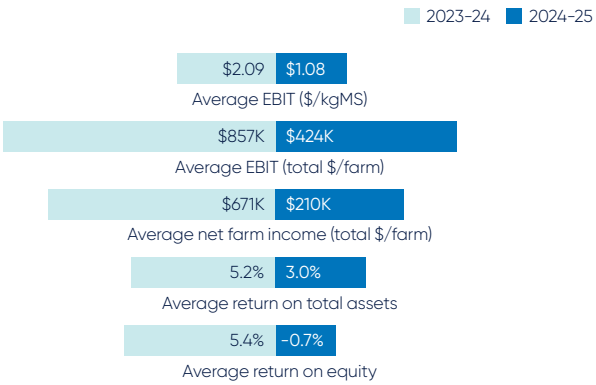
Physical farm characteristics

The average herd size in South Australia decreased to 498 cows, largely on the back of a change in participant farms rather than indicating a particular trend for the State. Milk produced per cow increased from 575kg MS/cow to 597kg MS/cow. Farms grazed less feed on their milking areas this year on the back of below average rainfall, with a subsequent drop in the proportion of homegrown feed in the diet.

Average herd size	Milk solids sold	Homegrown feed
↓23%	↑4%	↓9%
498 cows	597kg MS/cow	50% of metabolisable energy consumed

Profitability

In 2024-25, 90 per cent of SA participants recorded a positive profit



In 2024-25 farm profitability for the state has been influenced by:

↓4%
in average milk price to **$9.46/kg MS**

↓10%
in herd costs to **$0.36/kg MS**

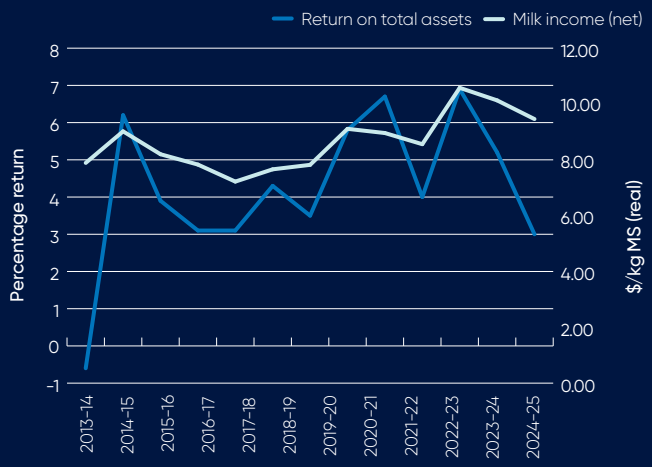
↓6%
in shed costs to **$0.30/kg MS**

↑5%
in total feed costs to **$4.80/kg MS**

↑8%
in overhead costs to **$3.43/kg MS**

The drop in milk price, combined with increased variable and overhead costs, resulted in a decrease in average farm profit on a dollars per kilogram milk solids basis to the fourth lowest on record, accounting for inflation.

Return on total assets and milk price



Physical parameters and seasonal conditions

Seasonal conditions were extremely challenging across the state with all participant farms receiving below average rainfall in 2024-25, resulting in a late start to grazing in both 2024 and 2025.

Seasonal conditions throughout the year resulted in a decrease in grazed feed on milking platforms, with an increase in purchased fodder to fill the gap.

Farm systems have remained similar, although the proportion of homegrown feed in the diet dropped to the lowest in the thirteen-years of the project on the back of low rainfall.

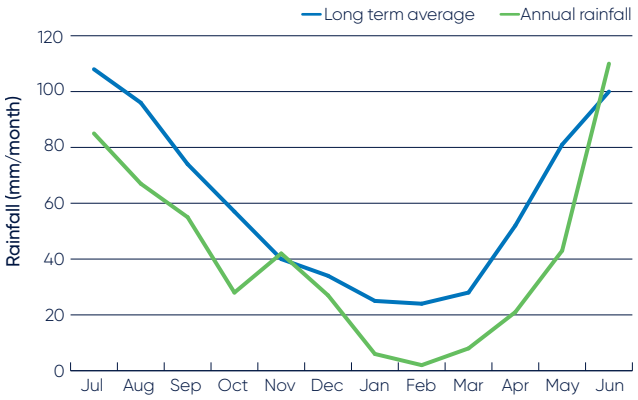
SA pasture based dairy production

Dairying in South Australia is predominantly pasture based, with 50 per cent of all consumed metabolisable energy home grown across participant farms. Spring and autumn rainfall are important as is the availability of adequate water across irrigation areas.

Rainfall

Below average autumn and winter rainfall in 2024 significantly impacted the ability to graze feed for the first half of the year. Late spring rain was again followed by below average summer and autumn rainfall which impacted both the physical and financial performance across South Australia. The preceding conditions as well as the conditions prevalent in a particular month influence feed availability and conditions to harvest pastures and crops as well as their timely renovation or sowing.

Figure 1 Monthly rainfall 2024-25

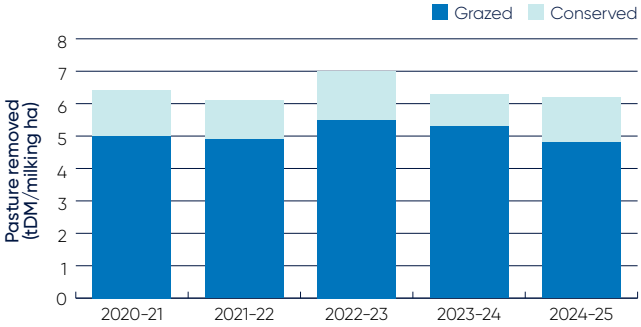


Below average rainfall throughout 2024-25 (Figure 1) resulted in reduced tonnages of homegrown feed on farms. Late spring rain assisted with an increase in conserved feed but the season cut out quickly with some farms feeding silage to milkers less than a month after conserving it. Below average rainfall across the year resulted in an increase in purchased fodder to sustain milk production on farm.

Feed consumption and harvest

Whilst grazed feed was 0.5t DM/milking ha lower than last year, the conserved feed on milking area increased by 0.4t DM resulting in only a small drop in overall homegrown feed on milking area from 6.3 to 6.2t DM. (Figure 2). The proportion of concentrates consumed in the diet remained stable whilst there was an increase in fodder as a proportion of the diet, on the back of decreased availability of grazed feed.

Figure 2 Estimated tonnes of homegrown feed removed

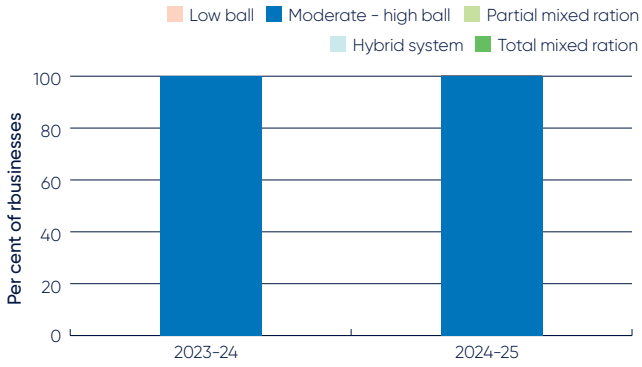


Feeding system

Moderate to high bail feeding systems were the only feeding systems utilised by participant farms again in 2024-25 (Figure 3). This is based on the business decision of the individual participant farms this year, rather than necessarily showing a particular trend in the South Australian farming systems.

South Australia is predominantly reliant on perennial pasture species, comprising approximately 77 per cent of pastures on average, with the remaining portion made up of annuals.

Figure 3 Type of feeding systems



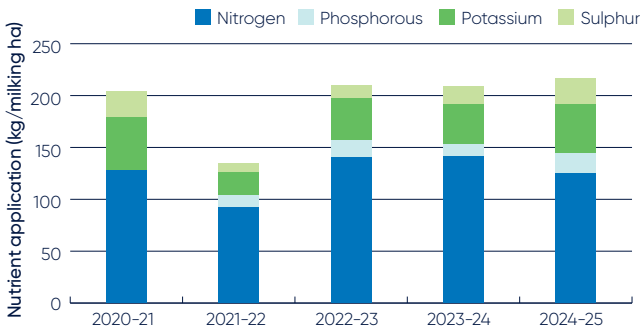
Fertiliser application

Total nutrient application on the milking area increased marginally on 2023-24 although there was a decrease in the kilograms of nitrogen applied largely on the back of low rainfall. Some of the increase across other nutrients may be due to the timing of fertiliser applications given the late autumn breaks in both 2024 and 2025.

In comparison to the previous year, Figure 4 shows that in 2024-25:

- Nitrogen applied was 125 kg/ha, an 11 per cent decrease.
- Phosphorous applied was 20 kg/ha, a 66 per cent increase.
- Potassium applied was 47 kg/ha, a 21 per cent increase.
- Sulphur applied was 25 kg/ha, a 47 per cent increase.

Figure 4 Nutrient application

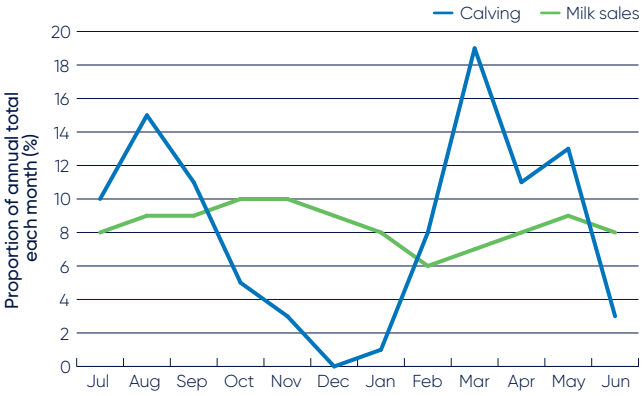


Milk solids sold

South Australian participant farms, on average, decreased the level of total milk production on farm due to a decrease in average herd size, although this was offset marginally by an increase in milk production per cow.

Milk production reflects the seasonal nature of calving. Calving pattern determines milk production and subsequently the milk payment system available to participant farms (Figure 5).

Figure 5 Monthly distribution of milk sales and calving



Calving pattern

South Australia is characterised by split calving (spring and autumn) as shown in Figure 5. The calving pattern determines the feed requirements on farm with some farms electing to calve year-round. The lowest proportion of cows calving occurs across the hotter summer months.

Whole farm analysis

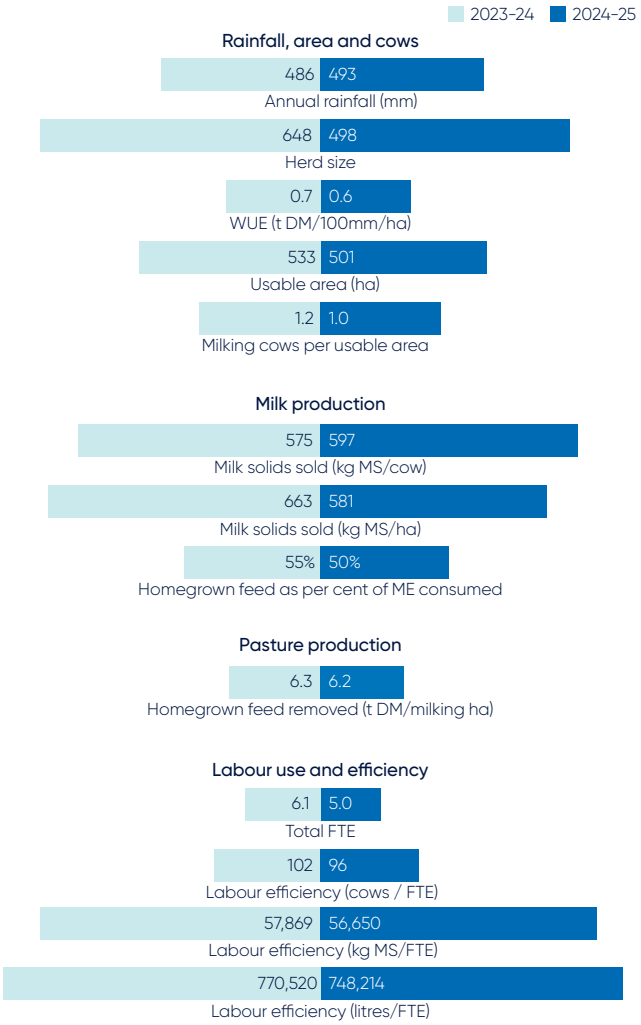
Earnings Before Interest and Tax (EBIT) was positive on 90 per cent of participating farms.

Milk price decreased 4 per cent to $9.46/kg MS with livestock trading profit decreasing by 36 per cent to $0.44/kg MS.

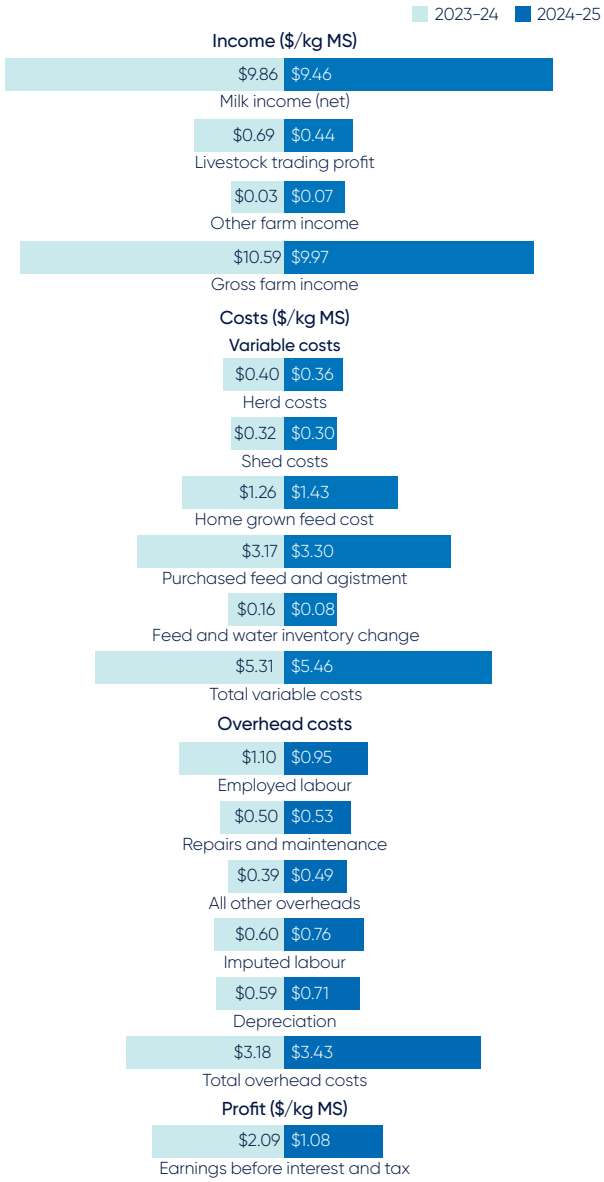
Variable costs increased by 3 per cent, on the back of higher purchased and homegrown feed costs, with overhead costs increasing by 8 per cent, on the back of increased insurance, imputed labour and depreciation costs.

Increased interest costs, driven by increased borrowings, put additional pressure on farm finances.

Physical parameters



Financial parameters



Gross farm income

Gross farm income decreased by 6 per cent to $9.97/kg MS, the seventh highest for South Australia in the thirteen-year history of DFMP (accounting for inflation). Decreasing livestock trading profits was the main reason it declined on last year.

Variable costs

Variable costs increased by $0.15/kg MS with higher homegrown and purchased feed costs contributing to the increase.

Homegrown feed costs increased by $0.17/kg MS with fertiliser contributing $0.05/kg MS, pasture and crop costs and irrigation contributing $0.04/kg MS each and hay and silage contributing $0.03/kg MS. Whilst some of these increases were inflationary some was also the result of the seasonal conditions with resowing required on some farms and hay and silage higher as farms tried to conserve feed across spring which was one of the only periods they had growth across the year.

Purchased feed costs increased $0.13/kg MS, on the back of higher proportions of fodder in the diet, to replace grazed feed, and increased fodder prices due to poor seasonal conditions across South Australia and other parts of Australia.

The below average rainfall also resulted in the majority of farms drawing down feed inventories across the year.

Both herd and shed costs decreased, predominantly on the back of decreases in AI and herd test costs and dairy supplies in the respective cost categories.

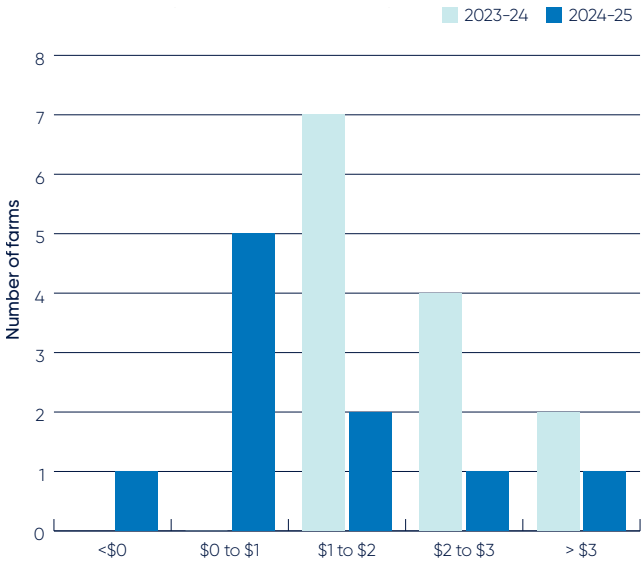
Overhead costs

Total overhead costs increased on average by 8 per cent in 2024-25 with increased spending in all areas except employed labour which decreased. Conversely, imputed labour increased by $0.16/kg MS on the back of an increase in average imputed labour units across participant farms. Depreciation increased by $0.12/kg MS on the back of increased capital purchases across both plant and equipment and on farm development such as dairy and irrigation improvements. Farm insurance was up 38 per cent as farms continue to experience increased premiums.

Earnings before interest and tax

In 2024-25, 90 per cent of participants had a positive EBIT (Figure 6). Average EBIT per farm (total dollars) was the seventh highest in the 13 years of the DFMP, accounting for inflation. Average EBIT ($/kg MS) was lower year-on-year and the fourth lowest on record, accounting for inflation.

Figure 6 Average EBIT per kg MS



Return on total assets and equity

A positive return on total assets (ROTA) was recorded for 90 per cent of participants (Figure 7). In 2024-25 average ROTA decreased to 3.0 per cent compared to 5.2 per cent the previous year. The lower returns were predominantly a result of lower total EBIT across participant farms.

Average return on equity (ROE) in 2024-25 decreased to -0.7 per cent relative to the previous year at 5.4 per cent dropping below the long-term average of 4.2 per cent. Forty per cent of the farms had a negative return on equity meaning their EBIT was not sufficient to cover their interest and lease costs for the year.

Equity levels on average decreased from 83 to 76 per, partly on the back of an increase in average total liabilities across participant farms and partly due to a change in participant farms across the dataset.

Figure 7 Average returns – ROTA and ROE

Note: One farm operates with a high proportion of leased assets and had a negative return on equity that distorts the spread on the graph so it has been removed.

Business confidence

The majority (60%) of participant farmers expected improving business returns in the coming 12 months (2025-26).

The majority of participant farms expected milk price and milk production to remain stable with only 20 per cent expecting to increase milk production.

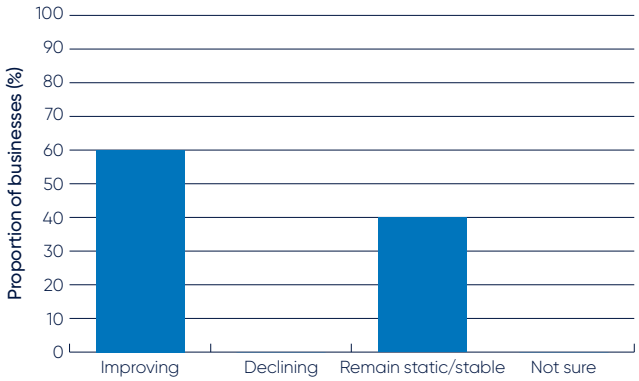
Ninety per cent of farms expected fodder production to increase on the back of expected improvements in seasonal conditions with pasture/fodder being noted as the most important issue for the coming 12 months.

Participants expected most costs to remain stable although they are predicting a drop in purchased feed costs and an increase in fertiliser costs as they try to drive increased homegrown feed production after such a dry year.

Expectations for business profit 2025-26

The participant survey considers different aspects of farming, from climate outlook to expectations about market conditions for dairy products. Expectations for business profit in the coming year showed 60 per cent of farms are expecting returns to improve whilst the remaining 40 per cent are expecting returns to remain stable (Figure 8).

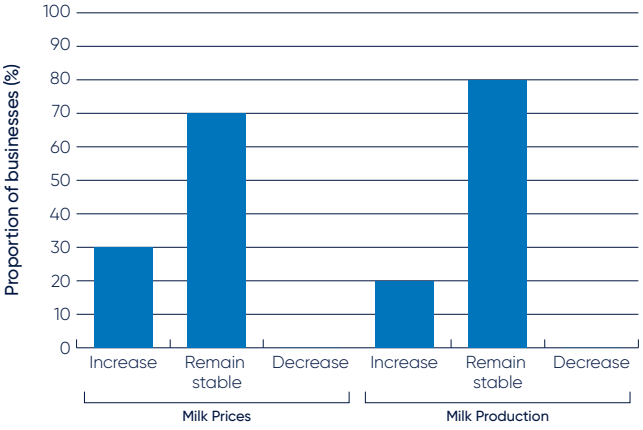
Figure 8 Expected change to farm business profit in 2025-26



Price and production expectations – milk

Participants were largely expecting milk prices to remain stable with 80 percent expecting to sustain current milk production and a further 20 per cent expecting to increase current milk production levels. This is mainly due to the timing of milk price announcements (1 June), with farmers having more informed choices on their milk factory at the time of the DFMP survey (August-October 2025). Seventy per cent predicted milk price would remain stable in 2025-26 (Figure 9).

Figure 9 Producer expectations of milk prices and production in 2025-26



Production expectations – fodder

Fodder production in 2025-26 was expected to increase for 90 per cent of participant farms with 10 per cent expecting it to remain stable. The positive outlook comes on the back of continued dry seasonal conditions in 2024-25 and an optimism that 2025-26 will be better than the past two years. (Figure 10).

Cost expectations

Fertiliser was the only cost category that participants predicted would increase in 2025-26, with purchased feed costs expected to decrease, both on the back of optimism that the current seasonal conditions would allow an increase in fertiliser applications and thus homegrown feed and a reduction in purchased feed. The majority of participants thought the remaining cost categories would remain stable for the coming year (Figure 11).

Comments from participants

Participant farms again raised concerns about increasing government regulations, and a number expressed concerns about proposed changes to water access noting the significant impact that would have on their businesses if some was taken away.

A number of participants remarked on the benefits of participating in DFMP and their ability to use the data to improve their business performance.

Figure 10 Producer expectations of fodder production in 2025-26

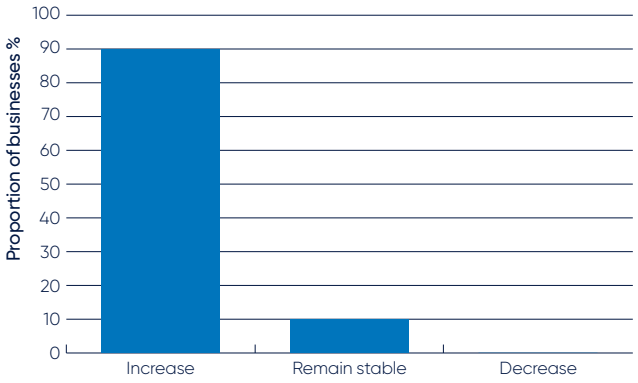
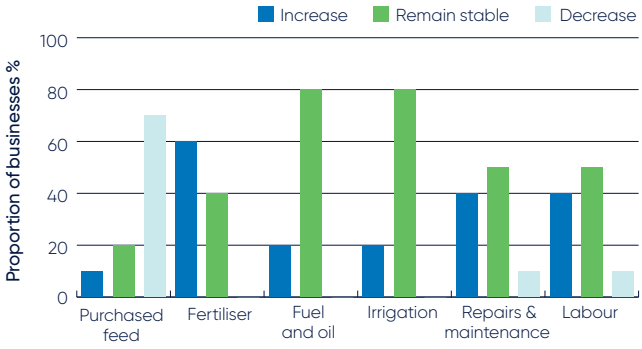


Figure 11 Producer expectations of costs for the dairy industry in 2025-26



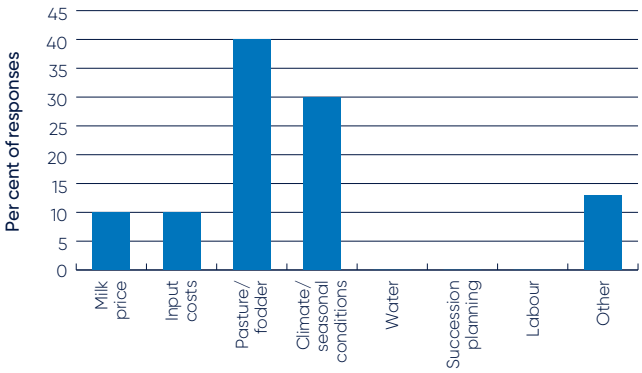
Issues of importance to dairy businesses

Participants were asked to rank issues based on the level of importance to their business – with a ranking of (1) being most important and (8) being least important. The results are shown in Figure 12 for the short-term issues and Figure 13 for medium term issues.

Short term issues – Next 12 months

The most important issues in the coming 12 months were predicted to be pasture and fodder and climate and seasonal conditions with 40 per cent and 30 per cent of respondents respectively ranking these as number one which was not surprising given the below average rainfall received for the past two years.

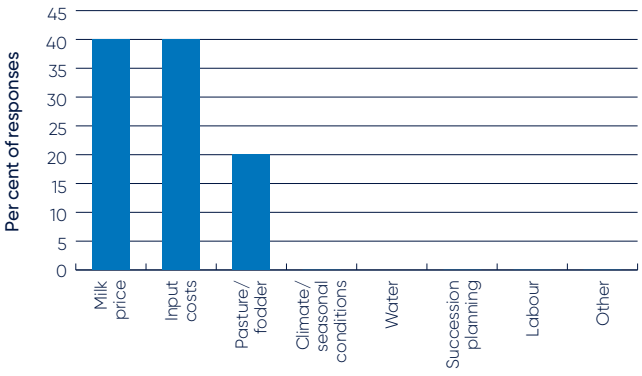
Figure 12 Major issues for individual businesses – 12-month outlook



Medium to long term issues – Next five years

Milk price and input costs are the major consideration for participants farms with 40 per cent of respondents ranking each of these number one followed by pasture and fodder as the only other key issue ranked number one by 20 per cent of respondents.

Figure 13 Major issues for individual businesses – Five-year outlook



2024-25 Greenhouse gas emissions

The average carbon footprint for South Australian farm monitor farms was 4,217 tonnes of carbon dioxide equivalents (t CO_2-e) per farm in 2024-25.

Emissions intensity decreased from 0.90 in 2023-24 to 0.88t CO_2-e/t FPCM.

Notes on GHG emission estimates

The greenhouse gas (GHG) emissions data presented in this project provides valuable insight for those calculating GHG emissions while also informing options for emission reduction.

Greenhouse gas emission estimates are calculated using the Australian Dairy Carbon Calculator V5.1 embedded within DairyBase. Data from all years was analysed using the same accounting framework.

Tracking an individual dairy farm's GHG emissions over time provides reliable, farm-specific data for developing strategies to reduce their carbon footprint These estimates reflect a range of DFMP participant farm profiles and should not be taken as representative of the dairy industry.

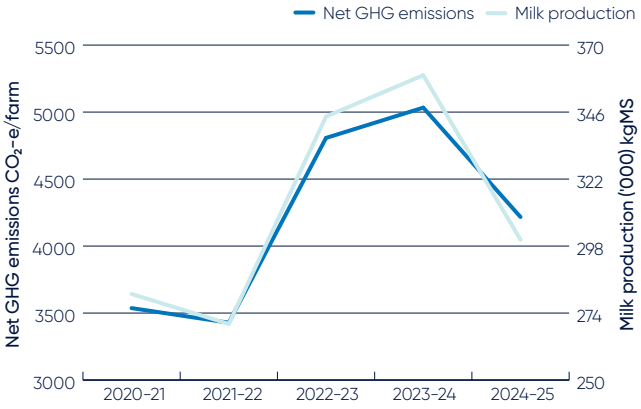
Total emissions

Average net greenhouse gas (GHG) emissions in 2024-25 decreased to 4,217 tonnes of carbon dioxide equivalent (Table 1 and Figure 14). This decrease was on the back of a drop in herd sizes, largely due to some bigger farms not taking part in the project this year.

All sources of GHG emissions decreased in 2024-25 compared to the previous year. Methane from enteric (ruminant) sources was the largest contributor, making up around 68 per cent of total farm emissions across all participant farms. Pre-farm emissions decreased (fertiliser manufacture, production of purchased fodder, grain and concentrates) and carbon dioxide emissions from fossil fuel consumption on farm (electricity, petrochemicals and/or fuel from contractors) also decreased.

Carbon capture and storage from trees is accounted for in average net emissions. Unless there are new plantings or land acquisitions with tree plantations, the amount of carbon sequestered on a farm will decrease as the trees increase in age, gradually lowering the quantity of sequestered carbon.

Figure 14 Estimated average net farm GHG emissions and milk solid production between 2020-21 and 2024-25 (CO_2 equivalent)

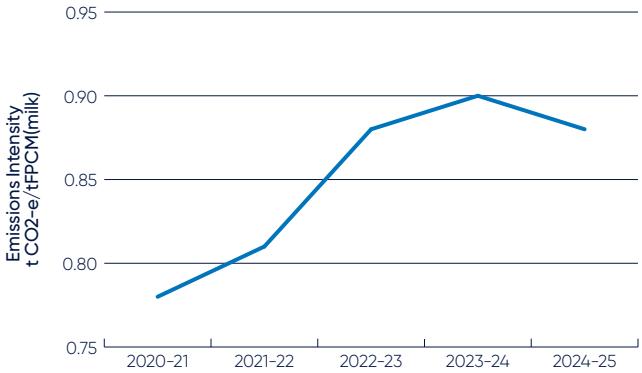


Emissions intensity

The emissions intensity allocated to milk production (once meat production is considered), decreased from 0.90 to 0.88t CO_2-e/t FPCM and has fluctuated over the years (Figure 15 and Table 1). Emissions intensity is calculated by dividing total emissions by the amount of fat and protein corrected milk (FPCM); standard of 4.0% fat and 3.3% protein. Regional and farm variation was also observed over this period.

Emissions intensity allocated to meat production declined relative to the previous year as farmers sold more livestock which helps to lower meat emissions intensity (kg CO_2-e/kg LWT). This was largely driven by the challenging seasonal conditions.

Figure 15 Estimated average emissions intensity between 2020-21 and 2024-25 (CO_2 equivalent)



Note

Greenhouse gas emission estimates are calculated using the **Australian Dairy Carbon Calculator** embedded within DairyBase.

Table 1 Estimated average GHG emissions and intensity between 2020-21 and 2024-25 (CO_2 equivalent)

Emission source	Units	2020-21	2021-22	2022-23	2023-24	2024-25
Sample size		16	14	15	14	10
Methane	t CO_2-e/farm	2,426	2,399	3,297	3,479	2,886
Pre-farm	t CO_2-e/farm	439	388	586	640	544
Nitrous oxide	t CO_2-e/farm	420	395	582	562	458
Carbon dioxide	t CO_2-e/farm	252	246	353	377	349
Tree carbon	t CO_2-e/farm	N/A	-0	-10	-26	-22
Net GHG emissions	t CO_2-e/farm	3,537	3,428	4,807	5,033	4,217
Emissions intensity	t CO_2-e/FPCM (milk)	0.78	0.81	0.88	0.90	0.88
Emissions intensity	t CO_2-e/t MS (milk)	11.0	11.3	12.3	12.6	12.3
Emissions intensity	t CO_2-e/kg lwt (meat)	4.0	4.5	4.9	4.9	4.7

How does 2024-25 compare?

Profits per farm averaged $423,569 across the state, below the long-term DFMP average of $478,311. The average profit of $1.08/kg MS was the fourth lowest in 13 years (accounting for inflation).

Gross farm income decreased by 6 per cent to $9.97/kg MS, the seventh highest in the 13-year history of DFMP (accounting for inflation), driven by a decline in livestock trading in 2024-25.

Increased feed costs, on the back of continued poor seasonal conditions, contributed to the highest variable costs seen across the history of the project.

The decrease in EBIT resulted in a decrease in return on total assets to 3 per cent.

Average total farm profit (EBIT) in 2024-25 was the seventh highest (accounting for inflation) since the start of the DFMP in 2012-13 (Figure 15). Average EBIT was $423,569 in 2024-25, compared to the long-term average of $478,311. Net farm income was $210,290 in 2024-25, compared to the long-term average of $329,460.

Average ROTA was 3 per cent in 2024-25, decreasing from 5.2 per cent the previous year (Figure 16), which is the second lowest in the last 13 years. The average ROE decreased to -0.7 per cent in 2024-25 from 5.4 per cent in 2023-24. This is compared to the long-term average of 4.2 per cent.

Figure 16 Farm profitability between 2012-13 and 2024-25

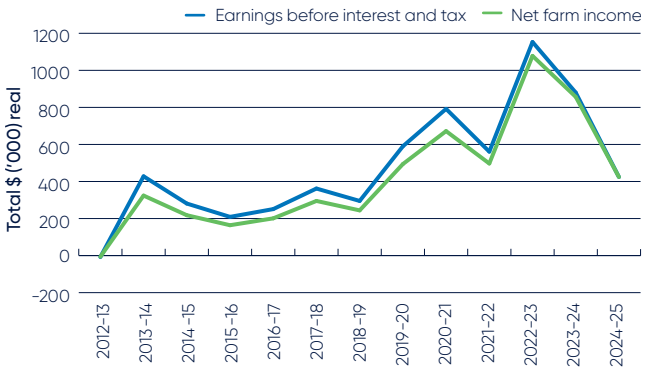
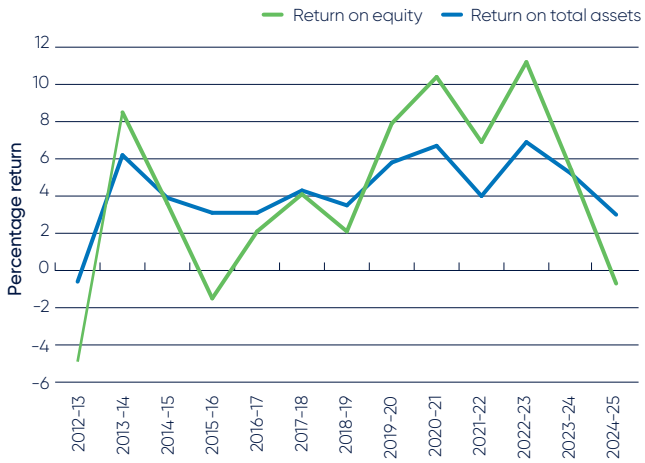


Figure 17 Whole farm performance between 2012-13 and 2024-25



Appendices

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Table A6 Capital structure

Farm assets				
	Land value	Land value	Permanent water value	Permanent water value
	$/ha	$/cow	$/ha	$/cow
Average	19,775	22,915	1,577	1,410

Other farm assets (per usable hectare)				
Plant and equipment	Livestock	Hay and grain	Other assets	Total assets
$/ha	$/ha	$/ha	$/ha	$/ha
1,708	2,970	184	310	26,523

Liabilities		
Liabilities per usable hectare	Liabilities per milking cow	Liabilities per kgMS
$/ha	$/cow	$/kgMS
5,968	5,902	9.98

Equity	
Equity per usable hectare	Average equity
$/ha	%
20,555	76

Calculation of average values of land, water asset and equity excludes zero values

Table A7 Historical data – average farm income, costs and profit per kilogram of milk solids

	Income				Variable costs							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
Year	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)
2012–13	5.83	7.89	6.40	8.66	0.32	0.43	0.28	0.38	2.96	4.00	3.56	4.82
2013–14	6.83	9.01	7.74	10.22	0.30	0.40	0.26	0.34	3.04	4.01	3.61	4.76
2014–15	6.35	8.19	7.03	9.07	0.29	0.37	0.22	0.28	3.28	4.23	3.79	4.89
2015–16	6.15	7.83	7.10	9.04	0.34	0.43	0.24	0.31	3.13	3.99	3.71	4.72
2016–17	5.78	7.22	6.75	8.44	0.40	0.50	0.27	0.34	2.49	3.11	3.16	3.95
2017–18	6.24	7.66	7.08	8.69	0.31	0.38	0.29	0.36	2.80	3.44	3.40	4.17
2018–19	6.46	7.82	7.32	8.86	0.29	0.35	0.24	0.29	3.30	4.00	3.83	4.64
2019–20	7.62	9.11	8.64	10.33	0.36	0.43	0.26	0.31	3.53	4.21	4.14	4.95
2020–21	7.61	8.96	8.75	10.30	0.37	0.44	0.23	0.27	3.16	3.72	3.76	4.43
2021–22	7.59	8.56	8.92	10.06	0.36	0.41	0.24	0.27	3.67	4.14	4.28	4.83
2022–23	9.89	10.58	11.08	11.86	0.43	0.46	0.30	0.32	4.15	4.44	4.88	5.22
2023–24	9.86	10.13	10.59	10.88	0.40	0.41	0.32	0.33	4.59	4.71	5.31	5.45
2024–25	9.46	9.46	9.97	9.97	0.36	0.36	0.30	0.30	4.80	4.80	5.46	5.46
Average		**8.65**		**9.72**		**0.41**		**0.31**		**4.06**		**4.79**

Table A7 Historical data – average farm income, costs and profit per kilogram of milk solids (continued)

	Overhead costs						Profit							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest and tax		Interest and lease charges		Net farm income			
Year	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Nominal ($/kgMS)	Real ($/kgMS)	Return on total assets %	Return on equity %
2012–13	1.55	2.10	1.60	2.16	3.15	4.26	-0.31	-0.42	0.53	0.72	-0.84	-1.14	-0.6	-4.9
2013–14	1.54	2.03	1.31	1.73	2.85	3.76	1.27	1.68	0.52	0.69	0.75	0.99	6.2	8.5
2014–15	1.50	1.94	1.03	1.33	2.52	3.25	0.72	0.93	0.55	0.71	0.16	0.21	3.9	3.6
2015–16	1.60	2.04	1.00	1.27	2.60	3.31	0.79	1.01	0.57	0.73	0.22	0.28	3.1	-1.5
2016–17	1.68	2.10	1.04	1.30	2.71	3.39	0.88	1.10	0.47	0.59	0.40	0.50	3.1	2.1
2017–18	1.61	1.98	0.89	1.09	2.50	3.07	1.18	1.45	0.54	0.66	0.65	0.80	4.3	4.1
2018–19	1.50	1.82	0.90	1.09	2.40	2.91	1.09	1.32	0.49	0.59	0.60	0.73	3.5	2.1
2019–20	1.70	2.04	0.95	1.14	2.66	3.17	1.84	2.20	0.46	0.55	1.39	1.66	5.8	7.9
2020–21	1.62	1.91	1.00	1.18	2.62	3.09	2.37	2.79	0.41	0.48	1.96	2.31	6.7	10.4
2021–22	1.88	2.12	1.27	1.43	3.15	3.55	1.49	1.68	0.42	0.47	1.07	1.21	4.0	6.9
2022–23	2.18	2.33	1.08	1.16	3.26	3.49	2.94	3.15	0.43	0.46	2.51	2.69	6.9	11.2
2023–24	1.99	2.04	1.19	1.22	3.18	3.27	2.09	2.15	0.59	0.61	1.51	1.55	5.2	5.4
2024–25	1.97	1.97	1.47	1.47	3.43	3.43	1.08	1.08	0.73	0.73	0.34	0.34	3.0	-0.7
Average		**2.03**		**1.35**		**3.38**		**1.55**		**0.61**		**0.93**	**4.2**	**4.2**

Note: 'Real' dollar values are the nominal values converted to 2024-25 dollar equivalents by the consumer price index (CPI) to allow for inflation.
From 2016-17 gross farm income does not include feed inventory changes and changes to the value of carry-over water. These are included in feed costs.

Table A8 Historical data – average farm physical information

	Total usable area	Milking area	Total water use efficiency	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
Year	ha	ha	t DM/ 100mm/ ha	hd	hd/ ha	kg MS/ cow	kg MS/ ha	t DM/ ha	t DM/ ha	of ME	Nominal ($/t DM)	Real ($/t DM)
2012–13	340	141	0.70	320	1.2	527	622	4.8	1.2	56	304	411
2013–14	526	164	0.60	453	1.4	469	660	7.9	0.9	57	343	453
2014–15	529	159	0.70	362	1.3	581	738	6.2	1.3	52	364	470
2015–16	447	131	0.70	355	1.4	586	751	6.4	1.4	52	366	466
2016–17	565	200	0.60	394	1.3	539	630	5.7	1.9	65	304	380
2017–18	527	205	0.60	399	1.1	569	628	4.4	1.3	55	340	417
2018–19	573	226	0.63	414	1.1	574	600	5.3	0.9	61	485	587
2019–20	592	238	0.61	446	1.0	577	579	4.8	1.1	59	505	604
2020–21	562	256	0.6	449	0.9	618	559	5.0	1.4	57	412	485
2021–22	515	225	0.6	460	0.9	580	507	4.9	1.2	60	455	513
2022–23	510	293	0.5	613	1.2	553	641	5.5	1.5	61	555	594
2023–24	533	301	0.7	648	1.2	575	663	5.3	1.0	55	538	553
2024–25	501	248	0.6	498	1.0	597	581	4.8	1.4	50	525	525
Average	**517**	**214**	**0.63**	**447**	**1.2**	**565**	**628**	**5.5**	**1.3**	**57**		**497**

*From 2011-12 estimated grazed pasture and conserved feed was calculated per hectare of milking area.

Appendix B: Glossary of terms, abbreviations and standard values

Glossary of terms

All other farm income	Income to the farm from all sources except milk. Includes livestock trading profit, dividends, interest payments received, and rent from farm houses.
Allocation	Water that is actually available to use or trade in any given year, including new allocations and carryover. Previously known as temporary water. Full allocation means irrigators receive 100 per cent of their HRWS.
Allocation trade	The transfer of a volume of allocation water between a seller and buyer. Water is traded within a current irrigation season. Previously this was known as trading of temporary water entitlement and some irrigators still use this term.
Appreciation	An increase in the value of an asset in the market, often only applicable to land value.
Asset	Anything managed by the farm, whether it is owned or not. Assets include owned land and buildings, leased land, plant and machinery, fixtures and fittings, trading stock, farm investments (i.e., Farm Management Deposits), debtors, and cash.
Cash overheads	All fixed costs that have a cash cost to the business. Includes all overhead costs except imputed labour costs and depreciation.
Cost structure	Variable costs as a percentage of total costs, where total costs equal variable costs plus overhead costs.
Concentrates	Refers to feeds with a concentrated source of energy such as grains, pellets and other grain mixes.
Debt servicing ratio	Interest and lease costs as a percentage of gross farm income.
Depreciation	Decrease in value over time of capital asset, usually as a result of using the asset. Depreciation is a non-cash cost of the business but reduces the book value of the asset and is therefore a cost.
Earnings before interest and tax (EBIT)	Gross income minus total variable and total overhead costs.
Employed labour cost	Cash cost of any paid employee, including on-costs such as superannuation and Workcover.
Equity	Total assets minus total liabilities. Equal to the total value of capital invested in the farm business by the owner/ operator(s).
Equity per cent	Total equity as a percentage of the total assets owned. The proportion of the total assets owned by the business.
Feed costs	Cost of fertiliser, irrigation (including effluent), hay and silage making, fuel and oil, pasture improvement, fodder purchases, grain/ concentrates, agistment and lease costs associated with any of the above costs, and feed inventory change.
Feed inventory change	An estimate of the feed on hand at the start and end of the financial year to capture feed used in the production of milk and livestock.
Finance costs	See interest and lease costs.
Full time equivalent (FTE)	Standardised labour unit. Equal to 2,400 hours a year. Calculated as 48 hours a week for 50 weeks a year.
Grazed pasture	Calculated using the back-calculation approach. Grazed pasture is calculated as the difference between total metabolisable energy required by livestock over the year and amount of metabolisable energy available from other sources (hay, silage, grain, and concentrates). Total metabolisable energy required by livestock is a factor of age, weight, growth rate, pregnancy, and lactation requirements, walking distance to shed, terrain and number of animals. Total metabolisable energy available is the sum of metabolisable energy from all feed sources except pasture, calculated as (weight (kg) x dry matter content (DM per cent) x metabolisable energy (MJ/ kg DM)).
Gross farm income	Farm income including milk sales, livestock trading and other income such as income from grants and rebates.
Gross margin	Gross farm income minus total variable costs.
Herd costs	Cost of artificial insemination (AI) and herd tests, animal health and calf rearing.
Imputed	An estimated amount introduced into economic management analysis to allow reasonable comparisons between years and between other businesses.
Imputed labour cost	An allocated allowance for the cost of owner/operator, family, and sharefarmer time in the business.
Interest and lease costs	Total interest plus total lease costs paid.
Labour cost	Cost of the labour resource on farm. Includes both imputed and employed labour costs.
Labour efficiency	FTEs per cow and per kgMS. Measures productivity of the total labour resources in the business.
Liability	Money owed to someone else, e.g., family or a financial institute such as a bank.
Livestock trading profit	An estimate of the annual contribution to gross farm income by accounting for the changes in the number and value of livestock during the year. It is calculated as the trading income from sales minus purchases, plus changes in the value and number of livestock on hand at the start and end of the year, and accounting for births and deaths.
Milk income	Income from the sale of milk. This is net of compulsory levies and charges.
Milking area	The area of land grazed by milking cows to produce milk.
Net farm income	Earnings before interest and tax (EBIT) minus interest and lease costs. The amount of profit available for capital investment, loan principal repayments and tax.

Nominal terms	Dollar values or interest rates that include an inflation component.
Number of milkers	Total number of cows milked for at least three months.
Other income	Income to the farm from other farm owned assets and farm business related external sources. Includes milk factory dividends, interest payments received, and rent from farm cottages.
Overhead costs	All fixed costs incurred by the farm business that do not vary with the level of production. These include cash overhead costs such as employed labour and noncash costs such as imputed owner-operator labour, family labour and depreciation of plant and equipment. It excludes interest, lease costs, capital expenditure, principal repayments, drawings, and tax.
Real terms	Dollar values or interest rates that have no inflation component.
Return on equity (ROE)	Net farm income divided by the value of total equity.
Return on total assets (ROTA)	Earnings before interest and tax divided by the value of total assets under management, including owned and leased land.
Shed costs	Cost of shed power and dairy supplies such as filter socks, rubberware, vacuum pump oil etc.
Top 25%	Regional or State average for the Top 25% of participant farms ranked by return on total assets; can also be referred to as the top group, top performers within a region or the state.
Total income	See gross farm income.
Total usable area	Total hectares managed minus the area of land which is of little or no value for livestock production e.g., house and shed area.
Total water use efficiency	Homegrown feed consumed or harvested per 100mm water 'applied' (rainfall and irrigation) to the usable hectares on the farm.
Variable costs	All costs that vary with the size of production in the enterprise e.g., herd, shed and feed costs (including feed and water inventory change).
Water inventory change	An estimate of the values irrigation water on hand at the start and end of the financial year to capture water used in the production of pasture and crops.

Feeding Systems	
Low bail	Low bail is defined by the one-tonne annual cap of grain or concentrates fed in the dairy bail – i.e. cows are fed up to one tonne of grain and concentrate in the dairy at milking time throughout lactation and livestock graze pasture all year round.
Moderate – High bail	The level of grain or concentrate fed in the bail is more significant than one tonne per annum, and livestock graze pasture all year round.
Partial mixed ration	In the partial mixed ration (PMR) system, livestock animals graze on pasture for most of the year, if not all of the year, while being fed a PMR on a feed pad.
Hybrid system	Hybrid systems are classified as grazing pasture for fewer than nine months of the year while feeding a partial mixed ration on a feed pad with grain or concentrates.
Total mixed ration	A total mixed ration or TMR is classified by zero-grazing, where cows are contained and fed a TMR throughout the year.

List of abbreviations

AI	Artificial insemination
CH_4	Methane
CO_2	Carbon dioxide
CO_2-e	Carbon dioxide equivalent
CoP	Cost of production
DFMP	Dairy Farm Monitor Project
DM	Dry matter of feed stuffs
EBIT	Earnings before interest and tax
FPCM	Fat and protein corrected milk
FTE	Full time equivalent
ha	Hectare(s)
hd	Head
HRWS	High Reliability Water Shares
kg	Kilograms
LRWS	Low Reliability Water Shares.
ME	Metabolisable energy (MJ/kg DM)
MJ	Megajoules of energy
ML	Megalitres
mm	Millimetres. 1mm is equivalent to four points or 1/25th of an inch of rainfall
MS	Milk solids (protein and fat)
N_2O	Nitrous oxide
Q1	First quartile, i.e., the value of which one quarter, or 25 per cent, of data in that range is less than the average
Q3	Third quartile, i.e., the value of which one quarter, or 25 per cent, of data in that range is greater than the average
ROTA	Return on total assets
ROE	Return on equity
t	Tonne = 1,000kg

Standard values

Pasture consumption

The pasture consumption calculation assumes 11 ME for homegrown feed.

Livestock values

The standard vales used to estimate the inventory values of livestock were determined by breed and liveweight. Example values for Friesians were:

Category	Opening value ($/hd)	Closing value ($/hd)
Mature cows (550kg)	$2,200	$2,200
Two-year-old heifers	$1,650	$2,200
One-year old heifers	$825	$1,650
24-25 calves		$825
Mature bulls	$3,300	$3,300

Imputed owner/operator and family labour

In 2024-25, the imputed owner/operator and family labour rate was $36/hr based on a full time equivalent (FTE) working 48 hours/week for 50 weeks of the year.

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